PROCEEDINGS

APRIL 20, 2021

Virtually on Zoom

Click here to attend the Huskies Showcase

ST. CLOUD STATE
UNIVERSITY

Dear Campus and Community Members,

It is our pleasure to welcome all of you to our 4th Annual Huskies Showcase, which is being hosted this year virtually through Zoom.

While we wish this important event could have been hosted in-person, we are still able to virtually celebrate the engagement of students in the many forms of high impact educational experiences that occur on our campus every day. This institutional event showcases engagement in research, service, educational, and social/community activity and outcomes from the collaboration between campus members and community partners.

We live into our commitment as “Stewards of Place” every day as our students, faculty, and staff engage among themselves and our community partners in high impact educational practices that prepare our students with knowledge and skills for life and work in the 21st Century. Huskies Showcase celebrates this shared commitment between St. Cloud State University and our community partners by showcasing the exemplary work that has taken place throughout the year.

The event is driven by the six dimensions of Our Husky Compact and provides a venue to showcase distinctive student experiences as well as an opportunity for the campus to support and celebrate student success.

We are committed to providing our students with opportunities to apply their learning to projects that enhance and advance both their professional aspirations and the communities in which they live and work.

We want to thank all of our students, faculty, staff and community partners for their hard work and we look forward to your engagement in the Virtual 2021 Huskies Showcase.

Dan Gregory
Provost and Vice President for Academic Affairs

Clare Rahm
Interim Vice President for Student Life & Development

The 2021 Showcase will be hosted live on Zoom!
Please visit the official Huskies Showcase Website to navigate to concurrent Zoom sessions and attend the student presentations throughout the day.

Community Partners

Thank you to our Community Partners for working and mentoring our St. Cloud State students! These partners are also noted next to the student projects that they worked with below!

- **Camp Words Unspoken**
- **U.S. Forest Service**
- **DTA Academy**
- **Great River Children's Museum**
- **360 Communities**
- **The Field Museum**
- **Louis Industries**
- **Central Minnesota United Way**
- **STAFIT**
- **Boston Scientific**

Our Husky Compact Dimensions

Think Creatively and Critically (THINK)
Seek and Apply Knowledge (SEEK)
Communicate Effectively (COMMUNICATE)
Integrate Existing and Evolving Technologies (INTEGRATE)
Engage as a Member of a Diverse and Multicultural World (ENGAGE)
Act with Personal Integrity and Civic Responsibility (ACT)

2021 VIRTUAL HUSKIES SHOWCASE AT A GLANCE TUESDAY, APRIL 20, 2021

Click here to attend the Huskies Showcase

8:00 a.m. – 4:00 p.m.	Virtual Help Desk Open
9:00 a.m. - 10:20 a.m.	Oral Presentation – Session 1
9:00 a.m. - 10:00 a.m.	Poster Presentations – Session 1
10:00 a.m. - 10:30 a.m.	Demonstration – "*Morpho-Syntactic Language Activity*"
10:30 a.m. - 11:30 a.m.	Poster Presentations – Session 2
10:30 a.m. - 11:50 a.m.	Oral Presentation – Session 2
12:00 p.m. - 12:30 p.m.	Demonstration – "*Creating a Shared Understanding of Phonological Awareness*"
1:00 p.m. - 2:00 p.m.	Poster Presentations – Session 3
1:00 p.m. – 2:20 p.m.	Oral Presentation – Session 3
2:30 p.m. - 3:30 p.m.	Poster Presentation – Session 4
2:30 p.m. - 3:50 p.m.	Oral Presentation – Session 4
4:30 p.m. - 5:00 p.m.	Virtual Closing Celebration (Open to all)

2021 Huskies Showcase Competition

Best Student Reflection

Students: Jharef Tecsihua Tamariz & Houa Yang
Faculty Mentor: Nathan Bruender, Chemistry & Biochemistry
Our Husky Compact Project Dimension: Seek & Apply Knowledge

Poster Presentation Finalists

9:00am – 10:00am

Courtney Wallace, The Low Income Struggle: Proper Nutrition in the Home
Faculty Mentor: Steve Anderson, University Honors Program

Kate Fredin, How Racism and Discrimination Affect Maternal Mortality Rates Among African Americans in the U.S.
Faculty Mentor: Steve Anderson, University Honors Program

Jharef Tecsihua Tamariz, Houa Yang, Effects of mutation P75E on prephenate/arogenate dehydrogenase function
Faculty Mentor: Nathan Bruender, Chemistry & Biochemistry

Erika Laho, Pasang Sherpa, Jameson Blaylock, Does Treatment with Yerba Mate (Ilex paraguariensis) Skew T-cell Profiles in an Experimental Mouse Model of Type 1 Diabetes?
Faculty Mentors: Marina Cetkovic-Cvrlje, Biology

Jenna Nelson, Ujjwal Adhikari, The Trials and Tribulations of Implementing Contemporary Technology in the Immunology Laboratory Under COVID-19 Conditions
Faculty Mentors: Marina Cetkovic-Cvrlje, Biology

Bailey Richards, Using Fluorescence and Other Techniques to Visualize Tadpole Anatomy
Faculty Mentor: Jennifer Lamb, Biology

Oral Presentation Finalists

9:00am – 11:30am

9:00am - Makenzie Anderson, Creation of a Universal Inoculum through the Analysis of Anaerobic Digester Samples
Faculty Mentor: Ryan Fink, Biology

9:20am - Brigita Fiske, Yerba Mate: A potential supplement to delay onset of Type 1 Diabetes in mouse models?
Faculty Mentor: Marina Cetkovic-Cvrlje, Biology

9:40am - Alexander Seymour, Biofluoresence in Aquatic Life Stages of Salamanders
Faculty Mentor: Jennifer Lamb, Biology

10:30am - Amrit Chhetri, Analysis of Particle Ejecta in Laser Ablation Of Aluminum
Faculty Mentor: John Sinko, Physics and Astronomy

10:50am - Elatia Zaffke, Laboratory Simulated Supernova Shock Waves
Faculty Mentor: John Sinko, Physics and Astronomy

11:10am - Michaela Ericksen, An Air Stagnation Event Climatology for North America from 1995-2019
Faculty Mentor: Alan Srock, Atmospheric & Hydrologic Sciences

Project Title	Presenter(s)	Faculty/Staff Mentor(s)	Presentation Type	Presentation Time	Our Husky Compact	Abstract Code
COLLEGE OF LIBERAL ARTS						
Anthropology						
Lumberjacks and Lifestyles: Archaeological Investigation of the Wanaki Logging Camp *Community Partner* : U.S. Forest Service, Cass Lake, MN	Andrew Domine	Rob Mann	Oral Presentation	10:30am	SEEK	O19
Analysis of the Manlick Site Spear in Historical Context	Casper Maul	Rob Mann	Poster Presentation	1:00pm - 2:00pm	ENGAGE	P88
Research and Analysis of Cast Iron Artifacts	Daniel Muntifering	Rob Mann	Poster Presentation	9:00am - 10:00am	THINK	P89
Analysis of the Yellow Brick Recovered at Manlick Farm Site	Olivia Schomer	Rob Mann	Poster Presentation	2:30pm - 3:30pm	SEEK	P90
Communication Studies						
Side by Side: Allyship's Rhetorical Construction in University LGBT Resource Center "Safe Space" Training Manuals	Chad Kuehn	Dan Wildeson	Oral Presentation	10:50am	ENGAGE	O29
Promoting Innovation and Creativity in a Team Setting	Gabriel Dertinger, Brandon Hale, Gavin Dandelet, Alex Heinen	Matthew Vorell	Oral Presentation	1:00pm	COMMUNICATE	O16
Global Studies						
Black Maternal Mortality Crisis in the United States	Jernise Agbenowossi	Mikhail Blinnikov	Oral Presentation	10:00am	ACT	O1
Impact of the travel ban on seven Muslim majority countries	Mahdi Mohamud	Mikhail Blinnikov	Poster Presentation	2:30pm - 3:30pm	ACT	P1
Migration patterns of child labor in West Africa	Laurie Robles Ramirez	Mikhail Blinnikov	Poster Presentation	1:00pm - 2:00pm	ENGAGE	P5
Political Science						
Health Disparities In The United States	Joey Kneeland	Kathleen Uradnik	Poster Presentation	10:30am - 11:30am	SEEK	P134

Project Title	Presenter(s)	Faculty/Staff Mentor(s)	Presentation Type	Presentation Time	Our Husky Compact	Abstract Code
Sociology						
Applying social research skills to analyze Spring Student survey results: a Sociology 303 class project	Brianna Pace, Yayah Sannoh, Xanakie Lee, Sharon Ayivor, Jennifer Emerson, Cham Odol, Gao Nou Xiong, Sayah Sannoh, Sarah Willner, Lilia Nicholson, Paige Boman, Kayla Ahrens, Aaliyah Kilgore, Isaac Kangas	Sandrine Zerbib	Oral Presentation	10:30am	INTEGRATE	O62
Unleashed Opinions: SCSU 2021 Student Spring Survey Results	Margaret Oliver, Lily Chamerski, Kyle Janssen, Andrea Rodriguez-Arzola, Ujala Chawla, Jessica VanderWerf, Ezigbo Ugochukwu	Sandrine Zerbib, Amanda Hemmesch, Ann Finan, Jim Cottrill	Oral Presentation	2:30pm	INTEGRATE	O61
COLLEGE OF SCIENCE AND ENGINEERING						
Atmospheric & Hydrologic Sciences						
An Air Stagnation Event Climatology for North America from 1995-2019	Michaela Ericksen*	Alan Srock	Oral Presentation - Finalist	11:10am	INTEGRATE	O3
Investigating the geology and evolutionary history of a fossil fish from a glacial deposit in southern Minnesota.	Nicole Gammel	Sarah Gibson	Poster Presentation	1:00pm - 2:00pm	SEEK	P67
An Investigation of Fish Biodiversity from the Upper Triassic Dockum Group, southwestern United States	Spencer Ott	Sarah Gibson	Poster Presentation	9:00am - 10:00am	SEEK	P68
Biology						
Student Perception of Remote Learning	Andrea Frank, Victor Higdon	Felicia Leammukda	Oral Presentation	1:00pm	INTEGRATE	O23
Should Vaccinations be Required?	Amanda Peifer, Joslyn Prather	Felicia Leammukda	Oral Presentation	1:20pm	THINK	O40
Effects of Noise on Transitioning College Students	Jennifer Switalla	Felicia Leammukda	Oral Presentation	1:40pm	SEEK	O52
Biofluoresence in Aquatic Life Stages of Salamanders	Alex Seymour*	Jennifer Lamb	Oral Presentation - Finalist	9:40am	SEEK	O8

Project Title	Presenter(s)	Faculty/Staff Mentor(s)	Presentation Type	Presentation Time	Our Husky Compact	Abstract Code
Using Fluorescence and Other Techniques to Visualize Tadpole Anatomy	Bailey Richards*	Jennifer Lamb	Poster Presentation - Finalist	9:00am - 10:00am	INTEGRATE	P11
Non-Native lizards hiding in the Midwest	Michael Lee	Jennifer Lamb	Poster Presentation	2:30pm - 3:30pm	SEEK	P85
Biofluorescence within the Sexually Dimorphic Grey Treefrog Complex	Alex Seymour	Jennifer Lamb	Poster Presentation	2:30pm - 3:30pm	SEEK	P86
Broth Cultivation and DNA Extraction of Isolates Grown from Anaerobic Digester Samples	Ujala Chawla	Louise Millis	Poster Presentation	10:30am - 11:30am	THINK	P91
Yerba Mate: A potential supplement to delay onset of Type 1 Diabetes in mouse models?	Brigita Fiske*	Marina Cetkovic-Cvrlje	Oral Presentation - Finalist	9:20am	SEEK	O7
Does Treatment with Yerba Mate (Ilex paraguariensis) Skew T-cell Profiles in an Experimental Mouse Model of Type 1 Diabetes?	Erika Laho, Pasang Sherpa, Jameson Blaylock*	Marina Cetkovic-Cvrlje	Poster Presentation - Finalist	9:00am - 10:00am	SEEK	P3
The Trials and Tribulations of Implementing Contemporary Technology in the Immunology Laboratory Under COVID-19 Conditions	Jenna Nelson, Ujjwal Adhikari*	Marina Cetkovic-Cvrlje	Poster Presentation - Finalist	9:00am - 10:00am	INTEGRATE	P12
Effects of Yerba Mate Treatment on Type 1 Diabetes-Related Glycemia in NOD Mice	Clara Welhouse, Andrew Nardi, Tyler Anderson	Marina Cetkovic-Cvrlje	Poster Presentation	10:30am - 11:30am	THINK	P8
Consumption of Yerba Mate Concoction Prevents the Onset of Experimental Murine Type 1 Diabetes	Thomas Baker, Ujjwal Adhikari, Mitchell Fournier, Megan Gregory	Marina Cetkovic-Cvrlje	Poster Presentation	1:00pm - 2:00pm	ENGAGE	P9
Biodiversity, Evolutionary History, and Biogeographic Patterns of Three-barbeled Catfishes (Heptapteridae: Rhamdia) Across Central America *Community Partner* : The Field Museum, Chicago, IL	Noel Jones	Matthew Davis	Poster Presentation	9:00am - 10:00am	INTEGRATE	P54
From Coral Reefs to the Deep Sea: Investigating Biogeography of Lizardfishes (Aulopiformes)	Michelle Lanam	Matthew Davis	Poster Presentation	1:00pm - 2:00pm	SEEK	P55

Please use the Abstract Code to search for the associated project abstract starting on page 20 below.

Project Title	Presenter(s)	Faculty/Staff Mentor(s)	Presentation Type	Presentation Time	Our Husky Compact	Abstract Code
Evolution of Fluorescent Coloration in Marine Fishes	Alex Maile	Matthew Davis	Poster Presentation	1:00pm - 2:00pm	SEEK	P56
Creation of a Universal Inoculum through the Analysis of Anaerobic Digester Samples	Makenzie Anderson*	Ryan Fink	Oral Presentation - Finalist	9:00am	INTEGRATE	O6
Retinoic Acid and its Effects on the Sex Determination of the American Alligator	Hamere Mogus	Satomi Kohno	Oral Presentation	10:00am	THINK	O37
The Combined Effects of Temperature and Estrogenic Contaminants on Male Snapping Turtles	Kassidy Lange	Satomi Kohno	Poster Presentation	9:00am - 10:00am	SEEK	P83
Urban Stormwater Contaminants Sources	Laion Towah	Satomi Kohno	Poster Presentation	1:00pm - 2:00pm	SEEK	P84
Can mint (cool-sensation) change the sex ratio of American alligator?	Miraf Molla, Mahmoud Hashish	Satomi Kohno	Poster Presentation	10:30am - 11:30am	THINK	P113
Chemistry & Biochemistry						
Hydroxyl Radical Reactions in Non-Aqueous Solutions	Alexis Iverson, Yahya Abdulrahman	James Poole	Poster Presentation	1:00pm - 2:00pm	THINK	P92
Effects of mutation P75E on prephenate/arogenate dehydrogenase function	Jharef Tecsihua Tamariz, Houa Yang*	Nathan Bruender	Poster Presentation - Finalist	9:00am - 10:00am	SEEK	P7
Characterization of an active site residue: Proline in Prephenate dehydrogenase	Ujjwal Adhikari, Krisandra A McLaughlin	Nathan Bruender	Poster Presentation	2:30pm - 3:30pm	SEEK	P43
The Importance of Serine residue with in the active site of Pyrroline-5-carboxylate reductase	Amaya Bruner, Emma Gauert	Nathan Bruender	Poster Presentation	1:00pm - 2:00pm	INTEGRATE	P44
Mutation of a Proline in a Prephenate Dehydrogenase Protein	Cassandra DePauw, Jordyn Skarie	Nathan Bruender	Poster Presentation	2:30pm - 3:30pm	SEEK	P45
Mutation of Gly236 of the Pyrroline-5-carboxylate Reductase Enzyme	Easter Emmanuel, Chongye Feng	Nathan Bruender	Poster Presentation	2:30pm - 3:30pm	SEEK	P46
Enzymatic effect of mutation of Asparagine 123 residue in the enzyme Pyrroline-5-carboxylate reductase	Baboucarr Faal, Wengelawit Molla	Nathan Bruender	Poster Presentation	1:00pm - 2:00pm	THINK	P47
Effects of a Single Amino Acid Interchange in a Dehydrogenase Enzyme	Brooke Paulson, Jordan Bisping, Clara Welhouse	Nathan Bruender	Poster Presentation	2:30pm - 3:30pm	SEEK	P48

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Project Title	Presenter(s)	Faculty/Staff Mentor(s)	Presentation Type	Presentation Time	Our Husky Compact	Abstract Code
Biochemistry 2: discovery of an unknown gene	Brianna Rathbun, Brooke Schlangen	Nathan Bruender	Poster Presentation	10:30am - 11:30am	SEEK	P49
Single Amino Acid Mutation and Effects on Enzyme Binding Site	Cody Smelik, Mackenzie Johnson	Nathan Bruender	Poster Presentation	2:30pm - 3:30pm	SEEK	P50
Proline of Cyclohexadienyl dehydrogenase when mutated to Tryptophan affects the enzyme activity	Anil Thapa, Shukriti Ghimire	Nathan Bruender	Poster Presentation	2:30pm - 3:30pm	SEEK	P51
Testing the effects of nucleotide substitution in a gene on the activity of the enzyme prephenate dehydrogenase	Renata Widelak, Mariah Simones	Nathan Bruender	Poster Presentation	2:30pm - 3:30pm	SEEK	P52
How the Catalytic Efficiency of Arogenate Dehydrogenase is Influenced by Site-Directed Mutagenesis	Ahmed Doudin, Yahya Abdulrahman	Nathan Bruender	Poster Presentation	2:30pm - 3:30pm	THINK	P129
Analysis of Pyrroline-5-carboxylate reductase mutant activity	Lakpa Sherpa, Sindhu Bhandari, Lakpa Sherps	Nathan Bruender	Poster Presentation	9:00am - 10:00am	SEEK	P130
Electrical & Computer Engineering						
Sensor/Control IoT Network	Jordan Bremer, Ryan Sweeney, Annaliesa Anderson	Md Mahbub Hossain	Poster Presentation	9:00am - 10:00am	INTEGRATE	P78
Programmable Logic controller and Ladder logic programing	Jay Dev Upadhyaya	Md Mahbub Hossain	Poster Presentation	9:00am - 10:00am	INTEGRATE	P79
Pneumatic Ventilator	Mohamad Alsadhan, Anjala Rai, Binit Sthapit	Shensheng Tang	Oral Presentation	2:00pm	INTEGRATE	O10
Smart Induction Heater	Anuj Simkhada, Jay Dev Upadhaya, Ali Alharbi	Shensheng Tang	Poster Presentation	1:00pm - 2:00pm	THINK	P117
A Simple Internet of Things (IoT) System for Temperature Monitoring	Sailesh Timilsena	Shensheng Tang	Poster Presentation	10:30am - 11:30am	SEEK	P133
Environmental & Technological Studies						
Louis Industries Ergonomics Project *Community Partner* : Louis Industries, Paynesville, MN	Timothy Ahrens, Travis Arend, Mosley Ayinde, Evan Infante, Samuel Artz	Nancy Sundheim	Poster Presentation	2:30pm - 3:30pm	INTEGRATE	P114

Project Title	Presenter(s)	Faculty/Staff Mentor(s)	Presentation Type	Presentation Time	Our Husky Compact	Abstract Code
Spot Welding Automation	Bryce Borchert, Louis Williams, Adam Lemke, Tira Casey	Nancy Sundheim, Jungwon Ahn	Poster Presentation	2:30pm - 3:30pm	INTEGRATE	P115
Community Partner : Louis Industries, Paynesville, MN						
ICM Ferrule process improvement	Douglas Osindi, John Omondi, Brendon Mayer, Barger Kaitlyn	Nancy Sundheim, Jungwon Ahn	Poster Presentation	1:00pm - 2:00pm	THINK	P136
Community Partner : Boston Scientific, Arden Hills, MN						
Physics & Astronomy						
Analysis of Particle Ejecta in Laser Ablation Of Aluminum	Amrit Chhetri*	John Sinko	Oral Presentation - Finalist	10:30am	INTEGRATE	O2
Laboratory Simulated Supernova Shock Waves	Elatia Zaffke*	John Sinko	Oral Presentation - Finalist	10:50am	SEEK	O5
Single Pendulum with an Arbitrary Density	Edison King	Kevin Haglin	Poster Presentation	9:00am - 10:00am	SEEK	P77
SCHOOL OF EDUCATION						
Educational Leadership & Higher Education						
Calming the Waters: Perceptions of Teacher Induction and Retention Practices	Michele Barron-Albers, Amy Christensen	Amy Christensen	Oral Presentation	11:10am	SEEK	O14
Minnesota K-12 special education: paraprofessionals preparedness to work with students with disabilities in an inclusive setting	Lauren Whiteford	James Johnson	Oral Presentation	11:30am	THINK	O57
SCHOOL OF HEALTH & HUMAN SERVICES						
Communication Sciences & Disorders						
Camp Words Unspoken Lesson Plan	Tylar Caldwell, Hamda Yusuf, Christly Sumihi, Naomi Strobush	Janet Tilstra	Oral Presentation	9:00am	ACT	O13
Community Partner : Camp Words Unspoken, Pequot Lakes, MN						
Child awareness of Sounds and Letters	Shuler Neyssen, Maryssa Burg, Cierra Beckerleg, Maria Dockendorf	Janet Tilstra	Oral Presentation	9:40am	THINK	O38
Community Partner : Great River Children's Museum, St. Cloud, MN						
Stuttering & Children: Straight Talk	Genesis Eguez -Galarza, Karisma Rolle, Kayla Norgaard	Janet Tilstra	Oral Presentation	9:20am	SEEK	O43

Project Title	Presenter(s)	Faculty/Staff Mentor(s)	Presentation Type	Presentation Time	Our Husky Compact	Abstract Code
Print Awareness: Helping Your Child Understand How Reading Works *Community Partner* : Great River Children's Museum, St. Cloud, MN	Sally DeFelice, Katarina Wilke, Maria Bloch, Carly Dupre	Janet Tilstra	Poster Presentation	2:30pm - 3:30pm	THINK	P118
Childhood Stuttering: What do I need to know?	Bishesta Karanjit, Emily Wolcott, Hilary Ijiyode, Virsaviya Isaykina	Janet Tilstra	Poster Presentation	1:00pm - 2:00pm	SEEK	P119
Partnering with Great River Children's Museum to Extend the Curious George Exhibit *Community Partner* : Great River Children's Museum, St. Cloud, MN	Josephine Kodet, Naomi Strobush, Hamda Yusuf, Virsaviya Isaykina	Janet Tilstra	Poster Presentation	9:00am - 10:00am	COMMUNICATE	P120
CSD 432 Advocating for PWS	Mackenzie McGrath, Lacey Entzi, Olivia Travis, Josephine Kodet	Janet Tilstra	Poster Presentation	10:30am - 11:30am	SEEK	P121
Information about Stutter for Caregivers	Britney Penaz, Maryssa Burg, Alyssa Knutson, Ashley Spanier	Janet Tilstra	Poster Presentation	1:00pm - 2:00pm	COMMUNICATE	P122
Stuttering in Adolescents and Adults: Spreading Knowledge and Awareness	Julie Thao, Wendy Lee, Lucia Laituri	Janet Tilstra	Poster Presentation	10:30am - 11:30am	ACT	P123
GRCM and CMUW Collaboration: Pragmatic Language Activities *Community Partners* : Great River Children's Museum, St. Cloud, MN Central Minnesota United Way, St. Cloud, MN	Erin Titus, Emily Archer, Lacy Entzi, Julia Kolles	Janet Tilstra	Poster Presentation	2:30pm - 3:30pm	SEEK	P124
Stuttering Uncovered	Samantha Witt, Shuler Neyssen, Erin Judd	Janet Tilstra	Poster Presentation	2:30pm - 3:30pm	SEEK	P125
Morpho-Syntactic Language Activity *Community Partner* : Great River Children's Museum, St. Cloud, MN	Olivia Yost, Sarah Walker, Ashley Spanier, Mackenzie Mcgrath	Janet Tilstra	Demonstration	10:00am - 10:30am	SEEK	D1
Creating a Shared Understanding of Phonological Awareness	Olivia Travis, Samantha Witt, Amy Stafki, Allison Graves, Samantha Coplen	Janet Tilstra	Demonstration	12:00pm - 12:30pm	SEEK	D2
Community Psychology, Counseling and Family Therapy						
A Literature Review of Behavioral Research Involving Virtual Training	Cassandra Rawlings	Odessa Luna	Poster Presentation	1:00pm - 2:00pm	INTEGRATE	P87

Please use the Abstract Code to search for the associated project abstract starting on page 20 below.

Project Title	Presenter(s)	Faculty/Staff Mentor(s)	Presentation Type	Presentation Time	Our Husky Compact	Abstract Code
Kinesiology						
My Time at DTA *Community Partner* : DTA Academy	Marshal Kramer	H. Giovanni Antunez	Oral Presentation	10:30am	COMMUNICATE	O28
Community Health Internship Experience	Brent Lundell	H. Giovanni Antunez	Oral Presentation	10:50am	SEEK	O34
Minority own cultural competent pharmacy in Saint Cloud	Muhumed Suldan	H. Giovanni Antunez	Oral Presentation	11:10am	ENGAGE	O51
360 Communities *Community Partner* : 360 Communities, Burnsville, MN	Liachia Thao	H. Giovanni Antunez	Oral Presentation	11:30am	COMMUNICATE	O53
Girls Getting Ahead in Leadership (GGAL)	Salbata Ghimire	H. Giovanni Antunez	Poster Presentation	10:30am - 11:30am	THINK	P39
Catholic Charities COVID-19 Response	Denise Todd	H. Giovanni Antunez	Poster Presentation	10:30am - 11:30am	THINK	P40
Life as a Personal Trainer *Community Partner* : STAFIT, St. Cloud, MN	Julia Stotz	H. Giovanni Antunez	Poster Presentation	9:00am - 10:00am	THINK	P128
Condom Club	Brynn Barthel	H. Giovanni Antunez, Erica Karger-Gatzow	Poster Presentation	1:00pm - 2:00pm	THINK	P127
Social Work						
The Effect of Wellness Coaching on Sense of Belonging Index Scores	Erick Westbrook	Sara DeVos	Oral Presentation	1:40pm	SEEK	O56
SCHOOL OF PUBLIC AFFAIRS						
Economics						
Assets Prices in predicting Inflation	Binay Dhakal	David Switzer	Oral Presentation	1:20pm	SEEK	O17
Tourism's Effect on Employment and Income in Developing Countries	Samantha Bromenshenkel	Lynn MacDonald	Oral Presentation	9:20am	SEEK	O12
A model to predict food insecurity in the US	Shanmugam Gajane Loganathan	Lynn MacDonald	Oral Presentation	1:00pm	SEEK	O32
How does income affect commuting time of individuals in cities?	Sean Schlosser	Lynn MacDonald	Oral Presentation	1:40pm	THINK	O45
Emigration Impact on Sub-Saharan African Countries labor market.	Watinh Soro	Lynn MacDonald	Oral Presentation	2:00pm	SEEK	O49
CEO Pay Inequality	Jordan Witt	Lynn MacDonald	Oral Presentation	9:40am	THINK	O58
Does Car-sharing services reduce the rate of car-ownership?	Shohei Yamamoto	Lynn MacDonald	Oral Presentation	9:00am	THINK	O60

Please use the Abstract Code to search for the associated project abstract starting on page 20 below.

Project Title	Presenter(s)	Faculty/Staff Mentor(s)	Presentation Type	Presentation Time	Our Husky Compact	Abstract Code
"Eat-Out-to-Help-Out": The UK's Fiscal Policy Intervention Stimulating Demand for Restaurant Dining	Dawda Njie	Lynn MacDonald, Keith Agre	Oral Presentation	1:20pm	SEEK	O39
Economics of Immigration in the US	Adam Pochardt, Shelby Sanborn	Monica Garcia-Perez	Oral Presentation	2:30pm - 3:50pm	THINK	O41
Economics of Immigration in the US	Tanner Armstrong, Watinh Soro	Monica Garcia-Perez	Oral Presentation	2:30pm - 3:50pm	THINK	O11, O48
Economics of Immigration in the US	Shanmugam Gajane Loganathan, Michael Walker	Monica Garcia-Perez	Oral Presentation	2:30pm - 3:50pm	THINK	O31, O55
Economics of Immigration in the US	Jacob Dickhaus, Ryan Fischer	Monica Garcia-Perez	Oral Presentation	2:30pm - 3:50pm	THINK	O18, O22
Economics of Immigration in the US	Shohei Yamamoto, Jianan Hu	Monica Garcia-Perez	Oral Presentation	2:30pm - 3:50pm	THINK	O59, O26
Economics of Immigration in the US	Wade Sherman	Monica Garcia-Perez	Oral Presentation	2:30pm - 3:50pm	THINK	O47
Economics of Immigration in the US	Waldina Lopes	Monica Garcia-Perez	Oral Presentation	2:30pm - 3:50pm	THINK	O33
Issues on Health Disparities	Jacqueline Borromeo	Monica Garcia-Perez	Poster Presentation	10:30am - 11:30am	THINK	P57
Issues on Health Disparities	Kelsey Cobenais	Monica Garcia-Perez	Poster Presentation	1:00pm - 2:00pm	THINK	P58
Issues on Health Disparities	Jacob Dickhaus	Monica Garcia-Perez	Poster Presentation	1:00pm - 2:00pm	THINK	P59
Issues on Health Disparities	Bayanjargal Ganzorigt	Monica Garcia-Perez	Poster Presentation	10:30am - 11:30am	THINK	P60
Issues on Health Disparities	Jianan Hu	Monica Garcia-Perez	Poster Presentation	1:00pm - 2:00pm	THINK	P61
Issues on Health Disparities	Shanmugam Gajane Loganathan	Monica Garcia-Perez	Poster Presentation	1:00pm - 2:00pm	THINK	P62
Issues on Health Disparities	Mitchell Rice	Monica Garcia-Perez	Poster Presentation	10:30am - 11:30am	THINK	P63
Issues on Health Disparities	Tayllor Steinmetz	Monica Garcia-Perez	Poster Presentation	9:00am - 10:00am	THINK	P64
Health Disparities	Ilya Tyrtyshnik	Monica Garcia-Perez	Poster Presentation	9:00am - 10:00am	THINK	P65
Issues on Health Disparities	Michael Walker	Monica Garcia-Perez	Poster Presentation	1:00pm - 2:00pm	THINK	P66
Issues on Health Disparities	Waldina Lopes	Monica Garcia-Perez	Poster Presentation	1:00pm - 2:00pm	THINK	P131
Issue on Health Disparities in US and the rest of world	John Tshimbalanga	Monica Garcia-Perez	Poster Presentation	2:30pm - 3:30pm	THINK	P132

Please use the Abstract Code to search for the associated project abstract starting on page 20 below.

Project Title	Presenter(s)	Faculty/Staff Mentor(s)	Presentation Type	Presentation Time	Our Husky Compact	Abstract Code
Geography & Planning						
A Road Runs Through It: The Demographic Impacts of I-35W Construction and Urban Renewal in Minneapolis, Minnesota from 1958 to 1970	Lucas Clasen - **CANCELED**	Gareth John	Oral Presentation	9:00am	SEEK	O15
An Investigation into the Potential Impact of Climate Change on Wildfire Frequency in Washington State	Benjamin Dullinger	Gareth John	Oral Presentation	9:20am	THINK	O20
Mapping the Effects of Vegetation on Urban Heat Islands in the Twin Cities Metro Area	Eric Lindquist	Gareth John	Oral Presentation	9:40am	THINK	O30
Cabin Fever: The Impact of COVID-19 on Outdoor Tourism in Minnesota in 2020	Cole Dockendorf	Gareth John	Poster Presentation	2:30pm - 3:30pm	SEEK	P80
Examining the Correlation Between Social Variables and Covid-19 Morbidity and Mortality in Minnesota at the Zip Code and County Level	Ulisses Jacobo	Gareth John, David Wall	Poster Presentation	2:30pm - 3:30pm	SEEK	P81
Modeling the suitability of Anopheles funestus across South East Africa	Patrick Kalonde	Mikhail Blinnikov	Poster Presentation	10:30am - 11:30am	SEEK	P10
The impact of COVID-19 on the psychological capital of hotel employee's	Omer Albasan	Randal Baker	Oral Presentation	11:30am	SEEK	O9
An Analysis On The Social Impacts Of Mass Tourism On Local Communities In Hawaii	Alyssa Eidenschink	Randal Baker	Oral Presentation	11:10am	THINK	O21
Service Quality of The Hospitality Industry During The COVID-19 Pandemic	Alison Gugglberger	Randal Baker	Oral Presentation	1:00pm	SEEK	O24
How Millennial Social Media Effects Tourism	Shelby Hendrix	Randal Baker	Oral Presentation	1:20pm	SEEK	O25
Motivation of choosing Airbnb over hotels	Alexis Kisner	Randal Baker	Oral Presentation	10:50am	THINK	O27
The impact Airbnb's have on Hotels	Tim Malloy	Randal Baker	Oral Presentation	1:40pm	SEEK	O35
Solo Travel Motivations Among Gen Z	Alexis Mattsfield	Randal Baker	Oral Presentation	2:00pm	SEEK	O36

Please use the Abstract Code to search for the associated project abstract starting on page 20 below.

Project Title	Presenter(s)	Faculty/Staff Mentor(s)	Presentation Type	Presentation Time	Our Husky Compact	Abstract Code
How has Covid-19 affected business travel	Jessica Ringle	Randal Baker	Oral Presentation	10:30am	SEEK	O42
Differences in Motivations for Solo Travel Between Genders	Alexandra Rymer	Randal Baker	Oral Presentation	2:30pm	SEEK	O44
Social media's influences on the Tourism industry	Amber Schuster	Randal Baker	Oral Presentation	2:50pm	SEEK	O46
Covid-19's Impacts on College Student Travel Behaviors	Emily Staedy	Randal Baker	Oral Presentation	3:10pm	THINK	O50
Local Perceptions and Responses to Sustainable Tourism Development	Alanis Hendrix-Gilkison	Randal Baker	Poster Presentation	9:00am - 10:00am	INTEGRATE	P41
Authenticity in Virtual Tourism	Julie Vang	Randal Baker	Poster Presentation	10:30am - 11:30am	INTEGRATE	P42
Become More Independent by Going on a Study Abroad Program	Pahoua Thao	Randal Baker, Kristy Modrow	Oral Presentation	3:30pm	THINK	O54
STUDENT LIFE & DEVELOPMENT						
Medical Clinic						
Wellness Coaching Collaboration with AIC	Kate Murphy	Erica Karger-Gatzow, Barb Miller	Poster Presentation	1:00pm - 2:00pm	ENGAGE	P82
UNIVERSITY COLLEGE						
University Honors Program						
The Art of Evocation: A Case Study on How Music Chronicles Our Personal Past	Winston Johnson	Jennifer Quinlan	Poster Presentation	10:30am - 11:30am	SEEK	P53
Why do normal people commit genocides	Aswan Abdi	Jennifer Quinlan	Poster Presentation	10:30am - 11:30am	INTEGRATE	P93
The Impact of Social Isolation	Jacob Anderson	Jennifer Quinlan	Poster Presentation	1:00pm - 2:00pm	SEEK	P94
Racism in healthcare	Sabrin Bashir	Jennifer Quinlan	Poster Presentation	9:00am - 10:00am	SEEK	P95
Communication through Costuming	Holly Boeckermann	Jennifer Quinlan	Poster Presentation	1:00pm - 2:00pm	THINK	P96
Guiding the Youth	Myla Bondhus	Jennifer Quinlan	Poster Presentation	10:30am - 11:30am	SEEK	P97
What Fiction Tells Us About Cultural Attitudes	Amanda Borgmann	Jennifer Quinlan	Poster Presentation	2:30pm - 3:30pm	THINK	P98
Feminism in Hip Hop	Sarah Brown	Jennifer Quinlan	Poster Presentation	10:30am - 11:30am	SEEK	P99
Gendered Toys and Play and the Effects on Child Development	Kylee Crews	Jennifer Quinlan	Poster Presentation	10:30am - 11:30am	ENGAGE	P100
The United States Criminal Justice System: An Extension of Slavery	Caylee Gabel	Jennifer Quinlan	Poster Presentation	10:30am - 11:30am	ENGAGE	P102

Project Title	Presenter(s)	Faculty/Staff Mentor(s)	Presentation Type	Presentation Time	Our Husky Compact	Abstract Code
Is lying to our kids about beings such as Santa Clause and the Easter bunny a harmful thing to do when those lies come from the people who they are supposed to trust the most?	Mitchell Hieserich	Jennifer Quinlan	Poster Presentation	1:00pm - 2:00pm	THINK	P103
Aging at a Cellular Level and Aging Prevention	Olivia Lamb	Jennifer Quinlan	Poster Presentation	10:30am - 11:30am	SEEK	P104
How Generalized Anxiety Effects the body both physically and Psychologically	Isabelle Lefebvre	Jennifer Quinlan	Poster Presentation	10:30am - 11:30am	SEEK	P105
The Lasting imprints and the psychological behavior behind genocides	Fatha Mahamud	Jennifer Quinlan	Poster Presentation	10:30am - 11:30am	SEEK	P106
Your Brain on Social Media: The Psychological Effects of Social Networking Sites on the Human Brain	Josiah Missler	Jennifer Quinlan	Poster Presentation	10:30am - 11:30am	INTEGRATE	P107
Reality of a Communication Disorder	Cori Olson	Jennifer Quinlan	Poster Presentation	1:00pm - 2:00pm	ENGAGE	P108
Influencers in Social Media	Taylor Payne	Jennifer Quinlan	Poster Presentation	10:30am - 11:30am	ACT	P109
The Social Implications of Stuttering	Anna Roggeman	Jennifer Quinlan	Poster Presentation	1:00pm - 2:00pm	SEEK	P110
Mental Effects of Method Acting	Marileah Stang	Jennifer Quinlan	Poster Presentation	10:30am - 11:30am	SEEK	P111
How Religious United States Presidents Used Their Religious Beliefs to Influence The Way They Ran The U.S.	Vanessa Waldorf	Jennifer Quinlan	Poster Presentation	1:00pm - 2:00pm	THINK	P112
Latino Education Gap	Megan Fischer	Michael Gorman	Poster Presentation	9:00am - 10:00am	SEEK	P69
Ethical and Legal Implication of Open Source Software	Pemba Gurung	Michael Gorman	Poster Presentation	10:30am - 11:30am	THINK	P70
One and the Same: Obsessive-Compulsive Disorder and Generalized Anxiety Disorder	Rome Hiltner	Michael Gorman	Poster Presentation	9:00am - 10:00am	SEEK	P71
Preserving the Memories of the Holocaust Through Technology	Katie Hinkemeyer	Michael Gorman	Poster Presentation	9:00am - 10:00am	INTEGRATE	P72
HONS106 Chinese Censorship in Television Industry	Taylor Matzke	Michael Gorman	Poster Presentation	1:00pm - 2:00pm	COMMUNICATE	P73
Rwandan Genocide	Beldin Nyaosi	Michael Gorman	Poster Presentation	9:00am - 10:00am	ACT	P74
The M.O. of Law Enforcement	Leah Preisinger	Michael Gorman	Poster Presentation	9:00am - 10:00am	SEEK	P75
How a $15 Minimum Wage Will Effect U.S. Poverty	Alyssa Sowers	Michael Gorman	Poster Presentation	9:00am - 10:00am	THINK	P76

Please use the Abstract Code to search for the associated project abstract starting on page 20 below.

Project Title	Presenter(s)	Faculty/Staff Mentor(s)	Presentation Type	Presentation Time	Our Husky Compact	Abstract Code
The Importance of Web Design in Gaining User Retention	Jeffrey Ernst	Michael Gorman	Poster Presentation	2:30pm - 3:30pm	INTEGRATE	P101
The Low Income Struggle: Proper Nutrition in the Home	Courtney Wallace*	Steve Anderson	Poster Presentation - Finalist	9:00am - 10:00am	THINK	P4
How Racism and Discrimination Affect Maternal Mortality Rates Among African Americans in the U.S.	Kate Fredin*	Steve Anderson	Poster Presentation - Finalist	9:00am - 10:00am	THINK	P6
How technology has impacted communication for special education students	Chantel Wittrock	Steve Anderson	Poster Presentation	9:00am - 10:00am	INTEGRATE	P2
Systemic Oppression in Education	Fatuma Abdinasir	Steve Anderson	Poster Presentation	1:00pm - 2:00pm	THINK	P13
How a students nutrition affects how well they do in school	Evalina Bach	Steve Anderson	Poster Presentation	9:00am - 10:00am	THINK	P14
Effects of genocide on genetic make up	Taylor Bryce	Steve Anderson	Poster Presentation	1:00pm - 2:00pm	THINK	P15
Women's Empowerment via Social Media in the Middle East	Tara Butkowski	Steve Anderson	Poster Presentation	2:30pm - 3:30pm	THINK	P16
How Modern Technology Dehumanizes Society	Justin Clauson	Steve Anderson	Poster Presentation	1:00pm - 2:00pm	THINK	P17
Vietnam Protest Music	Anna Colbenson	Steve Anderson	Poster Presentation	10:30am - 11:30am	THINK	P18
Changes in Mathematics Teaching	George Davidson	Steve Anderson	Poster Presentation	2:30pm - 3:30pm	THINK	P19
How Fast Food Chains Deceive Their Customers Through Marketing.	Justin Fuchs	Steve Anderson	Poster Presentation	10:30am - 11:30am	THINK	P20
Gender Bias in Medicine Research	Makena Hollman	Steve Anderson	Poster Presentation	1:00pm - 2:00pm	THINK	P21
Spanish Philosophy and Culture	Ethan Johnson	Steve Anderson	Poster Presentation	1:00pm - 2:00pm	THINK	P22
The Pen is Mightier than the Sword, the Fear of Books and Why they are banned in prisons throughout the United States	Emily Karth	Steve Anderson	Poster Presentation	1:00pm - 2:00pm	THINK	P23
Using controversial LGBTQ+ children's literature to help spark conversations.	Jae Knutson	Steve Anderson	Poster Presentation	1:00pm - 2:00pm	THINK	P24
Life on Mars	Jenny Kramer	Steve Anderson	Poster Presentation	1:00pm - 2:00pm	THINK	P25
How African American Literature Has Influenced Social Justice Movements	Lydia Krueger	Steve Anderson	Poster Presentation	10:30am - 11:30am	THINK	P26
Astrotheology: A look into how myth and religion might affect our future in space	Ryan Lightheart	Steve Anderson	Poster Presentation	1:00pm - 2:00pm	THINK	P27

Please use the Abstract Code to search for the associated project abstract starting on page 20 below.

Project Title	Presenter(s)	Faculty/Staff Mentor(s)	Presentation Type	Presentation Time	Our Husky Compact	Abstract Code
The History and Social Impact of Graffiti	Brenna Lindstrom	Steve Anderson	Poster Presentation	1:00pm - 2:00pm	THINK	P28
How technology changes warfare	Andrew Martin	Steve Anderson	Poster Presentation	9:00am - 10:00am	THINK	P29
Honorifics of Japanese Businesswomen	Vannessa Masterman	Steve Anderson	Poster Presentation	1:00pm - 2:00pm	THINK	P30
Hurricane Katrina's Disproportionate Effects on African Americans	Erin Nelson	Steve Anderson	Poster Presentation	1:00pm - 2:00pm	THINK	P31
The Impact of Technology on our Ethics	Kelsi Olson	Steve Anderson	Poster Presentation	1:00pm - 2:00pm	THINK	P32
Originations and Ethics that Separate the Catholic and Protestant Church	Shaeden Scheidt	Steve Anderson	Poster Presentation	10:30am - 11:30am	THINK	P33
Physics Modeled in Programming and Animation	Joseph Skluzacek	Steve Anderson	Poster Presentation	2:30pm - 3:30pm	THINK	P34
Are Flooding Events the Main Factor in Human Migration from Southern Asia?	Zachary Stich	Steve Anderson	Poster Presentation	9:00am - 10:00am	THINK	P35
When the Music Stops: A History of Copyrights in Music	Eric Weis	Steve Anderson	Poster Presentation	1:00pm - 2:00pm	THINK	P36
The Economic Consequences of the Bubonic Plague on the System of Feudalism	Emilia Wright	Steve Anderson	Poster Presentation	1:00pm - 2:00pm	THINK	P37
Upbringing of Police Brutality	Najma Yusuf	Steve Anderson	Poster Presentation	1:00pm - 2:00pm	THINK	P38
Meteorology communication during a severe thunderstorm	Jay Marszalek	Steve Anderson	Poster Presentation	1:00pm - 2:00pm	THINK	P126
The Human Mind in our Society	Deborah Enem	Steve Anderson	Poster Presentation	1:00pm - 2:00pm	THINK	P135

Please use the Abstract Code to search for the associated project abstract starting on page 20 below.

Abstracts

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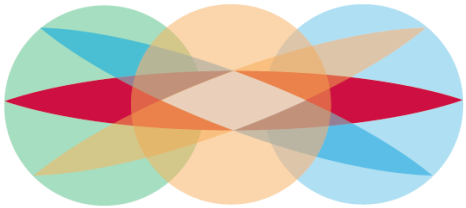

HUSKIES
SHOWCASE

ST. CLOUD STATE UNIVERSITY | HUSKIES SHOWCASE

TABLE OF CONTENTS

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: O1 **Presentation Type**: Oral Presentation

Presenter(s): Jernise Agbenowossi

Faculty Mentor(s): Mikhail Blinnikov

Husky Compact Dimension: ACT

Title: Black Maternal Mortality Crisis in the United States

Abstract:

Not only is childbirth one of the most unique experiences in a woman's life, it is also one of the most frightening. The United States has the highest maternal mortality rate for a developed country. According to the CDC, pregnancy-related mortality ratio for Black women is 40.8 to 12.7 for White women for every 100,000 births. This in fact indicates that Black women are dying from childbirth complications 3.2 times more than their White counterparts. As alarming as these numbers are, they merely provide a glimpse into a deeper systemic issue that seems to worsen with time. From outside looking in, one could mistakenly attribute this to a lack of education on the part of the Black women affected. However, a closer and more factual assessment of the situation will unearth more complex obstacles faced by Black women during pregnancy, childbirth, and even in subsequent months. Although the numbers command attention, this issue is not getting enough. There seems to be a lack of response from officials, whether in government, healthcare, or academia. Throughout history, we have witnessed the exploitation of Black bodies being used as cheap subjects for clinical trials. J Marion Simms, one of the pioneers of women's health, used to conduct experiments on his slaves without anesthesia. That led to the conclusion that Black people feel less pain than White people. Are the Black women who die from childbirth less educated than the Black women who survive? Is there an intrinsic trait that justifies these numbers? Do these women increase the risk of death from childbirth complications through their own naive actions during pregnancy? To assist me in answering some of these pertinent questions, I will conduct multiple interviews with Black mothers and healthcare professionals through which I can provide a holistic assessment of the issue and potential mitigation approaches. My goal for this research is to expose the systemic handicap that is preventing Black women from having safer childbirth experiences.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: O2

Presentation Type: Oral Presentation

Presenter(s): Amrit Chhetri

Faculty Mentor(s): John Sinko

Husky Compact Dimension: INTEGRATE

Title: Analysis of Particle Ejecta in Laser Ablation Of Aluminum

Abstract:

As the Kessler Syndrome, a phenomenon in which the objects in Low Earth Orbit generate space debris after collision increasing the likelihood of further collisions, has been one of the major risks in space technology, this experiment helps to evaluate the possible ways to counteract the trouble through laser ablation. The laser removal of orbital debris can be one of the reliable solutions to minimize orbital pollution. The objective of this experiment is to understand the role of the ejected particles. With the highest abundance in the space debris, laser ablation of aluminum becomes the most effective experiment to extract valuable conclusions. Laser ablation of aluminum was conducted under high-speed camera and the scientific vacuum system was used. Videography was conducted and the video sequences were analyzed with particle tracking software. The total kinetic energy of the particles was calculated after finding the velocity of the particles from the video and finding particle mass through a drag technique. The total kinetic energy of the particles was found to be a certain percentage of the initial laser energy. The results can be applied to better understand laser ablation, and various applications for drag technique can be explored.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: O3 **Presentation Type**: Oral Presentation

Presenter(s): Michaela Ericksen

Faculty Mentor(s): Alan Srock

Husky Compact Dimension: INTEGRATE

Title: An Air Stagnation Event Climatology for North America from 1995-2019

Abstract:

Air stagnation events are important to meteorologists and fire managers for many reasons, including smoke dispersal, pollutant transport, and fog formation. An air stagnation event is defined by the National Weather Service (NWS) as “a meteorological situation in which there is a major buildup of air pollution in the atmosphere.” A nationwide climatology of stagnation events will be helpful as the data can be used by public officials, meteorologists, and researchers to help inform decisions that can have a large impact on health. The goal of this project is to better understand when and where ASEs occur, so we propose to create a climatology to count the number of ASEs that have occurred over a long timescale. This will be accomplished by analyzing hourly surface weather observations from 1995-2019 from observation stations across the United States, Mexico, and Canada. An ASE will be defined as a 24-hour period or greater where the wind speed does not exceed 6 knots. We will use Python to process the observations and will track each ASE’s duration, start time, and end time. We will then create plots for each station showing the distribution of ASEs based on criteria such as time of year and event duration. We will also create maps showing the spatial distribution of ASEs over North America. This climatology of ASEs will be helpful as our results can be used by public officials, meteorologists, and researchers to help inform decisions that can have a significant impact on public health and safety.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: O5

Presentation Type: Oral Presentation

Presenter(s): Elatia Zaffke

Faculty Mentor(s): John Sinko

Husky Compact Dimension: SEEK

Title: Laboratory Simulated Supernova Shock Waves

Abstract:

Supernovae are some of the most powerful explosions that occur in our universe and occur maybe once every 50 years within our own galaxy. These explosions generate massive shock waves that span over tens of light years in distance capable of destroying planets that lay in their wake, after approximately 100 lightyears these events are no longer a threat. However, these shockwaves are also responsible for the atomic fusion that creates the denser elements, needed for the creation of planets such as our own. The goal of this project is to simulate a supernova on a small scale within a scientific vacuum chamber, in order to study the resultant shock waves and infer how an actual supernova affects the interstellar medium. This research can improve the understanding of the impact these explosions have on the formation of solar systems and the composition of the interstellar medium itself. In order to simulate this type of event, two electrodes were fashioned aluminum and affixed within the scientific vacuum chamber. The vacuum chamber was pumped down, then re-pressurized, with pure argon gas. A 13.56 MHz radio frequency argon plasma was sparked and maintained using a 20 Watt RF generator and matching network. Dust with a chemical composition similar to interstellar dust (e.g., coronene and silicon carbide) will be introduced into the plasma and a pulsed Nd:YAG laser will be used to spark a detonation. Shock wave pressure will be measured using a piezoelectric pressure sensor. A high-speed camera will record shock wave motion, at up to 200,000 frames per second, via schlieren imaging. The chemical composition and physical conformation of the dust particles will be measured before and after the test, using a scanning electron microscope, to determine if the explosion affected the size or composition of the particles.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: O6 **Presentation Type**: Oral Presentation

Presenter(s): Makenzie Anderson

Faculty Mentor(s): Ryan Fink

Husky Compact Dimension: INTEGRATE

Title: Creation of a Universal Inoculum through the Analysis of Anaerobic Digester Samples

Abstract:

Renewable energy sources have become increasingly important over the past several decades due to the discovery that fossil fuels such as coal, oil, or natural gas, can have detrimental effects on the environment. Anaerobic digestion is a lucrative, but poorly understood, renewable energy source. It works by breaking down organic waste into methane gas and biofertilizer. To accomplish this, the presence of a fully-functioning and maintained microbiome is pivotal. Currently, the collapse of this microbiome of a digester is difficult to predict, and it is a technical, expensive, and time-consuming task to restart it after failure. In the microbiome, bacteria are divided into groups based on their function: hydrolytic, fermentative, acetogenic, and methanogenic. Each group is responsible for one of the four stages of the organic waste breakdown process. The products that are created in each stage go forth to the final step, which is methane production. To better stabilize and maximize production of methane gas through anaerobic digestion, the microbial communities within the digesters need to be researched. My project investigates the makeup of the core methanogenic community within anaerobic digesters of various designs and infeed compositions in an effort to identify the methanogenic portion of a core microbiome that may be present within them. Because of the incredible scientific community and research tools made available to me by St. Cloud State University, I have been able to successfully grow, isolate, and analyze methanogenic samples in an effort to come one step closer to a universal inoculum to maximize the production of renewable energy through anaerobic digestion.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: O7

Presentation Type: Oral Presentation

Presenter(s): Brigita Fiske

Faculty Mentor(s): Marina Cetkovic-Cvrlje

Husky Compact Dimension: SEEK

Title: Yerba Mate: A potential supplement to delay onset of Type 1 Diabetes in mouse models?

Abstract:

Type 1 diabetes (T1D) is a T cell-mediated autoimmune disease in which the insulin-producing beta cells of the pancreas are destroyed. As insulin maintains homeostasis of blood sugar levels, the destruction of the beta cells leads to hyperglycemia and related complications. Unlike type 2 diabetes, T1D has no cure and is currently unpreventable. Immunotherapies have failed to reverse T1D, so focus has turned to prevention, particularly during the subclinical stage. We hypothesize that Yerba mate (YM), Ilex paraguariensis, a natural South American herb with alleged anti-inflammatory and hypoglycemic properties could be safely administered to patients who are genetically predisposed to T1D to delay the onset or reduce the severity of the disease. We have tested this in mouse models of T1D and our preliminary data show that YM effectively suppresses some T cell populations while causing differing rates of incidence between the two mouse models: chemical streptozotocin-induced diabetic C57BL/6 strain and non-obese diabetic NOD/Shi/LtJ (NOD) strain. In the streptozotocin-induced model, we found that YM significantly lowered incidence of the disease and blood glucose levels. Additionally, YM suppressed proliferation of T cells and production of inflammatory cytokines. However, in NOD mice, which develop T1D spontaneously, we have seen no significant change in glycemic levels nor incidence. Interestingly, the treatment of YM over the course of twelve weeks has led to significant weight loss. Despite these differences, YM has decreased the same inflammatory cytokines in NOD mice and in toxin induced T1D model. While YM does affect T cell populations, this study shows that it does not consistently alter T cells sufficiently to prevent autoimmunity in NOD model of T1D. However, our results demonstrate a strong anti-toxic effect of YM that might be clinically advantageous.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: O8

Presentation Type: Oral Presentation

Presenter(s): Alex Seymour

Faculty Mentor(s): Jennifer Lamb

Husky Compact Dimension: SEEK

Title: Biofluoresence in Aquatic Life Stages of Salamanders

Abstract:

Biofluorescence occurs when light is absorbed by an organism and then emitted into the environment at longer wavelengths. Biofluoresence has been documented in each of the three major clades of amphibians. Adults of the Eastern Tiger (Ambystoma tigrinum) and Blue-spotted Salamanders (Ambystoma laterale) biofluoresce, but we do not know whether this occurs throughout ontogeny. Here, we present findings from the first survey for biofluoresce across the development of mole salamanders (Family Ambystomatidae). We used visual surveys, minnow traps, and dip-netting to sample for the eggs and larvae of these species from two localities in central Minnesota during the spring and summer of 2019. We photographed individuals under white light to describe their overall pattern and stage of development, and we documented biofluorescence in response to blue excitation light (440 – 460 nm). The jelly-layers of eggs, developing embryos, and larvae of A. tigrinum and A. laterale fluoresce, but the structures emitting light (i.e., eyes, peritoneum, skin pigments), and the primary wavelengths emitted, varied between life history stages. If salamanders, or other pond inhabitants, are able to see this biofluorescent light, then biofluorescence in freshwater habitats may play a role in intra- or interspecific identification or function as a means of camouflage.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: O9

Presentation Type: Oral Presentation

Presenter(s): Omer Albasan

Faculty Mentor(s): Randal Baker

Husky Compact Dimension: SEEK

Title: The impact of COVID-19 on the psychological capital of hotel employee's

Abstract:

COVID-19 disease has changed the whole world in a very short time, leaving long-lasting effects on many people. The main objective of this study is to understand the effects of how the Coronavirus pandemic has affected the psychological capital of hotel employees. The findings examine occupational stressors as one of the key predictors that negatively affect employee satisfaction, job performance, subjective well-being. Also understanding what practices human resource management by hotels have done during the pandemic, and how employees are managed during a difficult time. Thirdly, the study will explore social disconnectedness and perceived isolation, risk of unemployment, social support, deviant behaviors. Some studies support how psychologically, financially depleted frontline workers in the hospitality industry. The survey instrument and results are to be determined. The survey questionnaire will take place at Embassy Suites – Minneapolis Airport, Bloomington, MN, consisting of 10-12 participants of different departments, and position level. Interviews will be recorded with the permission of participants to analyze the study.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: O10 **Presentation Type**: Oral Presentation

Presenter(s): Mohamad Alsadhan, Anjala Rai, Binit Sthapit

Faculty Mentor(s): Shensheng Tang

Husky Compact Dimension: INTEGRATE

Title: Pneumatic Ventilator

Abstract:

The main objective of the project is to create a medical ventilator that can calculate precise volume and pressure of a patient and then supply them with the necessary breathing assistance to avoid barotrauma, pneumonia and a multiple of other lung disease. The ventilator also can transmit data through a phone application and update data wirelessly. Secondary objective includes gaining the command of 3D printing design. 3D printing is essential nowadays for project creation/prototyping, gaining the knowledge of this technology is essential to become a successful engineer. The third objective is mastering the software aspect of a design. In this project, a microcontroller is used to control several peripherals of the design. It's important to be as accurate as possible when dealing with microcontrollers since a simple error will fail the whole system. The fourth objective is creating a functional power supply. Power source design is essential in understanding electronics and power systems, it can also aid in understanding high voltage applications. The essence of the ventilator is pressure control. After the pressures (IP and PEEP) are preset before the ventilation process or is measured during the process, the tidal volume becomes a dependent variable which depends on the patient's compliance and airway resistance. Hence, if a patient has lungs that are getting worse and stiff, their tidal volumes decreases. Whereas, the lungs that have improved compliance will increase tidal volumes in pressure control mode. Another important concept is tidal volume. Tidal volume is the volume of air delivered to the lungs with each breath during the ventilation process. It is calculated using specific formulas.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: O11

Presentation Type: Oral Presentation

Presenter(s): Tanner Armstrong

Faculty Mentor(s): Monica Garcia-Perez

Husky Compact Dimension: THINK

Title: Economics of Immigration in the US

Abstract:

This project evaluates different topics on the economics of immigration in the U.S. The topics range from employment, immigration selection, local groups assimilation, source economies versus destination economies among others. The project will be presented by different groups from the same course the Economics of Immigration.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: O12

Presentation Type: Oral Presentation

Presenter(s): Samantha Bromenshenkel

Faculty Mentor(s): Lynn MacDonald

Husky Compact Dimension: SEEK

Title: Tourism's Effect on Employment and Income in Developing Countries

Abstract:

The topic of tourism and its effect on income and employment is an important one for developing countries to analyze. Knowing whether tourism is a good investment can help developing countries spend their tax dollars wisely, and in the long term, can potentially help them grow their economies permanently. Studying what effect tourism has on developing countries is an important topic now more than ever due to the COVID-19 pandemic. Previous research suggests that tourism will have a positive effect on both employment and income in developing countries. To explore these results, panel data and regression analysis are used. Employment and income are regressed by tourism, population, wage rates, gender, experience, education level, and race. Using data from The World Bank from years 1995-2016, about ninety different countries can be analyzed. This analysis will allow the link between tourism and a country's employment and income to be explored. If there is a positive effect on employment and income because of tourism, then developing countries have some substantial evidence that the tourism sector may be a good one to invest in. The research might help shed some light on whether developing countries are making productive investments in this sector.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: O13 **Presentation Type**: Oral Presentation

Presenter(s): Tylar Caldwell, Hamda Yusuf, Christly Sumihi, Naomi Strobush

Faculty Mentor(s): Janet Tilstra

Husky Compact Dimension: ACT

Title: Camp Words Unspoken Lesson Plan

Abstract:

Our Huskies Showcase will be focusing on the dimension Act with Personal Integrity and Civic Responsibility, specifically to nurture communities that enhance the well-being of self, others, and the environment. We believe that supporting the campers to accept their stutter will lift up campers. We will foster a community of acceptance that will allow the campers to accept themselves and also lift up their fellow campers in their journey of acceptance. Our goal is to allow campers to feel more comfortable advocating for themselves and others when dealing with others who may use negative stereotypes. Our group will be creating a lesson plan for Camp Words Unspoken. Camp Words Unspoken is a summer camp for children who stutter from the ages of 10-16 years old. Our lesson plan will be focusing on building confidence among campers while they communicate and building a community of support for the campers. We want to encourage the campers to feel that they are able to speak spontaneously and openly. We believe that encouraging our campers to speak openly without fear is the right thing to do. In the past, people who stutter have been taught to switch words or avoid certain words in order to avoid their stutter. The current view is that avoiding words or avoiding stuttering can cause the person who stutters to feel ashamed of their stutter. Our goal is to help the campers feel comfortable stuttering in a judgement free space.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: O14 **Presentation Type**: Oral Presentation

Presenter(s): Michele Barron-Albers, Amy Christensen

Faculty Mentor(s): Amy Christensen

Husky Compact Dimension: SEEK

Title: Calming the Waters: Perceptions of Teacher Induction and Retention Practices

Abstract:

Our phenomenological study will employ grounded theory to analyze educational professionals' reflective writings. First, to expand our insights regarding why teachers are leaving the field. Second, to examine the responsibilities and supports provided to new teachers. Third, to determine what supports would be the most beneficial for new teachers to aid in retention. To explore these findings, we will provide writing prompts to pre-service teachers, in-service teachers, and administrators in a Midwestern state. Courses within teacher preparation programs during student teaching provide an opportunity for pre-service teachers to reflect upon their belief of what their in-service teaching responsibilities and supports will entail. In our state, 52.5% of teachers holding a teaching license are not currently working as a teacher in a public school. (Wilder Research, 2019). A national survey by the Learning Policy Institute (2018) has reported that in 2016 in this same state "Only 48% of teachers strongly agree that their school administration's behavior toward the staff is supportive and encouraging." Researchers have identified a research to practice gap regarding teacher induction and retention (Hagaman & Casey, 2018; Carver, 2003; CCSESA, 2016). Our goal is to identify what common themes exist across multiple groups of educational professionals regarding induction and retention rates of teachers.This study will compare the perceptions of responsibilities and supports of beginning teachers through three different lenses (pre-service, in-service, and administrative). Insights gained from this study will allow us to integrate knowledge into preparation programs, to alleviate the research to practice gap regarding teacher induction, and to empower education professionals to be agents of change for improved teacher retention rates.

References:

California County Superintendents Educational Services Association (2016). Best Practices in Teacher and Administrator Induction Programs. Retrieved August 3, 2020, from http://ccsesa.org/wp-content/uploads/2016/06/Best-Practices-in-Teacher-and-Administrator-Induction-Programs.pdfCarver, C. L. (2003). Chapter 4. The Principal's Role in New Techer induction. In M. Scherer (Author), Keeping good teachers. Alexandria, VA: Association for Supervision and Curriculum Development.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: O15

Presentation Type: Oral Presentation

Presenter(s): Lucas Clasen

Faculty Mentor(s): Gareth John

Husky Compact Dimension: SEEK

Title: A Road Runs Through It: The Demographic Impacts of I-35W Construction and Urban Renewal in Minneapolis, Minnesota from 1958 to 1970

Abstract:

Minneapolis, Minnesota went through a period of urban renewal in the 1950s and 1960s. Urban renewal, while not wholly negative, has become associated with the loss of historic buildings as well as the displacement of thousands of people living in viable, livable neighborhoods, often in areas with higher rates of minority and low-income populations. The construction of Interstate 35W and Interstate 94 through the Twin Cities Metropolitan Area between 1958 to 1970 led to the transformation or effacement of large parts of several such neighborhoods, including Whittier, Phillips, Cedar-Riverside, and Elliot Park. This project examines the impact that the interstate had on demographic patterns of residential settlement in Minneapolis from 1958 to 1970. Drawing on newspapers at the time as well as demographic data, it highlights the qualities and characteristics of Whittier, Phillips, Cedar-Riverside, and Elliot Park prior to and following the construction of the Interstate system. This will be visualized by using charts, maps, and aerial photography. In doing so, I hope I can show how urban renewal actively shaped the urban residential geography of Minneapolis for generations to come.

CANCELLED

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: O16 **Presentation Type**: Oral Presentation

Presenter(s): Gabriel Dertinger, Brandon Hale, Gavin Dandelet, Alex Heinen

Faculty Mentor(s): Matthew Vorell

Husky Compact Dimension: COMMUNICATE

Title: Promoting Innovation and Creativity in a Team Setting

Abstract:

The focus of our presentation will be to describe how communication creates a space for teams to be creative or innovative. We will use our team project from our CMST 340: Teamwork, Innovation and Communication course this past fall as a frame of reference for how to build an innovative environment. The project was to reinvent the ESPN fantasy football app. We will go into detail about the aspects of our team that helped us craft innovative solutions to aspects of the app that were issues expressed by consumers and people from our target demographic. We will make clear the formula for a team and how that team can allow for innovation to thrive. Throughout our experience, we found fundamental building blocks for a successful team. They include trust, synergy, productive team members, time and resources, cooperation, and emergent leadership. We will go into detail about how these factors can produce an effective and efficient team. We will also review four things that must be present in a team to allow for creativity and innovation. These include play, diversity, improvisation, and humor. These four factors help build a free-flowing environment that encourages expression and discourages censorship. The combination of these four factors and the formula for a team allows for quality team work to be done efficiently and effectively.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: O17

Presentation Type: Oral Presentation

Presenter(s): Binay Dhakal

Faculty Mentor(s): David Switzer

Husky Compact Dimension: SEEK

Title: Assets Prices in predicting Inflation

Abstract:

My topic idea will be to determine how much of a good predictor will be asset prices for inflation on consumer price. My initial expectation is inflation first gets triggered into asset price, then it slowly moves into consumer goods and services. The recent boom in stock market in midst of global pandemic and economic shutdown makes me think it is because inflating US dollar against those securities due to low interest environment and fiscal polices BUT not because of underlying fundamental growth of sectors or overall economy.I expect to see similar inflation later in regular goods and services. For this research, I will explore how asset prices has been a good predictor historically to foresee coming inflation.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: O18

Presentation Type: Oral Presentation

Presenter(s): Jacob Dickhaus

Faculty Mentor(s): Monica Garcia-Perez

Husky Compact Dimension: THINK

Title: Economics of Immigration in the US

Abstract:

This project evaluates different topics on the economics of immigration in the U.S. The topics range from employment, immigration selection, local groups assimilation, source economies versus destination economies among others. The project will be presented by different groups from the same course the Economics of Immigration.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: O19

Presentation Type: Oral Presentation

Presenter(s): Andrew Domine

Faculty Mentor(s): Rob Mann

Husky Compact Dimension: SEEK

Title: Lumberjacks and Lifestyles: Archaeological Investigation of the Wanaki Logging Camp

Abstract:

During the summer of 2020, archaeological investigations were carried out a the Wanaki Logging Camp, a ca. 1900 logging camp on the shore of Cass Lake in the Chippewa National Forest. The camp includes seven structural features, including a large “dingle-style” barracks/cookhouse, strikingly defined by large berms and ditches. The project's goals include identifying the function of the different buildings and exploring the lifeways of the loggers. Ultimately, the goal is to see if patterns associated with various aspects of identity can be found, such as ethnic preferences shown in foodways, and build a richer understanding of the people who operated this camp. Fieldwork included metal detector transects and shovel tests as well as excavation units. These efforts yielded a wealth of data to address these questions, including extensive material on foodways, tobacco use, and potential differences in worker class.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: O20

Presentation Type: Oral Presentation

Presenter(s): Benjamin Dullinger

Faculty Mentor(s): Gareth John

Husky Compact Dimension: THINK

Title: An Investigation into the Potential Impact of Climate Change on Wildfire Frequency in Washington State

Abstract:

Forest fires can influence and drastically change an environment. Geographers are interested in the way's wildfires are influenced by changes in the climate, vegetation, and human activity. This research project focuses on the frequency of wildfires in Washington state–where there are 22 million acres of forest out of its total 43 million acres–and examines a possible connection to climate change. Examining current research along with data over the last 20 years (2000-2020), I strive to understand and educate the effects of climate change that might have on the wildfires in Washington state. In establishing a possible link between these physical geographical factors, this research could prove useful in the management and mitigation of potential fire hazards their destructive potential to vulnerable regions and vegetation in Washington state and beyond.Keywords: Wildfires; Fire Ecology; Washington state, Climate Change,

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: O21

Presentation Type: Oral Presentation

Presenter(s): Alyssa Eidenschink

Faculty Mentor(s): Randal Baker

Husky Compact Dimension: THINK

Title: An Analysis On The Social Impacts Of Mass Tourism On Local Communities In Hawaii

Abstract:

My project is a secondary-research based analysis for Dr. Baker's HTSM 434- Hospitality and Tourism Seminar. I am a Travel and Tourism major, in my final year here at SCSU, and while I've learned how helpful tourism can be in expanding the scope of one's mind, as well as strengthening the economy of a location, It is no secret that tourism can have a multitude of negative and even harmful effects. My analysis focuses to identify the common social issues and impacts brought on by the surge of mass tourism we see these days in various locations, in order to highlight the social impacts most prominent in Hawaii- a U.S. state often seen as "over run" by tourists. How does the mass tourism affect the environment, culture, and economy of Hawaii; in what ways does this affect the community? My project intends to answer these questions by first analyzing the data found through previous case studies that focused on impacts of tourism in other locations, identifying those key impacts, then comparing and contrasting them to impacts I've found from interviews, articles, case studies and other resources available to me that all focus on Hawaii, specifically. Finally, I will present my findings-which social impacts as a result of tourism directly affect local communities in Hawaii the most- both negative and positive.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: O22

Presentation Type: Oral Presentation

Presenter(s): Ryan Fischer

Faculty Mentor(s): Monica Garcia-Perez

Husky Compact Dimension: THINK

Title: Economics of Immigration in the US

Abstract:

This project evaluates different topics on the economics of immigration in the U.S. The topics range from employment, immigration selection, local groups assimilation, source economies versus destination economies among others. The project will be presented by different groups from the same course the Economics of Immigration.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: O23

Presentation Type: Oral Presentation

Presenter(s): Andrea Frank, Victor Higdon

Faculty Mentor(s): Felicia Leammukda

Husky Compact Dimension: INTEGRATE

Title: Student Perception of Remote Learning

Abstract:

This presentation is an analysis of qualitative data collected on high school students' perceptions of remote learning compared to traditional in-person learning. A Google Form survey was distributed via an online platform, Schoology, to 108 high school students enrolled in a medical careers elective course. In total, 78 students responded including freshmen, sophomores, juniors, and seniors. Some students were taking courses completely remotely while others were in a hybrid model (attending classes two days a week in person and the other three remotely).

The survey looked at what devices students were most likely to use to complete schoolwork, if there were more distractions at home or school, and how many hours students typically spent on schoolwork. Students also cited how effective they thought remote learning was, what they expected their grade to be compared to what they would typically earn in previous years, how quickly they understood the content, how much of the content they retained, and which subjects are the most difficult to take remotely. The findings reveal that more barriers are evident for remote learners; however, limits of the study are also highlighted and considered in this conclusion.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: O24

Presentation Type: Oral Presentation

Presenter(s): Alison Gugglberger

Faculty Mentor(s): Randal Baker

Husky Compact Dimension: SEEK

Title: Service Quality of The Hospitality Industry During The COVID-19 Pandemic

Abstract:

My research project is focused on the quality of service in the hospitality industry during the COVID-19 pandemic. My research will identify the key aspects of one's experience to determine the quality of service during the COVID-19 pandemic. Moreover, my research will identify different segments of service quality, evaluate how service quality can affect the hospitality industry during the COVID-19 pandemic, and evaluate how service quality has an impact on one's establishment. Through extensive literature research and the collection of primary data, my research will be able to identify these key aspects. My primary data includes data derived from guests at the GrandStay Residential Suites Hotel in Saint Cloud, Minnesota. This data was collected through a service quality questionnaire, which was used to identify key dimensions of service quality during the COVID-19 pandemic. The results were used to compare the dimensions of service quality pre-pandemic to the dimensions during the pandemic. The results were also used to segment the dimensions into demographic groups and how they differed and related to one another.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: O25

Presentation Type: Oral Presentation

Presenter(s): Shelby Hendrix

Faculty Mentor(s): Randal Baker

Husky Compact Dimension: SEEK

Title: How Millennial Social Media Effects Tourism

Abstract:

It is important to understand social media platforms so we can better understand past and future trends in tourism. Through Facebook, Instagram, Blogs, and more, millennials reach other like-minded individuals to spread awareness of tips, tricks, and destinations. Social media has changed the way younger people travel due to the fact that it has become more accessible, safer, and more affordable. When communities understand what trends social media users are using, they can tailor their advertisements and marketing to fit their target audience to bring more traffic to their destinations.This research paper delves into the good qualities and the bad qualities of tourism and social media, as well as the future and past trends of the effect social media had and will have on tourism. After secondary research was done about the initial topic, a survey was created about trends in tourism and which social media platforms are most used, why they are most used, and how they are used. This survey questions millennials (born between 1981 and 1996), the next generation to control the tourism industry. As previously stated, it is important to understand the current and future trends of an industry. This presentation will be done over zoom, with a PowerPoint to accompany it to show the work done.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: O26

Presentation Type: Oral Presentation

Presenter(s): Jianan Hu

Faculty Mentor(s): Monica Garcia-Perez

Husky Compact Dimension: THINK

Title: Economics of Immigration in the US

Abstract:

This project evaluates different topics on the economics of immigration in the U.S. The topics range from employment, immigration selection, local groups assimilation, source economies versus destination economies among others. The project will be presented by different groups from the same course the Economics of Immigration.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: O27

Presentation Type: Oral Presentation

Presenter(s): Alexis Kisner

Faculty Mentor(s): Randal Baker

Husky Compact Dimension: THINK

Title: Motivation of choosing Airbnb over hotels

Abstract:

My study is on why travelers in the United States are choosing to stay at Airbnbs over hotels and what their feelings are about this choice. In the literature review I will look at studies about what motivates travelers to choose between the two like cost, location, or the type of accommodations. While taking a look into what motivates travelers we will also look at the history of Airbnbs and other short-term vacation rentals and how they are affecting a hotel's success. By going over studies on how Airbnbs are affecting a hotel's success we will see if there is a correlation on the motivations of the travelers. Another way that this study will be able to help travelers is that hotels will be able to understand why travelers are choosing to stay at Airbnbs instead of in hotels. These results will be from taking a survey from many different travelers to understand their motivations. I will go over the methodology of the study and how it was conducted. While then taking a deeper understanding in the analysis of the study we will be able to get a good grasp on why travelers are making this choice. This study is an interesting topic as more peer to peer platforms are arising.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: O28

Presentation Type: Oral Presentation

Presenter(s): Marshal Kramer

Faculty Mentor(s): H. Giovanni Antunez

Husky Compact Dimension: COMMUNICATE

Title: My Time at DTA

Abstract:

This project is about my time at DTA Academy for my Community Health Internship. I will be providing a power point presentation, in which I'll pre-record myself doing and turning that in. During my time at the internship at DTA Academy, I was in charge of two things; (1) Running the social media accounts for the organization, to create a social media campaign. (2) Work with the athletes on their mental/emotional health. DTA is a personal basketball skills training organization, for youth/HS kids. My point is to make them better people, help them cope with the struggles of not just being an athlete, but also growing up. I take on a big brother/ mentorship role with them. This is presentation is going to be about my time at the business as a whole, but mainly about the importance of speaking with young athletes. Being supportive and being their to listen to them.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: O29 **Presentation Type**: Oral Presentation

Presenter(s): Chad Kuehn

Faculty Mentor(s): Dan Wildeson

Husky Compact Dimension: ENGAGE

Title: Side by Side: Allyship's Rhetorical Construction in University LGBT Resource Center "Safe Space" Training Manuals

Abstract:

When marginalized voices seek space in public discourse, allies can be valuable assets, providing augmented access to audience in regulated hegemonies. However, allies at times appropriate causes, speaking from their own positioning rather than that of the allied community. University campuses often encourage LGBTQIA+ community allyship through “Safe Space” trainings, but how do these centers rhetorically construct an ally’s identity? How do they shape the understanding of LGBTQIA+ communities, who community allies are and will be, and what ally responsibilities will be?Side by Side’s discussion examines how LGBT Resource Centers may have grown from initially limited understandings of “queer,” and how that same understanding may be propagated through hetero- and homonormative conceptualizations in ally training materials. As these concepts will affect not only training participants but those they encounter as they advocate, a nuanced construction of “ally” could benefit many.Viewed through rhetorical concepts of space, framing, identity, and alterity, Side by Side analyzes one university’s LGBT Resource Center ally training manuals to explore the construction of “ally” for training participants. Additionally, the study questions whether current vocabulary surrounding “ally” suffices. Do we engender understanding of various positionings in allyship by simply using “ally” generically, or is further clarification needed to allow for intersectionalities and in-group allyship–clarification that might aid in avoiding homonormative understandings of “queer” and monolithic concepts of “ally”?Allies magnify and propel power in social justice communities. This catalyzation is not always seen as beneficial to a community however, depending upon how the ally chooses to enact their allyship. In Side by Side we will explore one LGBT Resource Center’s aims in framing, restricting, and empowering the allies they train through ally identity construction in resource center training materials.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: O30

Presentation Type: Oral Presentation

Presenter(s): Eric Lindquist

Faculty Mentor(s): Gareth John

Husky Compact Dimension: THINK

Title: Mapping the Effects of Vegetation on Urban Heat Islands in the Twin Cities Metro Area

Abstract:

Structures such as buildings, roads, and other infrastructure absorb and re-emit the sun's heat at a faster rate than 'natural' landscapes such as forests and water bodies. Urban areas, where these structures are highly concentrated and greenery is limited, become "islands" of higher temperatures relative to outlying areas. These pockets of heat are referred to as "heat islands." Heat islands can form under a variety of conditions, including during the day or night, in small or large cities, in suburban areas, in northern or southern climates, and in any season. Drawing on temperature and land-use data my paper examines the relationship between the quantity of vegetation and temperature in urban areas. In particular, this project is concerned with looking at different neighborhoods within the Twin Cities Metro Area and ascertaining the relationship between changes in in temperature and the amount of vegetation in each area. I argue that increasing the amount of urban vegetation would help decrease temperatures and reduce the heat island effect in cities.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: O31

Presentation Type: Oral Presentation

Presenter(s): Shanmugam Gajane Loganathan, Michael Walker

Faculty Mentor(s): Monica Garcia-Perez

Husky Compact Dimension: THINK

Title: Economics of Immigration in the US

Abstract:

This project evaluates different topics on the economics of immigration in the U.S. The topics range from employment, immigration selection, local groups assimilation, source economies versus destination economies among others. The project will be presented by different groups from the same course the Economics of Immigration.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: O32

Presentation Type: Oral Presentation

Presenter(s): Shanmugam Gajane Loganathan

Faculty Mentor(s): Lynn MacDonald

Husky Compact Dimension: SEEK

Title: A model to predict food insecurity in the US

Abstract:

Food insecurity is a challenge affecting the U.S. The importance of predicting or monitoring food insecurity has been stressed over the years since it can potentially lead to hunger and other health related issues which can create a negative impact on the overall economy of the country. The objective of the paper is to develop a model to predict food insecurity in U.S. and to find out whether rising food prices can be addressed by agriculture.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: O33

Presentation Type: Oral Presentation

Presenter(s): Waldina Lopes

Faculty Mentor(s): Monica Garcia-Perez

Husky Compact Dimension: THINK

Title: Economics of Immigration in the US

Abstract:

This project will focus on the effect on Somali refugees in the US labor market.

There will be analyzed the differences in earnings from the oldest generations to the newest generations of Somali men and women.

Finally, the analysis of the overall economical impact of Somali refugees on Native-born American wages.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: O34

Presentation Type: Oral Presentation

Presenter(s): Brent Lundell

Faculty Mentor(s): H. Giovanni Antunez

Husky Compact Dimension: SEEK

Title: Community Health Internship Experience

Abstract:

So what I'm doing is going to go through all my experience at the YMCA as an camp counselor, youth sports coach, and homeschool gym teacher. I'm going to describe how the each of these made me grow into a person, and what were the benefits in the experience that I can carry into my life after school.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: O35

Presentation Type: Oral Presentation

Presenter(s): Tim Malloy

Faculty Mentor(s): Randal Baker

Husky Compact Dimension: SEEK

Title: The impact Airbnb's have on Hotels

Abstract:

I plan on showing the impact Airbnb's are having on the hotel industry. I have multiple journals to get much of my information from. I also will be gathering information via a survey that will be given out on my social media outlets. This will limit my information to strictly data from friends and family and will be noted in the results and paper. My presumption is that Airbnb's are primarily used by younger generations and having a negative impact on hotels. I plan to show the loss of jobs and even loss of smaller hotels in some areas that Airbnb's have taken over. I also expect to show hotels will stay relevant due to business travel. I will also talk about the standards that Airbnb's do not have to meet that hotels have to. Which also would allow for unfair advantage in the industry. The lack of taxes, safety and sanitation regulations Airbnb's are held to will also be looked at.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: O36

Presentation Type: Oral Presentation

Presenter(s): Alexis Mattsfield

Faculty Mentor(s): Randal Baker

Husky Compact Dimension: SEEK

Title: Solo Travel Motivations Among Gen Z

Abstract:

This presentation looks at the research findings of motivations behind the rise of solo travel among Gen Z. These students are in Greek Life at St. Cloud State University therefor making this a convenient survey, as I am also in Greek Life. Greek Life is a broad term used for any student actively apart of a fraternity or sorority while going to school. In order to execute this research study, I will be looking at not only the motivations for solo travel but also the constraints, differences of motivations, and destination factors. Before executing my research study, I prepared my survey instrument as a questionnaire filled with open ended and multiple-choice questions while also using the Likert scaling technique. To analyze the qualitative data, I will enter it into an Excel spreadsheet from a population group of 20 students to find the mean, median, mode, along with other comparisons. The demographics include subgroups such as age, gender, income, zip code, and ethnicity to further help my research and compare data. My findings will be properly evaluated in my presentation to support my thesis. The goal of my presentation is to successfully report my findings for further study among the motivations of solo travel as this is a topic that is just starting to get recognition and research.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: O37 **Presentation Type**: Oral Presentation

Presenter(s): Hamere Mogus

Faculty Mentor(s): Satomi Kohno

Husky Compact Dimension: THINK

Title: Retinoic Acid and its Effects on the Sex Determination of the American Alligator

Abstract:

The proposed project aims to evaluate the effect of Retinoic Acid on female development in the American alligator. An increasing number of human-made chemicals have been released into the environment and have induced many biological system consequences. Some environmental pollutants have the potential to alter Retinoic Acid signals in wildlife

1. Retinoic Acid is a metabolite of vitamin A1 that is required for general growth in vertebrates and plays a critical role in initiating egg development in the female fetus of mammals
2. Therefore, it is essential to assess the impacts of fetal exposure to Retinoic Acid on female development in environmentally vulnerable animals, such as the American alligator. The American alligator becomes male or female depending on the ambient temperature of eggs and sensitivity to environmental pollution in their female development
3. In the last semester, a student group experimentally evaluated the effects of Retinoic Acid on the sex ratio of the American alligator, but the effects were not as remarkable.

In the proposed project, I will assess detailed effects of Retinoic Acid on female growth and development by measuring their egg-producing abilities. We hypothesis that genes relating to egg production will be induced in alligators exposed to Retinoic Acid in the egg.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: O38 **Presentation Type**: Oral Presentation

Presenter(s): Shuler Neyssen, Maryssa Burg, Cierra Beckerleg, Maria Dockendorf

Faculty Mentor(s): Janet Tilstra

Husky Compact Dimension: THINK

Title: Child awareness of Sounds and Letters

Abstract:

As part of a class project in our Language Disorders class, CSD 461, we have created projects in partnership with the Central Minnesota United Way Llama Llama Read-A-Rama Pajama Party at the St. Cloud Public Library, and the Great River Children's Museum Curious George exhibit. In this class, we learn about language and literacy development and disorders. We have also learned about methods to promote language and reading in children which is more so what our project entails. For this project, we have designed activities pertaining to the literacy domain of sound/letter awareness, which is also called phoneme/grapheme correspondence. One activity matches a Curious George book and the other matches a book from the Llama-Llama collection. Both activities encourage the development of sound/letter awareness. We provided explanations of the activities and also how they relate to the specific language domain of sound/letter awareness. Each activity also contains specific goals within the domain of language. We also demonstrated the activity following clear instructions that would be easy for a caregiver to follow. Modification ideas are also provided for children of different developmental levels for each activity. Our project also includes an explanation of the relationship of our designed activities to a researched language intervention approach. Lastly, we created family-friendly handouts to promote ideas for building language and literacy with children.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: O39

Presentation Type: Oral Presentation

Presenter(s): Dawda Njie

Faculty Mentor(s): Lynn MacDonald, Keith Agre

Husky Compact Dimension: SEEK

Title: "Eat-Out-to-Help-Out": The UK's Fiscal Policy Intervention Stimulating Demand for Restaurant Dining

Abstract:

Context: The COVID-19 ProblemThe Global economy faces severe downturns due to the economic disruptions caused by the COVID-19 pandemic. The hospitality and leisure industry are most susceptible to both supply and demand shocks caused by the rapid decline in tourism and leisure activities. The United Kingdom's hospitality sector was among the hardest hit by the pandemic according to government reports. Approximately 80% of hospitality firms ceased trading goods and services in April 2020. Consequently, 1.4 million workers were furloughed– the highest proportions of any sector in the UK.The UK's Government Response: 'Eat-Out-to-Help-Out' In response, the UK's government launched a £500 million (over $696 million) initiative funding a large-scale subsidy dubbed the 'Eat-Out-to-Help-Out' (EOHO) scheme. The EOHO subsidy essentially provided an unlimited offer of a 50% discount capped at a maximum of £10 ($13.92) per person, which applied to all food and non-alcoholic drinks every Monday-Wednesday from August 3rd to August 31st, 2020. However, for the discount to be valid the government required in-dining in the participating establishment rather than ordering take-out. the EOHO initiative was primarily aimed at stimulating demand specifically for restaurant dining. Therefore, my primary research question is as follows: To what extent was the EOHO subsidy effective in stimulating demand for restaurant dining? In other words – did people really 'Eat Out to Help Out'? My project attempts to answer this question by conducting a difference-in-difference analysis to estimate the causal impact of the EOHO subsidy on the significant rise in demand for restaurant dining. Following a similar empirical strategy with the existing literature.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: O40

Presentation Type: Oral Presentation

Presenter(s): Amanda Peifer, Joslyn Prather

Faculty Mentor(s): Felicia Leammukda

Husky Compact Dimension: THINK

Title: Should Vaccinations be Required?

Abstract:

A study was performed by surveying parents of school aged children on whether or not their children are fully vaccinated, partially vaccinated, or not vaccinated at all. The parents' age, children's grade level, residence location, and the type of school their children attend were all recorded. If the parent has chosen to go against CDC recommendations to vaccinate their children, the parents were also given the opportunity to explain their reasoning for why they made those decisions. They also were given the opportunity to specify which vaccines they have chosen to opt out of if they have chosen to give some of the CDC recommended vaccinations but not all of them. The results of the study concluded that most parents have chosen to fully vaccinate, and if not, most children are at least partially vaccinated per CDC guidelines against the diseases or illnesses that have to potential to be life-threatening. The reasons behind parents choosing not to fully vaccinate their children varied. These reasons ranged from medical reasons, to religious beliefs, to personal views. Of the responses that were received through the distribution of this survey, many included reasons that point to the common misconceptions associated with the administration of vaccines.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: O41

Presentation Type: Oral Presentation

Presenter(s): Adam Pochardt, Shelby Sanborn

Faculty Mentor(s): Monica Garcia-Perez

Husky Compact Dimension: THINK

Title: Economics of Immigration in the US

Abstract:

This project evaluates different topics on the economics of immigration in the U.S. The topics range from employment, immigration selection, local groups assimilation, source economies versus destination economies among others. The project will be presented by different groups from the same course the Economics of Immigration.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: O42

Presentation Type: Oral Presentation

Presenter(s): Jessica Ringle

Faculty Mentor(s): Randal Baker

Husky Compact Dimension: SEEK

Title: How has Covid-19 affected business travel

Abstract:

Since Covid-19 and the rising cases of infection, every sector of the economy has been affected greatly. Hospitality is one of those sectors that has seen great change in every area due to restrictions from the government as well as people's personal reasons and hesitations to go out in public. This massive change in travel trends has sparked my interest to research more about the affects this pandemic has had especially on business travel. Business travel is inelastic so I am interested to find if that means the pandemic has not changed the travel trends as greatly as I may have expected. I will be looking at previous studies to learn what is known on the subject of business travel, especially in the context of the Covid-19 pandemic. The work done on this subject will help me better understand why people travel and how that has an effect on the current trends in tourism. Using this information I will be sending out a survey to business professionals to see if my hypothesis is correct or not. These will be first hand accounts of how Covid-19 has been affecting people's work lives and I will use it to compare against research that has already been done. All of this research will give us a realistic view of the current changes the pandemic has had on the business travel sector.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: O43 **Presentation Type**: Oral Presentation

Presenter(s): Genesis Eguez -Galarza, Karisma Rolle, Kayla Norgaard

Faculty Mentor(s): Janet Tilstra

Husky Compact Dimension: SEEK

Title: Stuttering & Children: Straight Talk

Abstract:

Stuttering can be very frustrating for both the person who stutters (PWS) and those who interact with them. The frustration comes from not knowing what to do during an interaction, and from the person who stutters, the inability to speak fluently. This can cause negative feelings of shame, anger, and embarrassment. A person who stutters goes through interventions that can help manage the disfluency, but sometimes persons who interact with them don't know much about the disorder, so they can feel annoyed by the process of a conversation. The goal of our project is to provide necessary information about stuttering to educators at childcare centers/schools. This is so we can highlight the different ways to prevent instances of stuttering, along with providing ways caregivers can support their child who stutters. We plan on stressing the importance of essential information like the definition of stuttering, the causes, symptoms, some of the do's and don'ts of interacting with a child who stutters. Along with some possible treatments and assessments of the child; the role of a speech-language therapist in the intervention process, and finally, by providing some resources and contact information for caregivers who want to find treatment/interventions for their child. We want people in the community to understand the different aspects of stuttering so that they are more likely to refer children who stutter as early as possible. This is so the child can receive therapy, reduce the severity of stuttering, and decrease family distress.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: O44

Presentation Type: Oral Presentation

Presenter(s): Alexandra Rymer

Faculty Mentor(s): Randal Baker

Husky Compact Dimension: SEEK

Title: Differences in Motivations for Solo Travel Between Genders

Abstract:

Among recent years, solo travel has gained popularity, especially with young female travelers. Solo travel is defined as travel undertaken by a solo person. They do it because they want to travel alone, not because they have to. There is research on the motivations of why people want to travel solo; and the research is stronger for females than it is for males. This paper discusses what the motivations are for males and females who solo travel, and why there isn't as much research for males. The research has been collected through surveying the Saint Cloud State University Students as the population, and has collected information from related articles to help understand the topic. Since the population is at SCSU, there may be a bias in results as there are people I know personally who have responded. This paper covers the demographics of our population, and it goes over other topics such as which places are the most popular among them to travel. The main demographics that this paper will cover are age, gender, and income to help better understand the research results. The survey consists of open ended, multiple choice, and likert scale questions that will help better understand the research for Solo Travel. The research will be collected and stored into an Excel Sheet to view any similarities in responses and to differentiate the motivations between genders at Saint Cloud State University. Solo Travel is still a relatively new topic, and this research will allow for more information on the topic.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: O45

Presentation Type: Oral Presentation

Presenter(s): Sean Schlosser

Faculty Mentor(s): Lynn MacDonald

Husky Compact Dimension: THINK

Title: How does income affect commuting time of individuals in cities?

Abstract:

The goal of this research is to determine the relationship between income and commuting time by utilizing regression model. Research may give insight on how major cities can implement policies if they're experiencing stagnant population and employment growth. Most importantly the cost of commuting goes beyond time. Understanding what causes high commute times can have long term benefits on decreasing emissions, healthier populations, and quality of life improvements for low-income individual.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: O46

Presentation Type: Oral Presentation

Presenter(s): Amber Schuster

Faculty Mentor(s): Randal Baker

Husky Compact Dimension: SEEK

Title: Social media's influences on the Tourism industry

Abstract:

Social media is making big impacts in today's society, both negative and positive. Social media is making it possible to visualize destinations before making travel decisions which could influence tourists. The Tourism industry is one of the fastest-growing economic sectors and with such a large industry there are many factors to consider. This research is to consider what are the other factors that affect the destination choice and is it from electronic word-of-mouth. The research is going to look into social media such as social network sites of Facebook and review platforms such as Tripadvisor. Social media marketing is a factor of research for this topic as well as destination marketing with “digital influencers”. To have a complete understanding of this research one must know the tourists’ travel motivations with the push and pull model. The expected results from the survey of convenience are social media influences tourists' travel decisions through various means. The expected results are people will not be heavily influenced by the destination choice however, the attraction choice at the destination choice will be influenced as people need to have an underlying interest in a destination before choosing instead of just relying on peer-based social media. Key Words: Social Media, Destination Marketing, Tourism, Motivations, Electronic Word of Mouth.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: O47

Presentation Type: Oral Presentation

Presenter(s): Wade Sherman

Faculty Mentor(s): Monica Garcia-Perez

Husky Compact Dimension: THINK

Title: Economics of Immigration in the US

Abstract:

This project evaluates different topics on the economics of immigration in the U.S. The topics range from employment, immigration selection, local groups assimilation, source economies versus destination economies among others. The project will be presented by different groups from the same course the Economics of Immigration.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: O48

Presentation Type: Oral Presentation

Presenter(s): Watinh Soro

Faculty Mentor(s): Monica Garcia-Perez

Husky Compact Dimension: THINK

Title: Economics of immigration in the US

Abstract:

This project evaluates different topics on the economics of immigration in the U.S. The topics range from employment, immigration selection, local groups assimilation, source economies versus destination economies among others. The project will be presented by different groups from the same course the Economics of Immigration.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: O49

Presentation Type: Oral Presentation

Presenter(s): Watinh Soro

Faculty Mentor(s): Lynn MacDonald

Husky Compact Dimension: SEEK

Title: Emigration Impact on Sub-Saharan African Countries labor market.

Abstract:

This project evaluates emigration Impact on the Sub-Saharan African labor market. The focus of this project is to understand to what extent the labor market is affected by emigration and which specific aspects of the labor market are impacted. These aspects involve economic entities like emigration, wage, unemployment, GDP, demography, government regulation, political situation, education, and income. These economic measures will help to demonstrate, the relationship between them, and the labor market. The paper will be based on Sub-Saharan countries experiencing economic hardship, resulting in the movement of their young population to developing nations, in order to improve their living conditions. The project will be an oral presentation summarizing the research made on the topic and the results.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: O50

Presentation Type: Oral Presentation

Presenter(s): Emily Staedy

Faculty Mentor(s): Randal Baker

Husky Compact Dimension: THINK

Title: Covid-19's Impacts on College Student Travel Behaviors

Abstract:

Covid-19 has changed a lot of aspects of our lives and the travel industry is not immune to these changes. The travel industry is ever changing and can adapt quickly. While Covid-19 has put a halt to our everyday lives, this hasn't halted college student travel; just like the travel industry, college students can adapt to change quickly. The purpose of this study was to identify how Covid-19 has affected the travel behaviors of college students in the Midwest, specifically, how it differs between genders and undergraduate years. There have been countless studies on college students, male v. female, and pandemic travel behaviors but none combining all three. There is also little research on the effects of Covid-19 on the travel industry due to the recency of said pandemic, which is why there was an emphasis of study on this topic. Research was done by conducting a survey with college students from around the Midwest that was comprised of choice and open-ended questions. Results are expected to show that Covid-19 has impacted college student travel but that there are not many differences between gender and undergraduate years. It is expected that travel motivations of college students and where they travel will have changed as well due to Covid-19.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: O51

Presentation Type: Oral Presentation

Presenter(s): Muhumed Suldan

Faculty Mentor(s): H. Giovanni Antunez

Husky Compact Dimension: ENGAGE

Title: Minority own cultural competent pharmacy in Saint Cloud

Abstract:

The will start general showing the unknown minority owned business that exist and how they survive during the pandemic and what they services they provide specifically I will be talking about that serves 50% of minority communities in the city and services that they provide which is not only pharmacy services but also help to less proficiency English speaking people navigate the health care systems lets see who does that and how they do it with videos and interviews .

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: O52

Presentation Type: Oral Presentation

Presenter(s): Jennifer Switalla

Faculty Mentor(s): Felicia Leammukda

Husky Compact Dimension: SEEK

Title: Effects of Noise on Transitioning College Students

Abstract:

Recent studies suggest that noise pollution is a contributing factor to negative health effects in humans. In a study performed by Arend Van Gemmert and Gerald Van Galen's (1997), it was found that individuals living in areas with more noise pollution, for a longer period of time, were more prone to vascular hypertension. A later study, led by Karin Sygna (2014), investigated the correlation of road traffic noise with self-reported sleep quality and mental health. It was found that the road traffic noise contributes to poorer mental health due to poor sleep in many individuals (Sygna et al., 2014). The purpose of this study is to analyze the effects of noise pollution on college students. The specific population of focus is transitioning students from their hometowns to living on or near campus when attending a large university in the Midwestern United States. Through research, this study will identify sources of noise pollution in differing population sizes, as well as uncover the effects of noise pollution on college students' stress to provide recommendations on prevention and therapeutic methods. The essential research question investigated in this study is the following: How does noise pollution affect college student stress? Throughout all of these experiments, it is apparent that stress is the catalyst connecting all of the health effects found by the studies. The large issue at hand that these publications are trying to defend is that there needs to be ways to improve the acoustic environment and that society should be helping prevent exposure of noise in our working environments. After analyzing literature, it is evident that additional research could be performed focusing on transition college students' stress due to noise. From the graphs above it was concluded that there was evidence to support our hypothesis that the stress of noise pollution affects students who are transitioning to college. More specifically, the students who are transitioning from quieter homes to St. Cloud State University are affected more negatively versus those who are transitioning from urban and louder areas who we saw positive results in higher test scores. These results are not strongly supported by the data and further tests could be conducted.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: O53

Presentation Type: Oral Presentation

Presenter(s): Liachia Thao

Faculty Mentor(s): H. Giovanni Antunez

Husky Compact Dimension: COMMUNICATE

Title: 360 Communities

Abstract:

360 Communities is a nonprofit organization that works with the community providing; resources, food shelves, financial assistance, and safety/shelter for women and children fleeing family violence. In this presentation, I will be mention what 360 Communities focus on in the Dakota County along 360 Communities process to make sure 360 Communities is able to provide for our families and community.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: O54

Presentation Type: Oral Presentation

Presenter(s): Pahoua Thao

Faculty Mentor(s): Randal Baker, Kristy Modrow

Husky Compact Dimension: THINK

Title: Become More Independent by Going on a Study Abroad Program

Abstract:

Many college students go study abroad for a reason and come back with more than what they expected. One of the most important thing they will not see it coming while going on a study abroad program is that it will change or make each individual more mature or independent. Everything that a college student has to go through while being in a different country without anyone's help will make students grow in a faster paste. It will be hard at first because to get something good in life, you will have to work harder for it.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: O55

Presentation Type: Oral Presentation

Presenter(s): Michael Walker

Faculty Mentor(s): Monica Garcia-Perez

Husky Compact Dimension: THINK

Title: Economics of Immigration in the US

Abstract:

This project evaluates different topics on the economics of immigration in the U.S. The topics range from employment, immigration selection, local groups assimilation, source economies versus destination economies among others. The project will be presented by different groups from the same course the Economics of Immigration.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: O56

Presentation Type: Oral Presentation

Presenter(s): Erick Westbrook

Faculty Mentor(s): Sara DeVos

Husky Compact Dimension: SEEK

Title: The Effect of Wellness Coaching on Sense of Belonging Index Scores

Abstract:

This project will measure whether or not participation in Wellness Coaching has an impact of students' sense of belonging, as operationalized by scores on the Sense of Belonging Index (SBI) surveys run by the SCSU Belonging Initiative at the start of each semester. As increasing students' overall sense of belonging is a major purpose of the SCSU Wellness Coaching program, it is imperative that we measure whether or not we are meeting that purpose. The research question is as follows: "Does participation in wellness coaching have an effect on SCSU students' overall sense of belonging?" This study hypothesizes that students who participate in wellness coaching at St. Cloud State University will show a significant increase in sense of belonging, as measured on the social belonging index component of the SCSU Belonging Initiative's Sense of Belonging Index survey data. This study is a secondary data analysis designed to examine whether or not participation in wellness coaching at St. Cloud State University (the independent variable) has a measurable impact on SBI scores (the dependent variable). Because the Belonging Initiative has already measured a large sample of students at multiple points in time, it will be possible to send the student IDs of wellness coaching clients to the Belonging Initiative and receive anonymized data for each person on the client list who has taken an SBI survey. If there are students who participated in wellness coaching between multiple SBI surveys, we will simply analyze the differences between scores for those students with a paired T-test. This is an unlikely scenario. As a backup plan, the available SBI scores prior to the intervention semester and available SBI scores after the intervention semester can be compared using a two-sample unequal variance T-test.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: O57

Presentation Type: Oral Presentation

Presenter(s): Lauren Whiteford

Faculty Mentor(s): James Johnson

Husky Compact Dimension: THINK

Title: Minnesota K-12 special education: paraprofessionals preparedness to work with students with disabilities in an inclusive setting

Abstract:

Previous studies that have been conducted on paraprofessionals, many related to the use and readiness of paraprofessionals and have been voiced by teachers and/or administrators. This study solicited the level of preparedness, job responsibilities, training received and implementation of best practices of paraprofessionals work in an inclusive setting with special educations students voiced by paraprofessionals who work in the field of special education. A survey was conducted in 3 special education regions of Minnesota to cover the metro, suburbs and greater Minnesota. The survey was sent to paraprofessionals who currently work in these 3 regions of Minnesota and gained over 400 respondents to participate. The respondents shared their level of experience, trainings they have received and their roles and responsibilities. With this information I was able to use the help of the statistics center to create descriptive statistics to successfully answer my research questions, which will be shared through my oral presentation.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: O58

Presentation Type: Oral Presentation

Presenter(s): Jordan Witt

Faculty Mentor(s): Lynn MacDonald

Husky Compact Dimension: THINK

Title: CEO Pay Inequality

Abstract:

This project will focus on the examination of CEO pay inequality and who are affected the most. The greatest pay inequalities for CEO's today, exist for women of color. I am going to analyze data and previous research to show how large of the pay inequality for women of color is amongst Fortune 500 companies. The pay of CEO's has been examined and analyzed in others research. Which will help us determine the appropriate model to test our hypothesis and confirm the women of color are the greatest affected group in pay inequality. Now, determining the compensation for a CEO is tricky. Competitive market forces and managerial power play a large part in determining CEO pay. Examination of current salaries will help us give a better picture of how race and gender play a role in pay inequality. Examining of that data, along with previous researchers who used the Jensen-Murphy measure of incentives to help assign a value to executives using actual dollar values to demonstrate the CEO's dollar change value when the firms value changes in dollars. This valuation of data is just the start, to showing how undervalued women of color as top executives. We will focus on data for the year of 2019. With using several variables for our model, which will focus on industry in which the firm operates, years of experience of our CEO's, level of education obtained, gender, race and location of the firm. These are factors that influence the wage of a CEO and will play an important role in examining the gender, race wage inequality. My hypothesis is that women of color have the largest pay inequality amongst all Fortune 500 CEO's, with every additional CEO added in, making that pay gap even larger.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: O59

Presentation Type: Oral Presentation

Presenter(s): Shohei Yamamoto, Jianan Hu

Faculty Mentor(s): Monica Garcia-Perez

Husky Compact Dimension: THINK

Title: Economics of Immigration in the US

Abstract:

This project evaluates different topics on the economics of immigration in the U.S. The topics range from employment, immigration selection, local groups assimilation, source economies versus destination economies among others. The project will be presented by different groups from the same course the Economics of Immigration.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: O60

Presentation Type: Oral Presentation

Presenter(s): Shohei Yamamoto

Faculty Mentor(s): Lynn MacDonald

Husky Compact Dimension: THINK

Title: Does Car-sharing services reduce the rate of car-ownership?

Abstract:

This paper examines how car-sharing systems have changed people's behavior by using public data from the federal governments and counties.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: O61 **Presentation Type**: Oral Presentation

Presenter(s): Margaret Oliver, Lily Chamerski, Kyle Janssen, Andrea Rodriguez-Arzola, Ujala Chawla, Jessica VanderWerf, Ezigbo Ugochukwu

Faculty Mentor(s): Sandrine Zerbib, Amanda Hemmesch, Ann Finan, Jim Cottrill

Husky Compact Dimension: INTEGRATE

Title: Unleashed Opinions: SCSU 2021 Student Spring Survey Results

Abstract:

The SCSU Survey Center conducted public opinion research during COVID-19 with a focus on measuring student perceptions of current sociopolitical issues. SCSU Survey student directors present data from a study of SCSU students conducted in Spring 2021 that includes questions about issues such as campus safety; COVID-19; protests/riots; emergency resources for college students; stress, social support, and mental health; perceptions of long-term care facilities; and the 2020 elections. The presenters created the survey questionnaire and supervised telephone survey shifts in their role as student directors and lead student directors. For each substantial question they designed, they present their results in correlation with gender, class standing, age, race/ethnicity and other demographic variables. Some of the results in this survey can be compared to other SCSU survey findings from previous years in which similar questions were asked, but can also be compared to other opinion polls' results. Student directors will also discuss how COVID-19 has influenced lab practices surrounding data collection, including the addition of an online portion of our annual student survey. Data collection for our annual Student Spring survey was collected from February 20th to March 4th 2021. SCSU student participants were randomly selected from a list of currently-enrolled students using a stratified systematic sampling method; half of participants were invited to complete a telephone survey and half were invited to complete the survey online via Qualtrics. Analyses will focus on general trends and on how demographic variables (e.g., age, gender, race/ethnicity, and political affiliation) influence those views.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: O62 **Presentation Type**: Oral Presentation

Presenter(s): Brianna Pace, Yayah Sannoh, Xanakie Lee, Sharon Ayivor, Jennifer Emerson, Cham Odol, Gao Nou Xiong, Sayah Sannoh, Sarah Willner, Lilia Nicholson, Paige Boman, Kayla Ahrens, Aaliyah Kilgore, Isaac Kangas

Faculty Mentor(s): Sandrine Zerbib

Husky Compact Dimension: INTEGRATE

Title: Applying social research skills to analyze Spring Student survey results: a Sociology 303 class project

Abstract:

The 2021 Spring Student survey, conducted by SCSU students between February 20th and March 4th of 2021, was designed to gauge at SCSU students' opinions on a variety of social and political issues that, for the most part, impact them directly in their everyday life. Enrolled SCSU students were selected using a stratified systematic sampling method. SCSU students participated in either the phone survey or the online survey. Unlike previous, due to the pandemic, presenters did not collect data. However, they were given access to the data file in order to complete their own analysis focusing on the issue of their choice. Today, students present their results in correlation with gender, class standing, age, race/ethnicity and other demographic variables. The themes explored in this spring student survey include: general sense about SCSU, safety on campus, attitudes towards immigrants and DACA immigration policy, climate change, feeling of belonging at SCSU, the 2020 elections, the impeachment of the president, the protests following the killing of George Floyd, the forced entrance into the U.S. Capitol building, the CDC mandates, the vaccines, and other social and political issues. Students apply their newly acquired knowledge about social surveys and conduct their analysis using introductory IBM SPSS (Statistical Package for the Social Sciences) technology skills to present their results.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P1 **Presentation Type**: Poster Presentation

Presenter(s): Mahdi Mohamud

Faculty Mentor(s): Mikhail Blinnikov

Husky Compact Dimension: ACT

Title: Impact of the travel ban on seven Muslim majority countries

Abstract:

Three decades ago, the migration of people from continent to continent was not a global debate. However, they could travel to other places for avoidable circumstances, such as studying abroad, seeking medical attention, doing business activities, and going for tourist holidays. When they finish, they come back to their home country. Such a process has enabled the trust built between the traveler and the country they are visiting.

After some time, the traveler was challenged by the technological advancement that has changed the course of the world's lifestyle. Globalization has resulted in connecting people from different places in the world met on the internet, getting to know each other, and exchanging ideas and perspective on human development and integrity. All stories would not be exciting or saddening, but out of a mixed experience. In these kinds of forums, lessons are learnt. Lessons that can change the situation. Next, they broke the shackles of travel. Illegal migration has begun. Immigrants have lost lives while trying to reach their destination.Some factors could force migration to take place. This might be a political and economic crisis that causes people to leave their homeland to go abroad through a dangerous and tiresome journey.

The majority of the immigrants are youths, including underage children who depart their parents. The famous route African immigrants enter Europe is by crossing the Mediterranean Sea. It is crystal clear that the largest percentage of the immigrants are from sub-Saharan Africa who fetches better living standards. However, Immigration has become, in recent years, a global phenomenon that has affected state governments disproportionately. For example, Europe has seen the largest number of immigrants coming to their borders seeking to be admitted as refugees. Before they moved to Western Europe, they used to shelter temporary refugee camps in Asia and Africa.For many years, the United States was at the forefront of admitting and welcoming immigrants and asylum-seekers fleeing persecutions and civil wars to live and work in the U.S. But things would change when former president Donald Trump has campaigned in Mount Pleasant in South Carolina, that if he is elected to the White House, he will ban Muslim immigrants from entering the U.S.

Although I was fortunate to come to the U.S. before becoming president, I knew it would significantly impact many immigrants worldwide who were hoping to have resettled in the United States.Our civic responsibility is to advise others not to implement bold decisions against certain groups

of people based on religion and political indifference. Such indifference could increase the temperatures of anxiety that widen the societal rift to an unpredictable situation. While the U.S. decision to ban Muslims was enforced, many dreams were shattered as cultural diversity was halted in a presidential executive order, globalization to sit back.

Therefore, as an international student of global studies, a cognizant of the current global affairs, I would commit to engaging with others in the pursuit of addressing the racial injustices and religious antagonism that deprive the freedom rights of minority groups living in a fast-paced world. Therefore, I would like to recommend finding the plight source by drawing the attention of prominent entities to help curb the problem before it becomes prevalent.In a world where globalization is evolving fast, we are forced to act with personal integrity and civic responsibility to avoid disintegrating communities. We can achieve these dreams of a better world by respecting every individual's dignity and keeping their privacy at par. This enhances the promotion of civility in a society that shares a common interest.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P2

Presentation Type: Poster Presentation

Presenter(s): Chantel Wittrock

Faculty Mentor(s): Steve Anderson

Husky Compact Dimension: INTEGRATE

Title: How technology has impacted communication for special education students

Abstract:

My project is about how technology has impacted communication for special education students. throughout the years, technology has advanced and has found its way into every student's life. As a special education student, most of the time spent was outside of the classroom learning reading and writing skills at a slower pace than the normal class witch means that special education students had a smaller chance to communicate with other students in their same grade. as we all know communication is a big part of our everyday lives. so with technology improving and special education students having the operating to stay in the classroom for longer periods of time, it has helped improve communication with special education students and their peers. but with the new technology, we are also seeing bad impacts such as students spending all their time online learning and losing that communication with their teachers. causing the list of pros and cons on how technology has impacted special education students.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P3 **Presentation Type**: Poster Presentation

Presenter(s): Erika Laho, Pasang Sherpa, Jameson Blaylock

Faculty Mentor(s): Marina Cetkovic-Cvrlje

Husky Compact Dimension: SEEK

Title: Does Treatment with Yerba Mate (Ilex paraguariensis) Skew T-cell Profiles in an Experimental Mouse Model of Type 1 Diabetes?

Abstract:

Type 1 Diabetes (T1D) is an autoimmune disease in which different subtypes of immune T-cells orchestrate destruction of insulin-producing pancreatic beta-cells. Research efforts have been focused on finding preventative treatments for T1D that affect pathogenic T-cell types and their destructive act. Recent studies in our laboratories found that a plant Yerba mate (Ilex paraguariensis) (YM) showed preventative effects on the disease development in a streptozotocin-induced model of autoimmune T1D in C57BL/6 (B6) mice. Thus, we hypothesized that YM would reduce the prevalence of pathogenic T cells and/or inhibit their function if it affected T1D development in B6 mouse model. In order to test this hypothesis, B6 mice were treated orally with 4% YM for 42 days, while the control mice received water. T1D was induced a week post initiation of YM treatment by streptozotocin injections. On day 42 mice were euthanized, their spleens removed, and the T cell subpopulations, such as T helpers, cytotoxic, and regulatory T cells were determined by staining with the appropriate antibodies and flow cytometric analysis. In addition, T cell function was studied using the cell culture assay in which T cells were stimulated by a mitogen and their proliferation capacity measured by the alamarBlue reagent. Results showed that YM treatment did not affect the levels of total T cells and T cell subpopulations. However, it significantly reduced the T cell proliferation. Thus, these results suggest that YM consumption can delay the onset of T1D development due to its effects on pathogenic T cells' function.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P4

Presentation Type: Poster Presentation

Presenter(s): Courtney Wallace

Faculty Mentor(s): Steve Anderson

Husky Compact Dimension: THINK

Title: The Low Income Struggle: Proper Nutrition in the Home

Abstract:

The accessibility of a nutritious diet and meaningful nutrition information is greatly impacted by an individual's economic status, access to education, and geographical location. Having access to simple but beneficial food items like fresh fruit and vegetables is a struggle for many families in poverty in the United States. In contrast, higher-income families have the resources to purchase healthy food items in the quantity recommended for daily intake. This is one more concept that separates social classes and contributes to the U.S.'s obesity rates. Geographical location is another factor. Looking around the world, people who live off of the Mediterranean diet have a higher life expectancy and lower risk of health problems. But people who live in developing countries are more prone to malnutrition and lower life expectancy. Lastly, education is extremely important when it comes to nutritional information. Knowing what macronutrients to consume, having a balanced diet, and understanding the concept of moderation is just the beginning of a healthy relationship with food.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P5

Presentation Type: Poster Presentation

Presenter(s): Laurie Robles Ramirez

Faculty Mentor(s): Mikhail Blinnikov

Husky Compact Dimension: ENGAGE

Title: Migration patterns of child labor in West Africa

Abstract:

Africa has one of the highest percentages of child labor in the world. Shaped by historical, political, social, and economic forces, child labor is not a static phenomenon. Migration patterns of child labor among the 15 member countries of the Economic Community of West African States (ECOWAS) are therefore influenced by global, regional, and national circumstances. Regional arrangements such as ECOWAS facilitate the flow of information, goods, services, and people across national borders. With that in mind, this research uses data from the Counter Trafficking Data Collaborative and the International Organization for Migration Migration Data Portal to test the hypothesis that, within ECOWAS, the incidence of inter-border child labor is higher than that of intra-border child labor. As defined in the Convention of the Rights of the Child, this paper considers any person under the age of 18 as a child. Note, however, that not all child labor is hazardous or exploitative. To better illustrate the causes and consequences of child labor, this research includes interviews with individuals from the region as well as with three experts on the topic. That said, understanding and addressing child labor in West Africa and elsewhere will require a holistic approach that considers the historical, political, social, and economic factors that shape child labor and migration.

Key terms: Child labor, migration, ECOWAS, West Africa

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P6

Presentation Type: Poster Presentation

Presenter(s): Kate Fredin

Faculty Mentor(s): Steve Anderson

Husky Compact Dimension: THINK

Title: How Racism and Discrimination Affect Maternal Mortality Rates Among African Americans in the U.S.

Abstract:

Racial discrimination in the healthcare setting is still a major issue in the United States today and must be tackled head-on. Contrary to global trends, rates of poor maternal outcomes have only been increasing in the U.S., and in some regions of the country, high rates of pregnancy-related Black mortality persist at rates three times higher than those of non-Hispanic White women. It is proven that economic and environmental factors play a key role in the difference in pregnancy-related mortality rates among White and Black women, but these factors alone cannot explain the inequities. In addition to elements such as limited access to quality prenatal care and unhealthy choices during pregnancy related to economic status, racism and discrimination are components of these complex disparities. The truth of the matter is that pregnant Black women are not monitored as carefully as their White counterparts and their health concerns are often dismissed. This is not only true of maternal mortality, but across the board, as Black people tend to be undervalued in the healthcare system. In addition, a lifetime of racism can lead to poorer psychological health and stress, which can contribute to the mortality disparities. The United States is not keeping up with the rest of the world when it comes to decreasing maternal mortality rates, and not enough is being done to combat the racial inequities in pregnancy-related deaths.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P7

Presentation Type: Poster Presentation

Presenter(s): Jharef Tecsihua Tamariz, Houa Yang

Faculty Mentor(s): Nathan Bruender

Husky Compact Dimension: SEEK

Title: Effects of mutation P75E on prephenate/arogenate dehydrogenase function

Abstract:

The current investigation is centered around prephenate/arogenate dehydrogenase, which is an oxidoreductase that catalyzes movements of electrons between enantiomers of prephenate/arogenate, and NAD+ and NADH. The metabolic significance of this enzyme in the Rhizobiales order is its role in the tyrosine and phenylalanine biosynthesis pathways. In this study, DNA recombinant technology was used to create a single amino acid mutation on this enzyme. Then, protein purification, UV-Vis spectrometry, SDS-PAGE, and progress kinetics analysis were used to analyze enzyme expression and function. Amino acid proline-75 was substituted for glutamic acid, and the enzymatic activity of prephenate/arogenate dehydrogenase is expected to decrease. The importance of this study is to perform site-directed mutagenesis in order to evaluate the function of proline-75 and potentially reveal information about the active site. Preliminary data on the effects of mutation P75E will be presented and extended through our study.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P8 **Presentation Type**: Poster Presentation

Presenter(s): Clara Welhouse, Andrew Nardi, Tyler Anderson

Faculty Mentor(s): Marina Cetkovic-Cvrlje

Husky Compact Dimension: THINK

Title: Effects of Yerba Mate Treatment on Type 1 Diabetes-Related Glycemia in NOD Mice

Abstract:

In autoimmune type 1 diabetes, pancreatic beta cells are compromised due to an attack by cells of the immune system. The beta cells fail to produce insulin, a hormone molecule that serves to reduce the concentration of glucose in the blood; this causes hyperglycemia in affected individuals. T1D presents commonly in children and has no known cure. Since the disease affects children, risky experimental treatment options are not desirable. Yerba Mate is a tea-like beverage from South America that has been shown to have anti-inflammatory properties. The purpose of this study was to determine whether a natural remedy, Yerba Mate extract, can delay the onset of disease in NOD mice or decrease glycemia once T1D occurs. NOD mice serve as an excellent experimental model for studying T1D since they spontaneously develop it like humans. Our study was performed by administering daily 4% Yerba Mate orally to a group of 5-wk-old NOD females, and water to the control group, while recording weekly body weight and blood glucose measurements over the course of 20 weeks of observation. The results show that the Yerba Mate treatment did lower glycemic measurements and diabetes incidence, however neither were statistically significant. Additionally, the YM-treated group had significantly lower body weights over the course of study. These results suggest that Yerba Mate has some desirable effects for combating the symptoms of T1D. However, additional studies should clarify its antidiabetic potential.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P9 **Presentation Type**: Poster Presentation

Presenter(s): Thomas Baker, Ujjwal Adhikari, Mitchell Fournier, Megan Gregory

Faculty Mentor(s): Marina Cetkovic-Cvrlje

Husky Compact Dimension: ENGAGE

Title: Consumption of Yerba Mate Concoction Prevents the Onset of Experimental Murine Type 1 Diabetes

Abstract:

Type 1 diabetes mellitus (T1D) is a common autoimmune disorder in children that stems from a lack of insulin induced by the destruction of pancreatic beta cells by the own immune cells. The insulin treatment, while controlling increased blood glucose (hyperglycemia) in patients with T1D, is expensive, and does not influence disease development. Polyphenols are a class of plant chemicals that have antioxidant and anti-inflammatory functions. Some studies showed that a tea made of South American Yerba mate (YM) plant, known to be rich in polyphenols, reduced hyperglycemia in mice exposed to a beta cell toxin. We hypothesized that YM, with its anti-inflammatory activity, would prevent T1D onset and lower hyperglycemia in mice with chemically induced T1D. Thus, we started a treatment of C57BL/6J male mice with 4% YM in a drinking water, initiated T1D development by low-dose streptozotocin injections, and followed them for 42 days by measuring body weights and glycemia twice a week. The results show that YM treatment had a positive effect, significantly delaying the T1D onset and reducing the percentage of diseased mice. Additionally, mice treated with 4% YM had statistically significant lower average blood glucose levels compared to the water-treated controls. Since YM has a high concentration of polyphenols, one can infer that this was a contributing factor to the obtained results. The future studies might address the antidiabetic efficacy of different polyphenols present in the YM concoction.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P10

Presentation Type: Poster Presentation

Presenter(s): Patrick Kalonde

Faculty Mentor(s): Mikhail Blinnikov

Husky Compact Dimension: SEEK

Title: Modeling the suitability of Anopheles funestus across South East Africa

Abstract:

According to the World Health Organization (WHO), vector-borne diseases account for about 17%of all infectious diseases worldwide. One of such diseases is malaria. It is transmitted by Anopheles mosquitoes and currently over 90 percent of the world cases are being reported from Sub-Saharan Africa. In this study, I have investigated the suitability of a part of East Africa for Anopheles funestus, which one of the major malaria mosquito species. The study area includes Malawi, Zambia, Mozambique, Republic of Tanzania, Burundi, Rwanda, Kenya, and Uganda. I also used publicly available data sources on mosquito presence, vegetation, and bioclimatic variables. The data was prepared for analysis using Microsoft Excel, R Statistical software version 4.0.2 and ArcGIS 10.7. Modelling was performed using Maximum Entropy Algorithm using Maxent software (version 3.4.4). The suitability model performed well on a test dataset (AUC (Area Under the Curve) = 0.865). In terms of variable contribution, precipitation of the driest month, precipitation of the coldest quarter, and precipitation of the driest quarter contributed over 60 percent to the final model. The results present a heterogeneous pattern in suitability of south-east Africa to Anopheles funestus. For example, southern Malawi, parts of Mozambique and the area around Lake Victoria covering countries such as Burundi, Rwanda, Uganda, and parts of Kenya is more suitable to Anopheles funestus species ($P > 0.77$). On the other hand, Zambia despite having records of Anopheles funestus is less suitable to the species when modelled in context of current environmental variables ($P < 0.15$). Future studies may focus on improving processing time by examining the potential using platforms such as Google Earth Engine, Google Collab in developing SDMs. Other studies can also include investigating population dynamics of Anopheles funestus during the driest month, as this seems to be a major factor my analysis has uncovered.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P11

Presentation Type: Poster Presentation

Presenter(s): Bailey Richards

Faculty Mentor(s): Jennifer Lamb

Husky Compact Dimension: INTEGRATE

Title: Using Fluorescence and Other Techniques to Visualize Tadpole Anatomy

Abstract:

Being able to confidently identify species ensures that biodiversity assessments are accurate. One method of differentiating among species of Anurans (frogs and toads) during their larval life history stage (tadpoles) is by examining their oral discs. The oral disc includes the keratinized and pigmented tooth rows and jaw sheath, and the non-keratinized labia and papillae. The labia and papillae are semi-transparent, which can make them difficult to see. One way researchers have viewed the oral disc is by using different stains, like methylene blue or crystal violet. Staining may not be a viable option when working with museum specimens because they may alter the specimen. Fluorescence has recently been identified as a way to study anatomy in preserved specimens because specimens fixed in formalin fluoresce brightly. I tested different combinations of stains and excitation lights to determine how to best visualize the characteristics of the oral disc of tadpoles that help to differentiate species. I collected and prepared tadpoles of the Wood Frog (Lithobates sylvaticus) from central Minnesota to study the anatomy of the oral disc in recently dead or preserved specimens. I examined oral discs under white light and under narrow spectrum blue (450-495nm) and ultra-violet light (400nm). I compared oral discs both prior to and after staining with crystal violet or methylene blue. Keratinized mouth parts were most easily seen via fluorescence in response to blue light or when stained with methylene blue and viewed under white light. When viewing the soft, non-keratinized parts of the disc, it was viewed the clearest using methylene blue as a stain, but the details of the papillae and labia were also apparent via fluorescence. These results confirm that while stains do help when examining tadpole oral disc morphology, there are other effective options such as fluorescence.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P12

Presentation Type: Poster Presentation

Presenter(s): Jenna Nelson, Ujjwal Adhikari

Faculty Mentor(s): Marina Cetkovic-Cvrlje

Husky Compact Dimension: INTEGRATE

Title: The Trials and Tribulations of Implementing Contemporary Technology in the Immunology Laboratory Under COVID-19 Conditions

Abstract:

Type I diabetes (T1D) is a chronic autoimmune disease that develops when insulin-producing beta cells are attacked by T cells in the pancreas. When studying this disease in the Immunology Laboratory, it is pivotal to have the capability to quantify T cells and their secretory products. Without a flow cytometer, an instrument that uses lasers to separate cells or particles into groups based on their characteristics, it is almost impossible to gain insight into T cells. These machines have significantly evolved over the past five decades and as researchers, it is our responsibility to utilize new technologies as they become available. We have been relying on a BD Biosciences FACSCalibur flow cytometer, the gold standard cytometer of its time, for over a decade. However, the FACSCalibur will soon become obsolete; thus, a replacement was essential. Luckily, Dr. Cetkovic-Cvrlje was awarded a grant for a new flow cytometer, the BD Biosciences Accuri C6 Plus (AC6P). Under normal circumstances, we would receive technical help with installation and initial quality control from the manufacturer. However, with COVID-19-related conditions, we needed to adapt quickly and efficiently in order to start using this advantageous instrument. After receiving the AC6P, the pursuit to adequately set up, acquire, and analyze cellular data began. What sounded like a somewhat simple process quickly turned into months of trial and error. From issues involving software optimization to simple computer setup miscues, it seemed as though we would never succeed, but with perseverance and the aid of a few professionals, the AC6P is now fully functional. Not only did this experience provide our lab with a new tool that will be utilized for many years to come, but it also helped to solidify communication and critical thinking skills that have been instilled in us during our time at SCSU.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P13

Presentation Type: Poster Presentation

Presenter(s): Fatuma Abdinasir

Faculty Mentor(s): Steve Anderson

Husky Compact Dimension: THINK

Title: Systemic Oppression in Education

Abstract:

This paper addresses how systemic oppression and racism is a widespread issue in our society. In order to address this issue, society must first support efforts to combat structural racism in education, housing, and other social policies. Since the root cause of many other inequities faced by BIPOC is structural injustice in education, it is essential that communities advocate for strategies that improve the U.S. education system. This paper will also discuss how classroom courses are conducted to prepare teachers with knowledge and personal understanding, but not properly prepare them with the core values of multicultural education, such as critical awareness and consciousness for education equity. Educators can enhance student participation and outcomes for students of color by adapting their classroom activities and content to reflect the communities in which their students have grown up. This paper will also address two methods of education; the banking style and the problem-posing style.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P14

Presentation Type: Poster Presentation

Presenter(s): Evalina Bach

Faculty Mentor(s): Steve Anderson

Husky Compact Dimension: THINK

Title: How a students nutrition affects how well they do in school

Abstract:

In this presentation I will be talking about how a students nutrition affects how well they do in school. I have done research on this and wrote a research essay. I will talk about nutrition and give examples of how it affects students grades.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P15

Presentation Type: Poster Presentation

Presenter(s): Taylor Bryce

Faculty Mentor(s): Steve Anderson

Husky Compact Dimension: THINK

Title: Effects of genocide on genetic make up

Abstract:

My project is based on the affects of genocide on the genetic makeup and brain function of victims of genocide and their offspring. I picked this topic because I have learned about how genocide is looked over and is more deep then just the small term genocide. I also picked biology because I enjoyed learning about the small things that go into DNA. I will talk about how trauma such as genocide can cause such changes in specific DNA. These changes lead to mental health problems such as PTSD, anxiety, depression and others.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P16

Presentation Type: Poster Presentation

Presenter(s): Tara Butkowski

Faculty Mentor(s): Steve Anderson

Husky Compact Dimension: THINK

Title: Women's Empowerment via Social Media in the Middle East

Abstract:

This project and research are about the empowerment of women in the Middle East and North Africa through access to social media and engaging in a public sphere where activism is not common. Women in the Middle East and North Africa experience different demands of work and gender than those in the west. The usage of social media has been linked with quick transitions in politics in the Middle East and North Africa and it is being used as a tool to promote activism among these women as they are redefining the public sphere. These women are producing different images of womanhood, citizenship, political participation, and overall alternative images of themselves with the help and empowerment of social media. A larger discussion is being created that insists on women's economic independence, challenging the idea of honor, the value of marriage, and the tie-in of religion and what that means. Resistance to these women will also be discussed, many of which are Islamists who think their religion is being attacked. There are also social tensions being produced by Republican elites and their attempts to redefine gender roles and family life.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P17

Presentation Type: Poster Presentation

Presenter(s): Justin Clauson

Faculty Mentor(s): Steve Anderson

Husky Compact Dimension: THINK

Title: How Modern Technology Dehumanizes Society

Abstract:

Modern technology often possesses fatal consequences which result in the dehumanization of society due to humanity's inherent need to advance. Reform is needed to protect the sanctity of life. Over the past several centuries, technology has grown exponentially both in utility and risk. To counteract these dangers, regulations and standards have been introduced to many areas; however, new technologies often present ethical dilemmas which are deemed unavoidable. Beyond disregarding the risk which oftentimes includes fatality and continuing with development, these technologies also objectify and rank human life. These technologies are becoming ubiquitous in all walks of life. For example, the introduction of self-driving cars necessitates the programmed decision making of hitting a pedestrian or saving the passengers. Many new military technologies are removing the human element from war which is conducive to escalation. Even the medical field is trespassing into life's sanctity by utilizing the argument of the end justifies the means with regards to embryonic stem cells. To prevent further misconduct, the Engineering Code of Ethics needs to be reformed to stay relevant to modern technology.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P18

Presentation Type: Poster Presentation

Presenter(s): Anna Colbenson

Faculty Mentor(s): Steve Anderson

Husky Compact Dimension: THINK

Title: Vietnam Protest Music

Abstract:

During the Vietnam War, many artists created iconic protest music that helped ignite a social movement that called for change. This presentation will examine what protest music is and what makes a song a protest song. A specific categorization of these songs will be provided. There are two main types of protest songs, deliberate and epideictic. The definition of these categories of protest music is defined intention and nature of their messages. The subcategories of these songs are defined by the songs' different messages. The messages in these subcategories are education, peace, and violence, along with the message that war is physically destructive, emotionally destructive, unnecessary, and immoral. The different artists who created these protest songs will be mentioned. An analysis of their lyrics and their intentions will be provided. How the protest music spread during the Vietnam war will be analyzed. The music industry during the Vietnam war, along with the songs' immediate impacts on America, will be examined. The everlasting impact of protest music on protest culture and American culture will also be discussed.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P19

Presentation Type: Poster Presentation

Presenter(s): George Davidson

Faculty Mentor(s): Steve Anderson

Husky Compact Dimension: THINK

Title: Changes in Mathematics Teaching

Abstract:

For my poster presentation I will be comparing and contrasting the ways that the teaching of mathematics has changed over the years. For example, how the teaching of basic addition is changing from the ways in which earlier generations have learned before. I will compare the reasoning and the logic behind the changes and the benefits that come with them. Also, I will try to be able to relate to the audience seeing if they can understand the new ways of teaching these basic operations.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P20

Presentation Type: Poster Presentation

Presenter(s): Justin Fuchs

Faculty Mentor(s): Steve Anderson

Husky Compact Dimension: THINK

Title: How Fast Food Chains Deceive Their Customers Through Marketing.

Abstract:

Generally, fast food is a cheap, easy meal, but it is usually unhealthy or less healthy than a home meal. In order to gain and keep customers, fast food chains have employed a variety of ways to entice them to buy their products. The main way fast food chains obtain customers is through advertising, such as an ad on television or a billboard on the highway. However, sometimes fast food chains will maliciously deceive customers by giving false information, withholding information, or making claims that are misleading. This can be seen in a variety of ways, such as labeling well known unhealthy ingredients such as sugar under lesser known aliases, such as fructose. This way, consumers are tricked into believing the food product they are consuming is healthier than it really is. Other ways that fast food chains can manipulate customers is by deceptively marketing to more susceptible customers, such as children. By marketing to children, they are more likely to hide their less healthy products through slick advertising, such as celebrity appearances and nice looking products. Fast food chains can also give away toys to bring children into their restaurants, which in turn will also bring in their parents. While there are ethical ways to market fast food products, these companies also use these deceptive practices at the detriment of their customers.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P21

Presentation Type: Poster Presentation

Presenter(s): Makena Hollman

Faculty Mentor(s): Steve Anderson

Husky Compact Dimension: THINK

Title: Gender Bias in Medicine Research

Abstract:

Clinical trials are crucial to the success of many drugs and vaccines available to the general population. Medicine relies on the availability of test subjects in order to get their product on the market. There is, however, a noticeable concern in the representation of women within clinical trials. Women's bodies vary extremely from men's, even down to the biological level, medicine has historically missed out on considering the differences. It is because of this that women have experienced life-threatening responses to various medication. If biological differences in sex make or break the success of drugs, women should be equally represented in clinical trials. Within a historically male dominant society, it is curious that women have been overlooked despite equal reliance on medicine compared to men.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P22

Presentation Type: Poster Presentation

Presenter(s): Ethan Johnson

Faculty Mentor(s): Steve Anderson

Husky Compact Dimension: THINK

Title: Spanish Philosophy and Culture

Abstract:

My project will be about the history and culture of the Spanish people. It will focus on dynamics in Hispanic household and how they value culture and philosophy within them. It will explain the basic history of the Spanish and ideologies born of it. Along with that it will focus on various Spanish culture days around the globe with a specific focus on dia de los meurtos. I will provide statistics that show how these ideologies influence the Spanish people and nuclear family. It will be an in depth look at learning about their history and applying it to ourselves. I hope to provide a product that inspires reflection in American culture upon my viewers. I plan to have a concrete and thorough look into this topic that will give pause to all who attend. It is my goal to change the way we think even for a short time. Sources will include such as History, World atlas, and various others. I look forward to it. As an honors student I will provide the best work possible.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P23

Presentation Type: Poster Presentation

Presenter(s): Emily Karth

Faculty Mentor(s): Steve Anderson

Husky Compact Dimension: THINK

Title: The Pen is Mightier than the Sword, the Fear of Books and Why they are banned in prisons throughout the United States

Abstract:

This project is going to explain what kind of books are banned in prisons. What books are banned across the prisons in the United States. I will also explain what the significance of the books that are banned are. Why the books are banned. Many of the banned books authors have contributed greatly to society, so I will explain what they have done. Banning books in prisons can have a negative effect on the prisoners, especially if there is no logical reason for banning the books. Reading can have an amazing impact on mental health, reading books can take the mind to different realities and help people rationalize situations. Reading in prison can help give the prisoners hope, it can shed light to untold history, and it can help them learn about trades and be able to be prepared for life outside of prison. I have reviewed banned books lists from 17 states and determined the most likely reasons why the books were banned. I have also determined the most common books that are consistently banned across all the 17 states. I will identify why they are banned, and if there is institutional biased against the author and/or book subject.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P24

Presentation Type: Poster Presentation

Presenter(s): Jae Knutson

Faculty Mentor(s): Steve Anderson

Husky Compact Dimension: THINK

Title: Using controversial LGBTQ+ children's literature to help spark conversations.

Abstract:

This project will look into how educators and parents can use the typically controversial LGBTQ+ children's literature to help start conversations about the LGBTQ+ community. These books take typically hard-to-understand materials and make them easy for children to learn. It is important to the LGBTQ+ community that today's youth learn acceptance to prevent the bullying and harassment almost all LGBTQ+ individuals face during their school years. Using important communication skills such as listening, clarity and concision, friendliness, and open-mindedness can help educate today's youth in the LGBTQ+ community. Many parents and educators believe that teaching today's youth about the LGBTQ+ community will "brainwash" them into becoming a part of the community. However, this is not true this project will give reasons outweighing the positives over the negatives. Using literature such as "I am Jazz" (2014) written by Jazz Jennings and Jessica Herthel can help expose children to the possibilities of lifestyles outside of the typical heteronormative ideology that plagues today's societal norms. If a student learns about the term transgender and thus realizes that this may be who they are, it can help prevent years of depression, anxiety, and gender dysphoria. By instilling the acceptance and open-mindedness as a youth, it can avert toxic thinking as the children grow older.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P25

Presentation Type: Poster Presentation

Presenter(s): Jenny Kramer

Faculty Mentor(s): Steve Anderson

Husky Compact Dimension: THINK

Title: Life on Mars

Abstract:

By combining the classes Astronomy 107 and Biology 360, one can look at life in space and how life can form with certain conditions met, specifically looking at life on Mars. Astronomy studies celestial bodies which include anything outside of Earth's atmosphere, like dark matter, black holes, stars, and planets. On the other hand, cell biology studies the structure and function of cells, the fundamental unit of life, and how they interact with the environment. Connecting these two ideas leads to studying and searching for the fundamental unit of life on other planets in our solar system or on exoplanets in another galaxy. Mars is one of the most popular planets today for the search of pre-existing life. There is evidence that there was water on Mars, a necessity for life. There have been multiple rovers sent there to gather information and look for any signs of microbial life. In fact, rather recently, Perseverance was launched to space and landed on Mars in February 2021. It landed near an area that has evidence that it used to be a riverbed. Through these course connections, one can create knowledge about life on Mars.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P26

Presentation Type: Poster Presentation

Presenter(s): Lydia Krueger

Faculty Mentor(s): Steve Anderson

Husky Compact Dimension: THINK

Title: How African American Literature Has Influenced Social Justice Movements

Abstract:

The history of the United States has been shaped by racial injustice and inequality that has continued to influence the world to this day. The impacts of African American literature, specifically in the forms of abolitionist and anti-slavery poetry and slave narratives, have influenced social justice movements for change throughout history. These forms of African American literature have impacted how the world has responded to injustice in terms of protesting and movements of activism that challenge racist and oppressive ideas and social constructs. It is through a better understanding of historical pieces of African American literature that the social justice movements of today have been influenced based on how they are carried out, it is the continued forms of injustice and oppression that have caused the movements to occur and progress. By better understanding the historical written works of abolitionist writers and the words of those held in bondage in the United States during the time of slavery, modern day activists have been able to form movements for change, advocating for justice and equality in a world that still contains forces of injustice and oppression. This project focusses on how pieces of African American literature have had an impact on how we as a society have responded to forms of injustice and oppression in the form of social activism and protest.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P27

Presentation Type: Poster Presentation

Presenter(s): Ryan Lightheart

Faculty Mentor(s): Steve Anderson

Husky Compact Dimension: THINK

Title: Astrotheology: A look into how myth and religion might affect our future in space

Abstract:

A dive into the study of Astrotheology and how myths and religions might be viewed in futuristic civilizations. Specifically through the views of scientific theories, Myths, tv shows, and movies and how these views are effected by societal norms and biases. The poster will primarily be focused on how the evolution of myths, religions, and our need for adventure and exploration have led to breakthroughs both in the study of astrobiology and our primal need to know what's out there in the cosmos. There will also be a focus on how political and societal decisions based on their unsubstantial need for power and money, that have slowed down our expanse into surrounding planets and beyond. Besides the political and the mythological aspects, I will also be going over scientific that theories that could possibly explain how some myths and religions came to be, through the use of planetary sciences.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P28

Presentation Type: Poster Presentation

Presenter(s): Brenna Lindstrom

Faculty Mentor(s): Steve Anderson

Husky Compact Dimension: THINK

Title: The History and Social Impact of Graffiti

Abstract:

This poster will describe the history of graffiti and its impact on society throughout the years. The topics that will be covered are the history of graffiti, where it started and the beginnings of it getting involved in social issues, as well as current examples of graffiti in modern society. A brief overview of significant graffiti artists that have impacted the graffiti world will also be included. The poster will bring a person on a graffiti journey throughout history journey and learn the importance that graffiti has had on significant societal issues by using past and modern examples. A past example may include Killroy that was commonly seen in World War II, as well as other political graffiti images. A modern example may include the numerous murals of George Floyd that popped up around the world during the recent Black Lives Matter Movement. Modern images that have shaped society will also be brought up and explained. The past and modern examples will be talked about by using the method of using pictures to show people what is being talked about. Lastly, the poster will cover ideas that are initially from a paper that goes further more profound into the subject at hand.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P29

Presentation Type: Poster Presentation

Presenter(s): Andrew Martin

Faculty Mentor(s): Steve Anderson

Husky Compact Dimension: THINK

Title: How technology changes warfare

Abstract:

My project I am going to be talking about is how technology changes warfare. I will start off by talking about how technology changed the war in the past. To start, I will talk about the technology created and used in World War 1, World war 2, and the Cold War. This era has the most information as this is the start of the technological boom. This era introduced lots of things. This period introduced the first radars. Also, microwaves were invented during this period. But the most important thing that happened during this time was the medical advancements. During this period penicillin was invented, along with other important procedures, like blood transfusions, skin grafts, antibacterial treatments, and even trauma treatment. After that, I will talk about the present day. Mostly about technology being created and used in the 21st century. This era has a handful of creations likes drones, upgraded weapons, extreme detection systems, and 3D printing. Also, war tactics have changed during today's society. Finally, I will talk about the future of technology in the military and how it can be used in future wars. In the future era, I will talk about future weapons that could make it into production and really cool aircraft. Also, the military is really looking into artificial intelligence.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P30

Presentation Type: Poster Presentation

Presenter(s): Duncan Masterman

Faculty Mentor(s): Steve Anderson

Husky Compact Dimension: THINK

Title: Honorifics of Japanese Businesswomen

Abstract:

A linguistic overview of the ways Japanese Businesswomen use honorifics and respectful language in the workplace as well as challenges they face.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P31

Presentation Type: Poster Presentation

Presenter(s): Erin Nelson

Faculty Mentor(s): Steve Anderson

Husky Compact Dimension: THINK

Title: Hurricane Katrina's Disproportionate Effects on African Americans

Abstract:

To summarize, this research project explores the effects that Hurricane Katrina had on the African American community. How this community was disproportionately affected by the natural disaster is also discussed. The project analyzes both the tangible and social effects of Hurricane Katrina and the impacts on this community. One of these tangible aspects includes financial trends regarding the African American community that was impacted, focusing on the negative outcomes Hurricane Katrina had on the poverty rates of the group in question. In addition to this, this research project also mentions how employment rates were affected by the hurricane and their detrimental impact on this community. The contributions of the government during the aftermath of this event and how these actions failed to properly assist the African American community are also considered. In addition to these points, the rates at which African Americans experienced the troubles previously described will be compared to the rates at which white people experienced them, demonstrating this issue's disproportionality regarding race. To analyze the longevity of Hurricane Katrina's impact on the African American community affected, the current state of the area struck by the hurricane and the number of African Americans that remain displaced are considered.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P32

Presentation Type: Poster Presentation

Presenter(s): Kelsi Olson

Faculty Mentor(s): Steve Anderson

Husky Compact Dimension: THINK

Title: The Impact of Technology on our Ethics

Abstract:

For my project, I combined the classes Computers in Society and The Legal, Ethical, and Global Environment of Business. These two classes can relate with each other because as technology is changing so is our ethics and environment. Ethical issues while using computers include more computer crime, responsibility for computer failure, protection of computer property, records, and software, and privacy of the company, workers, and customers. Technology is moving at a pace that can easily outrun ethical standards surrounding its use. Technology is also distorting people's beliefs. People are believing what they are seeing, but it is not necessarily true. Also, in my project, I will be talking about how technology is raising issues of right and wrong, why we often steer away from such discussions and stay within our own world, how technology in society is creating a unique set of ethical issues, and ethics in management and organizations and how they deal with social responsibility and ethical behavior.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P33

Presentation Type: Poster Presentation

Presenter(s): Shaeden Scheidt

Faculty Mentor(s): Steve Anderson

Husky Compact Dimension: THINK

Title: Originations and Ethics that Separate the Catholic and Protestant Church

Abstract:

My project will be diving into the histories of each church and pinpointing specific events where the church disagreed and slowly drifted into creating two branches of Christianity. I will discuss topics like communion, the Hebrew and Latin bibles, and the development of saints. I feel many people do not know the distinctions between the Christianity branches and definitely do not know where they originated from. I will be doing this topic respectfully and nonbiased.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P34

Presentation Type: Poster Presentation

Presenter(s): Joseph Skluzacek

Faculty Mentor(s): Steve Anderson

Husky Compact Dimension: THINK

Title: Physics Modeled in Programming and Animation

Abstract:

Show how physics is modeled in computer programs such as animation techniques such as CGI (Computer Generated Images) and MoCap (Motion Capture) and other programs

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P35

Presentation Type: Poster Presentation

Presenter(s): Zachary Stich

Faculty Mentor(s): Steve Anderson

Husky Compact Dimension: THINK

Title: Are Flooding Events the Main Factor in Human Migration from Southern Asia?

Abstract:

All around the world, countries are continuously dealing with extensive flows of migrants from place to place. Even though there are many push and pull factors that are contributing to the ever increasing number of human migrants, there seems to be a strong correlation between floods and other major natural disasters contributing to the increase in the number of displaced people within many countries. A term that has caught on as of recently is calling these individuals impacted by severe natural disasters climate migrants. Essentially, these climate migrants are continuously growing in numbers throughout the world due to the occurrence of more significant weather events. The migration crisis in Southern Asia appears to be turning much worse due to significant flooding events that are displacing millions of people who generally have minimal access to quality resources. These extreme flooding events are contributing to the numerous other migration factors around Southern Asia and throughout many other regions of the world, and the number of individuals who are both forcefully and voluntarily migrating is not showing any sign of slowing down.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P36

Presentation Type: Poster Presentation

Presenter(s): Eric Weis

Faculty Mentor(s): Steve Anderson

Husky Compact Dimension: THINK

Title: When the Music Stops: A History of Copyrights in Music

Abstract:

Music is one of the most creative and unique art forms; this is, of course, until it suddenly is not. Due to the amount of music that currently exists, some have found themselves accidentally or intentionally taking the musical work of another person. To deter theft, music is legally copywritten to provide protection for its original creator. This has not stopped some from producing songs that contain chords, melodies, and other musical elements from an already existing work. When individuals find themselves in a position of having their work taken from them, they will often sue the perpetrator. This may seem fairly obvious, although some still don't know what to do when they believe their work has been stolen. Most times, a copyright can be easily identified within a copyright case. However, a process called sampling, or taking a small sound from another song and using it in a new one, raises questions about when something can be considered as copyright infringement and how it can be enforced. It also brings into question what an original work looks like and how far a copyright can be stretched in the world of art, particularly in music. This is an exciting discussion to be discovered upon within this project.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P37

Presentation Type: Poster Presentation

Presenter(s): Emilia Wright

Faculty Mentor(s): Steve Anderson

Husky Compact Dimension: THINK

Title: The Economic Consequences of the Bubonic Plague on the System of Feudalism

Abstract:

This research paper examines and reflects on the economic system of the Middle ages, specifically the 14th to 15th century, and how they were affected by the bubonic plague. We examine in particular the blow to the system of feudalism and the dissolution of the Templars in France. Historical figures of interest include Edward II and III of England, Joan, daughter of Edward II, Philip VI, Queen Isabella of France, and other such political leaders. Basic histories of the formation of feudalism, and its role for both peasants and noblemen. Checks and balances of feudalism, and an extended brief introduction of the economic medieval European systems. Brief history of the black death in the 14th century, including the general consequences of black death, specifically in how it connected economically. To examine these economic trends, we will also be using primary sources discussing how decreases in population lead to higher demand in wages and decreased focus on local government systems. Using secondary sources such as Heller, Alfani, Postan, and Routt, we will also connect the economic consequences of unrelated natural disasters and catastrophes to that of the 14th-century emergence of the Black Death to form a nuanced and unique perspective of feudalism and medieval economics.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P38

Presentation Type: Poster Presentation

Presenter(s): Najma Yusuf

Faculty Mentor(s): Steve Anderson

Husky Compact Dimension: THINK

Title: Upbringing of Police Brutality

Abstract:

This paper will be about the tragedy of George Floyd's death this last summer. My central point is to speak about police brutality and how corrupt the criminal justice system is. George Floyd's death is a great example of the reality that black men face in America. Within my project, I'll speak on all the details about his death and how even after his death justice still hasn't been served. I want to talk about how his death inspired people who face oppression in America to speak out like the black lives matter movement or anything in regards to fighting for equality. Also, to really implement my political science subject I'll be adding the whole judiciary breakdown of this tragic event.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P39

Presentation Type: Poster Presentation

Presenter(s): Salbata Ghimire

Faculty Mentor(s): H. Giovanni Antunez

Husky Compact Dimension: THINK

Title: Girls Getting Ahead in Leadership (GGAL)

Abstract:

As a requirement for my major, I am doing an internship at Women's Initiative for Self -Empowerment (WISE) as a Girls Getting Ahead in Leadership (GGAL) Mentor/Intern. I want to share my experience and about the program that I am involved in with the SCSU community. "GGAL is an academic, leadership, and college preparation program for underserved and at-risk immigrant/refugee girls in grade 6th-12th". My role as a mentor is to help out the girls in any aspect necessary either it is with their school work, language, arts, and creativity, practicing healthy behavior, or raising awareness for better health and well-being. SCSU is home to a diverse population, so I want to share my knowledge and experiences I have gained from being part of this group and aware the SCSU community of the help, safe spaces, and resources that are available for youths if needed. As a Community Health student, this internship has really helped me understand my community and the aspects that need more attention. Therefore, I am willing to share my journey, what I have learned in terms of leadership development, professional skills, and working with youths with everyone. This project will hold the information about my internship site, the work I do, and the experiences I have gained which have helped me in my academic career.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P40

Presentation Type: Poster Presentation

Presenter(s): Denise Todd

Faculty Mentor(s): H. Giovanni Antunez

Husky Compact Dimension: THINK

Title: Catholic Charities COVID-19 Response

Abstract:

In the first quarter of 2019, the Department of Emergency Services within Catholic Charities of the Diocese of St. Cloud shut its doors to the public due to the COVID-19 pandemic. The cozy lounge couches and a limitless supply of coffee that previously served over fifty thousand individuals was transformed into multiple palettes of overflowing boxes filled with the generous donations of local businesses and residents. To safeguard the public and the program staff, procedures were set in place that extremely limited outside visitation but still allowed vulnerable families the opportunity to receive assistance. Though the pandemic has significantly lowered the program's numbers and has stunted the celebration of getting approved for becoming an established SuperShelf in the Stearns County area, the staff was determined and put their heads together to develop creative ways to continue to provide the same level of service as when their doors were open.Today, Catholic Charities continues to serve the community through its food shelf, financial services, clothing program, and home delivery. My project aims to showcase the services still available to the community from Emergency Services and how the program has changed its operations to remain open as the global pandemic threatens the shutdown of other community food shelves and nonprofit service organizations.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P41

Presentation Type: Poster Presentation

Presenter(s): Alanis Hendrix-Gilkison

Faculty Mentor(s): Randal Baker

Husky Compact Dimension: INTEGRATE

Title: Local Perceptions and Responses to Sustainable Tourism Development

Abstract:

My project for the 2021 Husky Showcase will be a poster about local responses to sustainable tourism development. I will be determining the impact of local perceptions and responses to the application of sustainable tourism development based on the Social Exchange Theory of weighing costs and benefits. Understanding how communities react to sustainable tourism developments play a large part in how successful tourism is in a community. During my research, I consider existing literature relating to the local responses to tourism in tourist destinations versus applied ecotourism, and how the local responses influence the destinations' tourism industry. Observing ten recent and different implementations of sustainable tourism from around the world, I am able to connect the data between positive perceptions and the success of a sustainable tourism industry. I go into the different aspects of what influences the perceptions of ecotourism, and how the costs and benefits affect those outcomes of the local community along the way. I will organize these results in tables and graphs, based on a likert scale, and organized ordinal data. I begin with why local communities of natural destinations pursue tourism, follow up with the perceptions of applying ecotourism versus the response to tourism, and finish with how these responses are the ultimatum of a successful ecotourism industry.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P42

Presentation Type: Poster Presentation

Presenter(s): Julie Vang

Faculty Mentor(s): Randal Baker

Husky Compact Dimension: INTEGRATE

Title: Authenticity in Virtual Tourism

Abstract:

In my class HTSM 434; Hospitality and Tourism Seminar. I choose to do a research paper on authenticity in virtual tourism because of the COVID-19, traveling has changed and this leads the tourism industry to find other ways to attract tourist such as using virtual reality (VR). Therefore, I want to search what people or tourist thinks about undergoing a virtual tourism using a VR device to see if there is still authenticity as a traditional travel would be. In my research paper project, you'll find that there is other studies regarding about authenticity in virtual tourism that support or is similar to what I want to research about, the methodology which helps defines the answer, and lastly the result/conclusion whether there is authenticity or not.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P43 **Presentation Type**: Poster Presentation

Presenter(s): Ujjwal Adhikari, Krisandra A McLaughlin

Faculty Mentor(s): Nathan Bruender

Husky Compact Dimension: SEEK

Title: Characterization of an active site residue: Proline in Prephenate dehydrogenase

Abstract:

Prephenate dehydrogenase is an enzyme present in shikimate pathway to synthesize tyrosine. This enzyme catalyzes the reaction between prephenate and 4-hydroxy-phenylpyruvate. In this reaction, oxidative decarboxylation occurs using NAD+ and prephenate as the substrates. To study the proposed function of this enzyme, an uncharacterized conserved active site residue was selected, specifically a proline. A DNA primer was designed to replace this Proline with a Histidine. Transformation was carried out to introduce recombinant plasmid DNA in Escherichia coli strains, Miniprep was done to extract and purify plasmid DNA from bacteria, Ligation Independent Site Directed Mutagenesis to create that mutation in a gene of interest, and finally SDS PAGE will be done in coming weeks to analyze protein purification process. This experiment is important to analyze the effects of mutations on active site residues and the functionality of this protein after such mutations. We hypothesize that the replacement of the proline with a histidine will cause slower reaction rate due to decreased affinity of the substrate to the active binding site. The experiment is currently being conducted and the results obtained will be presented at the Husky Showcase in April.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P44

Presentation Type: Poster Presentation

Presenter(s): Amaya Bruner, Emma Gauert

Faculty Mentor(s): Nathan Bruender

Husky Compact Dimension: INTEGRATE

Title: The Importance of Serine residue with in the active site of Pyrroline-5-carboxylate reductase

Abstract:

Almost all living organisms utilize enzymes in a variety of chemical reactions. Enzymes are made up of proteins, and proteins are made up of amino acids. Different enzymes display different amino acid sequences, this makes for a large diversity amongst different types of enzymes in terms of structure and function. This experiment focuses on the enzyme pyrroline-5-carboxylate reductase. Pyrroline-5-carboxylate reductase is used primarily in proline metabolism, but is used in arginine metabolism as well. High levels of proline in the body may be toxic, so pyrroline-5-carboxylate reductase is utilized for maintaining homeostasis within the body. Pyrroline-5-carboxylate reductase works by catalyzing the reaction of turning L-proline into 1-pyrroline-5-carboxylate using NADP. In this experiment, the active site of pyrroline-5-carboxylate reductase was analyzed to determine a single amino acid that is believed to play an important role in the active site. This specific amino acid was mutated in order to determine its importance in the active site of pyrroline-5-carboxylate reductase. It is believed that changing a serine residue within the active site of pyrroline-5-carboxylate to a valine residue will cause a decrease in function of the enzyme. A series of steps were taken to examine the function of pyrroline-5-carboxylate reductase with the mutated sequence in a live specimen, such as a bacteria. Some techniques used in this experiment consisted of transformation, translocation, protein purification, small scale protein expression tests, and ligation-independent site-directed mutagenesis. The findings along with the data from this experiment will be presented after all necessary research has been completed.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P45

Presentation Type: Poster Presentation

Presenter(s): Cassandra DePauw, Jordyn Skarie

Faculty Mentor(s): Nathan Bruender

Husky Compact Dimension: SEEK

Title: Mutation of a Proline in a Prephenate Dehydrogenase Protein

Abstract:

Prephenate dehydrogenase protein functions in the tyrosine biosynthetic pathway to remove hydrogens from desired substrates. The goal of this study will be accomplished by manipulating a particular gene sequence of our desired protein. For the desired sequence of the protein to be tested upon, it needed to be made sure that the gene would be present throughout all of the tests being completed. It will be tested when combined with different buffers as well as being incubated to allow the protein of interest to mutate. To achieve this mutation, we mutated the gene designing and inserting a primer, expressing and purifying the gene, then will be testing the purified gene to see if there was a change that occurred. It's important to use these techniques to use the possible success of examining one particular protein of interest to be able to study many other proteins or proteins of interest. Data will be presented further in the following figures as well as the results and discussion sections.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P46

Presentation Type: Poster Presentation

Presenter(s): Easter Emmanuel, Chongye Feng

Faculty Mentor(s): Nathan Bruender

Husky Compact Dimension: SEEK

Title: Mutation of Gly236 of the Pyrroline-5-carboxylate Reductase Enzyme

Abstract:

Pyrroline-5-carboxylate reductase is an enzyme that reduces pyrroline-5-carboxylate to proline in the mitochondria using the cofactor NADPH. On the protein, there will be a focus on the mutation of the Gly 236 to Ala. Glycine and alanine are both aliphatic- non-polar hydrophobic amino acids therefore it is hypothesized that the mutation will cause little to no effect on the enzyme The mutated enzyme will not lose its function in reducing pyrroline-5-carboxylate. In bacteria transformation technique recombinant plasmid DNA PNic28-Bas4 was introduced in an Escherichia coli XL1 Blue strain for subcloning. The kanamycin antibiotic resistance is a symbol of plasmid insertion. Through DNA miniprep the plasmid DNA was isolated from the bacteria and a polymerase chain reaction (PCR) technique was performed and primers were introduced, and the segment of DNA was amplified. Multiple SOP techniques were utilized successfully mutate the plasmid and analyze its function as where the end goal is to successfully introduce a mutation into a plasmid PNic28-Bas4 and analyze its function in E. coli.The process of introducing mutations in plasmids and studying the function the enzyme has major significance in science. In bacteria transformation, bacteria are used for both storing and replicating plasmids. These plasmids carry selectable markers which can be used to study the function of an enzyme. It is important to remember the function of Pyrroline-5-carboxylate reductase because the mutated enzyme cannot be used to reduce pyrroline-5-carboxylate as it loses its function.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P47

Presentation Type: Poster Presentation

Presenter(s): Baboucarr Faal, Wengelawit Molla

Faculty Mentor(s): Nathan Bruender

Husky Compact Dimension: THINK

Title: Enzymatic effect of mutation of Asparagine 123 residue in the enzyme Pyrroline-5-carboxylate reductase

Abstract:

In this experiment, we are studying the enzyme Pyrroline-5-carboxylate reductase. It is a mitochondrial enzyme that catalyzes the final step of proline biosynthesis and reduces pyrroline-5-carboxylate to L-proline using NADPH as cofactor. In this study, we are creating a single amino acid substitution on the active site of the enzyme to study its effect on enzyme function (catalysis and binding). We designed a primer by creating a multiple sequence alignment with other sequence of solved structures and cause a mutation on Asparagine 123 residue. This is achieved by introducing a plasmid DNA into Escherichia coli XL-1 Blue cell and performing a series of laboratory techniques such as miniprep, ligation, SDS page for the purpose of subsequent protein expression. In our point mutation there would be effect on the enzyme catalytic and binding activity. The results and their significance will be presented in the poster.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P48 **Presentation Type**: Poster Presentation

Presenter(s): Brooke Paulson, Jordan Bisping, Clara Welhouse

Faculty Mentor(s): Nathan Bruender

Husky Compact Dimension: SEEK

Title: Effects of a Single Amino Acid Interchange in a Dehydrogenase Enzyme

Abstract:

Dehydrogenase enzymes are responsible for catalyzing the oxidoreductase activity that in turn catalyzes the removal of hydrogen atoms from biological substrates. Specifically, the family of prephenate/arogenate dehydrogenase enzymes, from which the enzyme of interest originates, catalyzes a step in the tyrosine biosynthetic pathway. It is expected that, by substituting the amino acid proline into the amino acid sequence of the enzyme of interest for histidine at position 74, a decrease in activity will be seen. Since proline amino acids are often associated with tight turns in tertiary protein structure, it is expected that by replacing proline with histidine, which has a large, positively charged R group, the turn will be compromised due to unfavorable spatial separation in that area of the three-dimensional protein. Since the location of the interchange is near the active site of this protein, this change could interfere with substrate binding and effectively compromise the enzyme's function. This should also affect protein folding and the resulting structure. Thus, it is hypothesized that by replacing 74P with 74H, the enzyme will lose its desired function. In order to achieve a single amino acid interchange at this desired location, DNA primer was designed to include nucleotides prior to the mutation, at the mutation, and after the mutation. The plasmid containing the gene of interest was then isolated and subjected to ligation-dependent site-directed mutagenesis and amplified via polymerase chain reaction. The plasmids were expressed and the resulting protein was purified and analyzed using SDS-PAGE.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P49

Presentation Type: Poster Presentation

Presenter(s): Brianna Rathbun, Brooke Schlangen

Faculty Mentor(s): Nathan Bruender

Husky Compact Dimension: SEEK

Title: Biochemistry 2: discovery of an unknown gene

Abstract:

The assigned gene in a plasmid encodes for a protein with unknown function. The goal of our lab group is to use common bioinformatics techniques and literature to identify potential amino acid residues in the protein that might be important for enzyme function. By using sequence alignments and structure ID, one amino acid in the primary sequence of the protein was picked and hypothesized to be important for function. The amino acid Ser-75 was mutated to an alanine to test our hypothesis of the functionality of Ser-75. By this mutation, we hope the function of the gene function gets damaged/lessoned/lost to provide evidence our selected amino acid does play a role in the genes function. By site-directed mutagenesis, the DNA was mutated at a specific location, the codon changes from a Ser residue (codons for serine: AGC or AGT) to an Ala residue (codons for Alanine: GAG, GAU, GAC, GAT). PR's were found with similarities in the 1Âº sequence (most likely in function and structure too.) The protein's sequence and structure were compared to the sequences or structures of proteins whose functions are well known. Protein function, structure, and sequence were found via database searching. Our protein is hypothesized to be an enzyme. Using the information learned in the first two weeks of lab, the function of our enzyme was hypothesized to assist in enzyme catalysis and might also participate in substrate binding. Further research and experimentation will be conducted to confirm the protein function prediction.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P50

Presentation Type: Poster Presentation

Presenter(s): Cody Smelik, Mackenzie Johnson

Faculty Mentor(s): Nathan Bruender

Husky Compact Dimension: SEEK

Title: Single Amino Acid Mutation and Effects on Enzyme Binding Site

Abstract:

The enzyme of interest of this study is cyclohexadienyl dehydrogenase, also known as L-arogenate: NAD+ oxidoreductase. This enzyme serves as a biological catalyst for the conversion of L-arogenate into L-tyrosine and the reduction of NAD+ to NADH. The ability to bind the two substrates will be examined along with analysis of how substitution of a single amino acid in the enzymes binding site will affect the enzyme's function. This will be done via a single amino acid alteration by specifically mutating the codon in the gene. A single polar Serine-99 group, inside the binding location, will be replaced by a non-polar methionine group. The expectation of the alteration is that replacing a serine amino acid with a methionine amino acid will inhibit binding activity for the enzyme due to change in polarity and size. This amino acid alteration will be accomplished following multiple standard operating procedures throughout several weeks. The major experiments carried out include transformations, minipreps, SDS PAGE, ligation independent site-directed mutagenesis, and expression tests. This is an important experiment due to it being crucial in scientific studies to determine the effects of single amino acid mutations on the function of the enzyme. Results from the experiment and the effect of the function of the enzyme due to the amino acid change will be discussed in the poster.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P51

Presentation Type: Poster Presentation

Presenter(s): Anil Thapa, Shukriti Ghimire

Faculty Mentor(s): Nathan Bruender

Husky Compact Dimension: SEEK

Title: Proline of Cyclohexadienyl dehydrogenase when mutated to Tryptophan affects the enzyme activity

Abstract:

Cyclohexadienyl dehydrogenase, also known as arogenate dehydrogenase, belongs to the oxidoreductase family, a member of the TyrA protein family involved in the biosynthesis of L-tyrosine. The cyclohexadienyl dehydrogenase has two enzymatic functions: it can function as prephenate dehydrogenase to convert prephenate to 4-hydroxyphenylpyruvate, which eventually is converted into tyrosine, and catalyzes the oxidation of L-arogenate to produce L-tyrosine, carbon dioxide, and NADH. Cyclohexadienyl dehydrogenase has two domains with various residues around its active site. A 73rd proline residue was found to be highly conserved in this enzyme This Proline is present near the active site and was studied on how it affects the enzyme binding property. This Proline can also be related to other organisms with similar sequences. Via site directed mutagenesis, the proline was mutated to tryptophan. Site directed mutagenesis is a biomolecular technology that can make specific changes in a gene sequence by using DNA primer, a short single stranded nucleic acid, that contains the desired mutation and is complementary to the DNA template that codes for Cyclohexadienyl dehydrogenase. The experiment was done by comparing the rate of reaction when the enzyme has proline as its residue and when proline is mutated to tryptophan .The purpose of this experiment is to observe the changes in the enzyme kinetics and activity after replacing Proline with Tryptophan. It was hypothesized that the Km of the enzyme, cyclohexadienyl dehydrogenase, will decrease when Proline is replaced with Tryptophan. The mutational data will be collected by comparison of enzyme kinetics and activity of both wild type and mutated enzyme.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P52

Presentation Type: Poster Presentation

Presenter(s): Renata Widelak, Mariah Simones

Faculty Mentor(s): Nathan Bruender

Husky Compact Dimension: SEEK

Title: Testing the effects of nucleotide substitution in a gene on the activity of the enzyme prephenate dehydrogenase

Abstract:

The purpose of our experiment is to explore the effects of replacing nucleotides in the gene which results in an amino acid change that is near the active site of our enzyme of interest, prephenate dehydrogenase, to be substituted. Normally, prephenate dehydrogenase is found in the shikimate pathway and has the function to catalyze the oxidative carboxylation of prephenate to tyrosine. Therefore, with a mutated gene of the protein this will cause a decrease in activity of this function. We will be doing this by designing a primer that will be completely complementary to a specific location except for one nucleotide that codes for a gene of interest, which would result in the mutation occurring and will cause a decrease in activity of the protein of interest. We will replace Gly-14 with an Isoleucine. This designed primer will cause the nucleotide substitution and reveal the importance of the Gly-14 amino acid based on the affected function of the enzyme based on the activity of its active site. This activity will be measured by purifying the protein and observing the amount of mutated protein expressed.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P53

Presentation Type: Poster Presentation

Presenter(s): Winston Johnson

Faculty Mentor(s): Jennifer Quinlan

Husky Compact Dimension: SEEK

Title: The Art of Evocation: A Case Study on How Music Chronicles Our Personal Past

Abstract:

If people are to be defined by their experiences, then that which shapes us is of the most personal importance. In this modern age driven by mass media, art and entertainment have grown to become dominant cultural forces, but they have also connected with us in uniquely personal and profound ways. Music, in particular, connects with the hippocampus - which is why many individuals state they can hear music in their memories. In personal retrospection, certain songs can define eras of a person's life, and, through these memories, other long-thought-forgotten memories can reveal themself with greater ease. The impact that these music-laden recollections can have on our personal lives is tremendous and multi-faceted. According to the journal, Memory & Cognition, most individuals stop consistently listening to new music around the age of 33, and that music which they are exposed to often bears a passing resemblance (whether that be in the instrumentation, songwriting structure, or another technical form) to that which was digested within one's first 15 years. However, as one ages, these habits can transform from merely-amusing to life-altering. A study conducted by the Beth Israel Deaconess Medical Center has shown that listening to and performing music can help re-establish connection to the brain's left hemisphere. (Former Representative Gabrielle Giffords' music therapy, in part, helped her regain her ability speak after receiving a gunshot wound to the brain.) These same practices have been proven to help alleviate the strains suffered by patients with Alzheimer's and dementia.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P54

Presentation Type: Poster Presentation

Presenter(s): Noel Jones

Faculty Mentor(s): Matthew Davis

Husky Compact Dimension: INTEGRATE

Title: Biodiversity, Evolutionary History, and Biogeographic Patterns of Three-barbeled Catfishes (Heptapteridae: Rhamdia) Across Central America

Abstract:

Three-barbeled catfishes in the genus Rhamdia are widely distributed throughout Mexico, Central America, and South America. There are currently 26 recognized species in the genus and they occupy a variety of freshwater habitats, including cave-dwelling species that are pigmentless with reduced eyes. Several species of Rhamdia are widely distributed across Central America, and previous works have suggested that this lineage of catfishes may include cryptic biodiversity that has remained undiscovered. In this study we examine the evolution of the three-barbeled catfishes distributed broadly across Central America. We investigate the population genetics of Rhamdia catfishes throughout a range of freshwater habitats and sampling localities. The objective of this work is to reconstruct the evolutionary relationships of the three-barbeled catfishes with population-level sampling that will allow us to identify cryptic species diversity to document new species and infer freshwater biogeographic patterns for this lineage of fishes as they evolved throughout Central and South America. This work allows me to seek new knowledge and document species that no one has ever heard of before, and to communicate these novel findings to a broad audience. The first step in saving biodiversity and conservation is to identify what exists, and this work will be important to conservation efforts in hotspots of endemism throughout Central America.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P55

Presentation Type: Poster Presentation

Presenter(s): Michelle Lanam

Faculty Mentor(s): Matthew Davis

Husky Compact Dimension: SEEK

Title: From Coral Reefs to the Deep Sea: Investigating Biogeography of Lizardfishes (Aulopiformes)

Abstract:

Lizardfishes are a group of marine fishes that include ~250 species among 44 genera distributed in every ocean on the planet. They are key predators in their marine habitats and are a unique lineage with species found in a variety of environments ranging from shallow coral-reef environments, the expanse of the open ocean, to the very bottom of the sea floor. Despite being widespread across the globe in a variety of oceanic environments, no study has ever investigated the bio geographic patterns associated with how different lineages of lizardfishes came to invade these varying habitats and locations in our oceans.The objective of this study is to synthesize information regarding the tree-of-life for lizardfishes using genomic data with locality information for each species to infer the bio geographic patterns for lizardfishes.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P56

Presentation Type: Poster Presentation

Presenter(s): Alex Maile

Faculty Mentor(s): Matthew Davis

Husky Compact Dimension: SEEK

Title: Evolution of Fluorescent Coloration in Marine Fishes

Abstract:

Biofluorescence occurs when an organism absorbs an energy wavelength and reemits it at a lower energy wavelength. Recent studies have identified that many lineages of inshore marine fishes are biofluorescent (Sparks et al., 2014; Gruber et al., 2016), and further work is needed to survey and document the variation of biofluorescence among fishes. This phenomena is found in various lineages of terrestrial vertebrates (Lamb and Davis, 2020) and has a variety of hypothesized functions including communication (Marshall and Johnsen, 2017), camouflage (Sparks et al., 2014), sexual selection (Hausmann et al., 2017), or serving no purpose other than being a derived trait. Organisms within photic habitats have undergone evolutionary adaptations to exploit these light restricted environments. It has recently been documented that marine bony fishes that reside in coral reefs exhibit fluorescence such as wrasses, catsharks, scorpionfish, lizardfish, etc (Gerlach et al., 2014; Gruber et al., 2016; Sparks et al., 2014). In this study we conduct a survey across marine fishes and identify groups with florescent patterns. In this study we conduct a survey across marine fishes that have remained comparatively unexplored (e.g., rabbitfishes) and identify functions of florescent patterns and hypothesize the possible functions of this phenomena in marine habitats.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P57

Presentation Type: Poster Presentation

Presenter(s): Jacqueline Borromeo

Faculty Mentor(s): Monica Garcia-Perez

Husky Compact Dimension: THINK

Title: Issues on Health Disparities

Abstract:

This project displays different issues on health disparities in the US and the world. The posters show the evaluation of an issue that arise from the disparities we observe in the healthcare sector, from utilization, health coverage, health access, discrimination from providers and systems, representation in healthcare professions, to health outcomes. Some topics may reconnect these issues to the current COVID19 pandemic.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P58

Presentation Type: Poster Presentation

Presenter(s): Kelsey Cobenais

Faculty Mentor(s): Monica Garcia-Perez

Husky Compact Dimension: THINK

Title: Issues on Health Disparities

Abstract:

This project displays different issues on health disparities in the US and the world. The posters show the evaluation of an issue that arise from the disparities we observe in the healthcare sector, from utilization, health coverage, health access, discrimination from providers and systems, representation in healthcare professions, to health outcomes. Some topics may reconnect these issues to the current COVID19 pandemic.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P59

Presentation Type: Poster Presentation

Presenter(s): Jacob Dickhaus

Faculty Mentor(s): Monica Garcia-Perez

Husky Compact Dimension: THINK

Title: Issues on Health Disparities

Abstract:

This project displays different issues on health disparities in the US and the world. The posters show the evaluation of an issue that arise from the disparities we observe in the healthcare sector, from utilization, health coverage, health access, discrimination from providers and systems, representation in healthcare professions, to health outcomes. Some topics may reconnect these issues to the current COVID19 pandemic.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P60

Presentation Type: Poster Presentation

Presenter(s): Bayanjargal Ganzorigt

Faculty Mentor(s): Monica Garcia-Perez

Husky Compact Dimension: THINK

Title: Issues on Health Disparities

Abstract:

This project displays different issues on health disparities in the US and the world. The posters show the evaluation of an issue that arises from the disparities we observe in the healthcare sector, from utilization, health coverage, health access, discrimination from providers and systems, representation in healthcare professions, to health outcomes.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P61

Presentation Type: Poster Presentation

Presenter(s): Jianan Hu

Faculty Mentor(s): Monica Garcia-Perez

Husky Compact Dimension: THINK

Title: Issues on Health Disparities

Abstract:

This project displays different issues on health disparities in the US and the world. The posters show the evaluation of an issue that arises from the disparities we observe in the healthcare sector, from utilization, health coverage, health access, discrimination from providers and systems, representation in healthcare professions, to health outcomes. Some topics may reconnect these issues to the current COVID19 pandemic.

ST. CLOUD STATE UNIVERSITY | HUSKIES SHOWCASE

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P62

Presentation Type: Poster Presentation

Presenter(s): Shanmugam Gajane Loganathan

Faculty Mentor(s): Monica Garcia-Perez

Husky Compact Dimension: THINK

Title: Issues on Health Disparities

Abstract:

This project displays different issues on health disparities in the US and the world. The posters show the evaluation of an issue that arise from the disparities we observe in the healthcare sector, from utilization, health coverage, health access, discrimination from providers and systems, representation in healthcare professions, to health outcomes. Some topics may reconnect these issues to the current COVID19 pandemic.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P63

Presentation Type: Poster Presentation

Presenter(s): Mitchell Rice

Faculty Mentor(s): Monica Garcia-Perez

Husky Compact Dimension: THINK

Title: Issues on Health Disparities

Abstract:

This project displays different issues on health disparities in the US and the world. The posters show the evaluation of an issue that arise from the disparities we observe in the healthcare sector, from utilization, health coverage, health access, discrimination from providers and systems, representation in healthcare professions, to health outcomes. Some topics may reconnect these issues to the current COVID19 pandemic.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P64

Presentation Type: Poster Presentation

Presenter(s): Tayllor Steinmetz

Faculty Mentor(s): Monica Garcia-Perez

Husky Compact Dimension: THINK

Title: Issues on Health Disparities

Abstract:

This project displays different issues on health disparities in the US and in the world. The poster shows the evaluation of an issue that arises from the disparities we observe in the healthcare sector, from utilization, health coverage, health access, discrimination from providers and systems, representation in healthcare professions, to healthcare outcomes. Some topics may reconnect these issues to the current COVID pandemic.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P65

Presentation Type: Poster Presentation

Presenter(s): Ilya Tyrtyshnik

Faculty Mentor(s): Monica Garcia-Perez

Husky Compact Dimension: THINK

Title: Health Disparities

Abstract:

Minnesota is a very diverse state with people coming from all backgrounds. Nearly 10 percent of Minnesota residents are immigrants, while 7 percent of residents are native-born U.S. citizens with at least one immigrant parent. In 2018 Minnesota had almost half a million immigrants which comprised nine percent of the population. The most immigrants come from Mexico with twelve percent, then Somalia with eight percent, India with six, Laos and Ethiopia both with five percent. The good thing about Minnesota immigrants is that almost half of them are already naturalized U.S. citizens and four out of five of them speak good English. If you look at a college degree, than immigrants get it almost as often as other people born in the United States, thirty four vs thirty seven percent. More than one in ten workers in Minnesota is an immigrant, together making up a vital part of the state's labor force in a range of industries. . Most of the immigrants work in Healthcare support, exactly twenty percent, followed by 19 percent in building and grounds cleaning, maintenance, and production also with nineteen percent. With the increase of immigrants to the state it is very important to know and understand what impact that has on the economy of the community they are in and on the state as a whole.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P66

Presentation Type: Poster Presentation

Presenter(s): Michael Walker

Faculty Mentor(s): Monica Garcia-Perez

Husky Compact Dimension: THINK

Title: Issues on Health Disparities

Abstract:

This project displays different issues on health disparities in the US and the world. The posters show the evaluation of an issue that arise from the disparities we observe in the healthcare sector, from utilization, health coverage, health access, discrimination from providers and systems, representation in healthcare professions, to health outcomes. Some topics may reconnect these issues to the current COVID19 pandemic.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P67

Presentation Type: Poster Presentation

Presenter(s): Nicole Gammel

Faculty Mentor(s): Sarah Gibson

Husky Compact Dimension: SEEK

Title: Investigating the geology and evolutionary history of a fossil fish from a glacial deposit in southern Minnesota.

Abstract:

This project is based on a fish fossil found in a core sample obtained by the Minnesota Department of Transportation in preparation for a 2018 construction project in southwestern Minnesota. It was one of the first fossil fishes to be recovered from Minnesota's Ice Age and exhibits a nearly complete anatomy. This project is an investigation of the glacial geology and history of the area as well as looking at eastern South Dakota in order to understand the paleoenvironment of this fish. The sediment is identified as a silty loam associated with a fluvial environment. Analysis of the sediment identified several microorganisms that placed it within an age of 13,000-25,000 years old. The fish is preserved as a part and counterpart, meaning it was split in half. We have the body and back of the skull including the vertebrae, ribs, and fins. Preliminary analysis of the anatomy suggests that it is either a minnow or sucker based on its size and presence of a Weberian apparatus. We investigate its anatomy and morphology in order to determine its putative identification, as well as examine its relationship to other fishes from the time. We also identified a second fossil fish within the sample but have not fully cleaned and examined it yet.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P68

Presentation Type: Poster Presentation

Presenter(s): Spencer Ott

Faculty Mentor(s): Sarah Gibson

Husky Compact Dimension: SEEK

Title: An Investigation of Fish Biodiversity from the Upper Triassic Dockum Group, southwestern United States

Abstract:

Ray-finned fishes are one of the largest groups of vertebrates on the planet, having first shown up in the fossil record 480 million years ago. Despite being such a long lived and diverse group, little is known about many extinct genera of fishes. Fish biodiversity has been understudied in the Early Mesozoic, and this project aims to focus on ray-finned fish fossils from the Upper Triassic Dockum Group (approximate 230–200 million years old) in western Texas and eastern New Mexico. Specimens from this geologic formation are uniquely preserved in isolated death assemblages, and this study aims to fully describe the biodiversity of this region to gain a better understanding of how ray-finned fishes have evolved during a turbulent time in Earth's history. These specimens will allow us to fill in gaps in our current knowledge of fishes during this time frame and address the following questions: 1) What species are present in this region during the Late Triassic?, 2) What can we infer regarding ecology, diet, and potential niches, and 3) What can we decipher from their preservation regarding taphonomic processes? This study will use detailed analyses of the morphology and anatomy of these fishes to identify and describe putative new species and determine potential life histories, niches, and ecology.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P69

Presentation Type: Poster Presentation

Presenter(s): Megan Fischer

Faculty Mentor(s): Michael Gorman

Husky Compact Dimension: SEEK

Title: Latino Education Gap

Abstract:

According to the Merriam-Webster dictionary, genocide is the deliberate and systematic destruction of a racial, political, or social group. There are a plethora of genocidal acts occurring in current times that are not as obvious. This will discuss how the oppression of Latinos affects their access to and success within the education system.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P70

Presentation Type: Poster Presentation

Presenter(s): Pemba Gurung

Faculty Mentor(s): Michael Gorman

Husky Compact Dimension: THINK

Title: Ethical and Legal Implication of Open Source Software

Abstract:

A free and open-source software (FOSS) is software that anyone can freely use, copy, study, and change. The source code is publicly shared so that people are encouraged to improve the design at their own will. Free software respects the user's freedom and is a matter of liberty. A program is considered free software if it exhibits 4 essential freedoms: 1) the freedom to run the program as one wishes and for any purpose 2) the freedom to study how the program works and change it as one wishes 3) the freedom to redistribute copies to help others 4) the freedom to distribute copies of one's modified versions to others (n.a, The GNU Project). In contrast to free open-source software, proprietary software is under restrictive copyright licensing and the source code is usually unavailable to users. The most vital distinction between free open-source software and proprietary software is in the freedom to control. With a technology that has so much potential to change the world, the most logical question would be to ask whether it is legal and ethical to censor and limit such a resource. This research paper compiles the works of scholars who have researched this topic and have done studies relevant to it. A review analysis is done on research pertaining to the ethical and legal implications of open-source software technology. The analysis will also include background, context, and economical information about this subject because it is crucial that these topics address in addition to the ethical and legal aspects of the research. A comprehensive conclusion will then be attained and elaborated upon using the evidence and support research sources.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P71

Presentation Type: Poster Presentation

Presenter(s): Rome Hiltner

Faculty Mentor(s): Michael Gorman

Husky Compact Dimension: SEEK

Title: One and the Same: Obsessive-Compulsive Disorder and Generalized Anxiety Disorder

Abstract:

Generalized anxiety disorder(GAD) and obsessive-compulsive disorder(OCD) are two psychiatric conditions which have much in common. Generalized anxiety disorder associated with feelings of unease and worry. Obsessive-compulsive disorder is when there are unwanted thoughts that provoke a compulsion which is used to cope with anxiety about these obsessions. There are notable differences between the two conditions however they are subtle and actually can demonstrate the similarities of the two. OCD and GAD both have observable neurological origins that are very similar. OCD and GAD have an ambiguous categorical distinction that is illustrated in medical practice and neuroimaging. Finally, there are differing analyses of these two conditions which further breaks down the clear distinction between them. For these reasons, it is proposed these two be considered as one dimorphic condition.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P72

Presentation Type: Poster Presentation

Presenter(s): Katie Hinkemeyer

Faculty Mentor(s): Michael Gorman

Husky Compact Dimension: INTEGRATE

Title: Preserving the Memories of the Holocaust Through Technology

Abstract:

With each year that passes, so do the last remaining survivors of the Holocaust. As shocking and disturbing statistics emerge about American's perception and lack of knowledge surrounding the Holocaust, society is reminded of its historical importance, and the duty today's generation holds in maintaining and upholding the lessons learned from such an event. Citizens must fight a war in its own way- an active war against passive ignorance. However, there is hope. With the creation and implementation of technological advancements, people are able to ensure something as horrific as the Holocaust never happens again. Developers are working to find ways to actively retain survivor memories and testimonies through different forms of technology, such as film and photography, social media platforms and internet archives, as well as interactive holograms, all in the effort to combat complacency and curb tolerance; to leave a legacy that will last forever.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P73

Presentation Type: Poster Presentation

Presenter(s): Taylor Matzke

Faculty Mentor(s): Michael Gorman

Husky Compact Dimension: COMMUNICATE

Title: HONS106 Chinese Censorship in Television Industry

Abstract:

For HONS106, I was assigned the task of combining two courses that I took the previous semester and I chose Chinese and my communications class. I have an interest in Chinese drama television shows and communications, so I decided to focus on the censorship process in Chinese dramas. I will focus primarily on Chinese-made television shows and not on Western shows that have undergone the censorship process to be screened in China. In this presentation, I will discuss the role of censorship in terms of political ideologies, its effects on citizens, its implications of social issues being ignored, and the consequences of what happens in Chinese entertainment when censorship and regulations have been broken.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P74

Presentation Type: Poster Presentation

Presenter(s): Beldin Nyaosi

Faculty Mentor(s): Michael Gorman

Husky Compact Dimension: ACT

Title: Rwandan Genocide

Abstract:

My project is on the Rwandan Genocide. The Rwandan genocide is a broad topic so I decided to focus on the psychology/communication that went on before, during and after the genocide. I want to focus on the psychological implications that the perpetrators had on the victims, who were their neighbors. imagine people that you practically live with, turning on you and murdering your family mercilessly, raping your family and friends. I want to focus on how the Rwandans are doing as of now too.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P75

Presentation Type: Poster Presentation

Presenter(s): Leah Preisinger

Faculty Mentor(s): Michael Gorman

Husky Compact Dimension: SEEK

Title: The M.O. of Law Enforcement

Abstract:

I have researched the various motives behind why law enforcement officials decide to pursue a career within law enforcement. Law enforcement is a vital system in our society that we use to protect our citizens and provide justice to victims of crime. Although, law enforcement is not always perfect and has recently faced backlash for officials abusing power and needing more training. The history of law enforcement dates back to 1636 when the first night watch program was set up in Boston. Since 1636, law enforcement has become a complicated system and has many different jobs within it. Since law enforcement is now a large business, there are millions of people that work within law enforcement. Many people question why these millions of people have decided to pursue a career within law enforcement. I wanted to research how each of their motives affects our law enforcement system. I have found that the main motives behind law enforcement officers becoming law enforcement officers are the want to help others, the power and excitement the position grants, the variety and location of jobs, and the influence from others. These motives can affect how law enforcement officers do their job.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P76

Presentation Type: Poster Presentation

Presenter(s): Alyssa Sowers

Faculty Mentor(s): Michael Gorman

Husky Compact Dimension: THINK

Title: How a $15 Minimum Wage Will Effect U.S. Poverty

Abstract:

As most of us know, a proposed minimum wage increase has been mentioned in the White House now that Joe Biden has been elected for president. I will be showing what I found during the research process in regards to what that means for U.S. citizens. I aim to show how each increment of wage increase directly effects people at each level of poverty. With each 'success' in the wage increase, cons are due to follow. Economists often do not know what the best approach is so some trade-offs are required.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P77

Presentation Type: Poster Presentation

Presenter(s): Edison King

Faculty Mentor(s): Kevin Haglin

Husky Compact Dimension: SEEK

Title: Single Pendulum with an Arbitrary Density

Abstract:

In my project, I show how to use Lagrangian mechanics – specifically the Euler-Lagrange equation – to find an equation of motion for a single-pendulum with an arbitrary density. What this means is that my equation can be used to describe any pendulum imaginable provided that its density function is differentiable, though even then the equation can be used to make approximations. By assuming small angle oscillations, I go on to describe a formula for the angular frequency of a pendulum with an arbitrary density. My project also contains two examples on how to use my formula: a rod pendulum and a two-mass pendulum.In undergraduate classical mechanics courses, the Euler-Lagrange equation is used to derive an equation of motion for a system that cannot be applied to any other system. The derivation, and the project as a whole, show how the Euler-Lagrange equation can be used to generalize and create equations useful in multiple circumstances.The first example, the rod pendulum, is the simplest scenario and shows the basics of using the equation of motion. The second example, the two-mass pendulum, shows how to make approximations while using the equation. It also shows how the equation can be used to make quick work of an otherwise tedious problem.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P78 **Presentation Type**: Poster Presentation

Presenter(s): Jordan Bremer, Ryan Sweeney, Annaliesa Anderson

Faculty Mentor(s): Md Mahbub Hossain

Husky Compact Dimension: INTEGRATE

Title: Sensor/Control IoT Network

Abstract:

Having continuous connectivity to what is most important to you is a constant struggle. Knowing if your bathroom is flooding or if the temperature in your home gets below a certain threshold is information that is invaluable. There are currently no low-cost solutions to this dilemma. There are other types of home-kit sensors on the market, but are either far too expensive or are not as open-source as they should be. Currently, home and business owners have to succumb to large corporations for their sensing and controlling needs. This can both be expensive and tied down to certain hardware and software platforms. Our group seeks to eliminate these issues by designing a low-cost alternative that is both open source and expandable for many different situations.Constant connection is the biggest advantage to our system. Not being able to see data when you need it most is a concern that our project will alleviate. A sensor network will be designed, such that the user can view this data anywhere, at any time, as long as an internet connection is available via their smartphone. Similar systems work to create constant connectivity to your home or business. However, they fail to cater to the masses with expensive and proprietary hardware/software. Our system will be open source and will be inexpensive in comparison. A seamless design will allow the user to efficiently connect new sensors to the local sensor network and easily become added to the mobile application. Disconnections will be visible through the mobile application, and reconnection efforts will be built into our design. Back and forth communication between the mobile application (user) and the child nodes (sensor/controls) will be available to handle any situation.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P79

Presentation Type: Poster Presentation

Presenter(s): Jay Dev Upadhyaya

Faculty Mentor(s): Md Mahbub Hossain

Husky Compact Dimension: INTEGRATE

Title: Programmable Logic controller and Ladder logic programing

Abstract:

Programmable Logic controller (PLC) and Ladder logic programming is the research project that is being done by me in ECE390(Junior research electives) class and my Advisor is Dr. Mahbub Hossain . This project explores the building blocks of PLC. How does it work and how to program it using ladder logic programming. PLC is widely used in automation sectors ,In todays world lot of machines are made using other machines and those machine are made using PLC and is programmed by ladder logic programming. Purpose of this presentation will be to talk about features , connection of Click PLC (made by automation direct) and Program it using ladder programming using Click programming software which is free . Goal is to introduce observer to make basic logic gates using click PLC. At the end of presentation almost any one can implement logic gate using PLC.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P80

Presentation Type: Poster Presentation

Presenter(s): Cole Dockendorf

Faculty Mentor(s): Gareth John

Husky Compact Dimension: SEEK

Title: Cabin Fever: The Impact of COVID-19 on Outdoor Tourism in Minnesota in 2020

Abstract:

The COVID-19 pandemic that engulfed the world last year had affected almost every country in the world and in turn almost every commercial industry. With little preparation for the pandemic there were many changes and policies implemented as it surged, not least of all in the United States. Of the commercial industries impacted by COVID-19 the hospitality and tourism industry has been the hardest hit. The state of Minnesota was no exception, with directives put in place to restrict travel and protect its citizens from the virus. However, Minnesota is a state renowned for its bountiful nature and diverse ecosystems making it a popular place to travel for outdoor activities, such as camping, fishing, and hiking. Drawing on current research in tourism geography and data gathered and posted by the State of Minnesota tourism website, this project seeks to analyze and map how specifically outdoor forms of tourism across the state were impacted as a result of the state directives to address the pandemic. Such directives, it turns out helped increase visitorship to state parks, trails, and campgrounds as well as other outdoor activities such as fishing. While state directives contributed to changing tourism behavior and patterns during the pandemic it is hard to say whether a permanent change will result to future tourism behavior and patterns in the state, though it remains possible that the impact of the pandemic will reverberate in Minnesota well into the future.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P81

Presentation Type: Poster Presentation

Presenter(s): Ulisses Jacobo

Faculty Mentor(s): Gareth John, David Wall

Husky Compact Dimension: SEEK

Title: Examining the Correlation Between Social Variables and Covid-19 Morbidity and Mortality in Minnesota at the Zip Code and County Level

Abstract:

This project examines Covid-19 morbidity and mortality rates relative to social demographic data within zip codes and counties in Minnesota between March 1, 2020 and December 14, 2020. Drawing on work in medical geography and social geography and utilizing Geographic Information Systems (GIS) to visualize Covid-19 morbidity and mortality, I apply the Getis-Ord Gi* statistic method to identify statistical hot spots and cold spots and compare them against various social demographic data. In doing so, I aim to reveal the extent to which the spread and severity of the impact of Covid-19 may be a function social factors.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P82

Presentation Type: Poster Presentation

Presenter(s): Kate Murphy

Faculty Mentor(s): Erica Karger-Gatzow, Barb Miller

Husky Compact Dimension: ENGAGE

Title: Wellness Coaching Collaboration with AIC

Abstract:

Wellness Coaching is a free service offered to students to help empower students and increase their ability to set goals, their sense of belongingness at SCSU, and work on being who they want to be. Through personal assessment and empowering, positive conversation, coaches collaborate with students to positively impact these areas of well-being: physical, emotional, financial, spiritual, social, and academic/career. This semester, we partnered with the American Indian Center to do outreach through wellness coaching with this population. Our goal is to reach out to unrepresentative students and help them build a connection at SCSU. We have done outreach through various technological methods and have been excited to share our findings.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P83

Presentation Type: Poster Presentation

Presenter(s): Kassidy Lange

Faculty Mentor(s): Satomi Kohno

Husky Compact Dimension: SEEK

Title: The Combined Effects of Temperature and Estrogenic Contaminants on Male Snapping Turtles

Abstract:

It has been recognized that nearly half of the turtle species in Minnesota are considered threatened or of particular concern. This circumstance is significant because turtles are essential aspects of aquatic ecosystems due to their longevity and high position in the food chain. Additionally, it is imperative to recognize that sex is determined by the ambient temperature during egg incubation in most Minnesota turtle species. Higher temperatures lead to a decline in the amount of male offspring produced. Over the past forty years alone, ambient temperature has increased by up to 1.7ËšF in Minnesota. This increase is of concern due to the significance of temperature on male determinant factors. In addition to the rise of temperature, estrogenic contaminants have been increasing within the Minnesota waters as confirmed repeatedly by the Minnesota Pollution Control Agency. This increasing pollution is of concern because fewer male offspring would be produced as estrogenic contaminants become more prevalent in aquatic environments. Individually, both the increase in water temperature and the rise in estrogenic contaminants have been studied and proven to have adverse effects on the turtle populations in Minnesota. However, their combined effects on the male eliminating factors have been less studied. In an everchanging world experiencing the side effects of anthropogenic contributions, it is crucial to understand how these contributions working together will impact populations such as the Minnesota snapping turtle. This research project aims to validate the presence and biological effects of estrogenic contaminants in turtles by utilizing the snapping turtle, a species vulnerable to both the impacts of climate change and estrogenic contaminants in Minnesota.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P84

Presentation Type: Poster Presentation

Presenter(s): Laion Towah

Faculty Mentor(s): Satomi Kohno

Husky Compact Dimension: SEEK

Title: Urban Stormwater Contaminants Sources

Abstract:

Many factors contribute to the contamination of the aquatic habitat. Two of the factors that affect the aquatic habitat are the temperature and water flowing into that environment. Stormwater washes urban impermeable surface and are discharged into aquatic environments like lakes, ponds, rivers, and oceans. As urban stormwater flowers, it carries many containments that harm the aquatic environment. For example, many reptiles depend on the temperature surrounding their eggs for their becoming female or male. Exposure to hormone-like environmental contaminants can override this temperature dependency and lead to an unbalanced ratio in one sex. These species vulnerable to climate change and pollution. Indeed, we identified significant concentrations of hormones and pharmaceuticals in urban stormwater1. Where do they come from? The presence and high concentrations of pharmaceuticals and personal care products in urban stormwater strongly suggest contributions from leaking sewage systems and industrial, landscape, and road runoff. We propose to identify sources contributing to urban stormwater pollution using molecular tools2. The co-occurrence of fecal bacteria with contaminants in urban stormwater can be an effective method to identify CEC source contributions. For example, environmental DNA (eDNA) can be used to distinguish between leaking sewer lines (human associated fecal bacteria), pharmaceuticals associated with pet feces and urine in road-runoff (canine associated fecal bacteria), and waste from urbanized deer (ungulate associated fecal bacteria) and ducks (avian associated fecal bacteria) among other species. The contribution of contaminants from these sources of CECs to urban stormwater is poorly understood and needs to be clarified if source mitigation is to be successful. Therefore, the project aims to reveal the source of contaminations utilizing the eDNA detection and quantification.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P85

Presentation Type: Poster Presentation

Presenter(s): Michael Lee

Faculty Mentor(s): Jennifer Lamb

Husky Compact Dimension: SEEK

Title: Non-Native lizards hiding in the Midwest

Abstract:

Populations of non-native or invasive species can have significant negative impacts on native ecosystems and so are of great interest to conservation scientists and natural resource managers. Sightings of non-native lizards, including geckos (Hemidactylus) and anoles (Anolis), are rare outside of the warmer southern United States, but they may occur more frequently than assumed. The purpose of this research is to use a variety of sources to describe the occurrence of non-native Hemidactylus and Anolis in the upper Midwestern United States. We collected occurrence data for these lizards from peer-reviewed publications, museum databases (e.g., Bell Museum, GBIF), social media platforms (e.g., Reddit, Facebook), and the public (e.g., iNaturalist, HerpMapper). We found numerous observations of single lizards from both genera (N = 32) and that there have been more observations (56%) during warmer months (June – September). Anolis (N = 24) have been spotted more often than Hemidactylus (N = 8), and our data suggest that lizards are typically found in association with plant nurseries or in the home. Whether there are large enough populations that could impact native systems in the Upper Midwestern United States is uncertain. It is likely that whether populations become established is influenced by climate. We plan to continue collecting data in Spring and Summer of 2021 and to reach out to local businesses (e.g., florists, garden centers) to ask about their encounters with these lizards. Our data confirms that non-native lizards can be found in the Upper Midwest and that they are unknowingly transported by humans.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P86

Presentation Type: Poster Presentation

Presenter(s): Alex Seymour

Faculty Mentor(s): Jennifer Lamb

Husky Compact Dimension: SEEK

Title: Biofluorescence within the Sexually Dimorphic Grey Treefrog Complex

Abstract:

Multimodal communication occurs when a single message is sent across multiple sensory systems. When frogs within the Grey Treefrog complex (Hyla versicolor and Hyla chrysoscelis) call their vocal sac expands and contracts resulting in an acoustic and visual signal. During the breeding season male frogs from both these species develop a dark throat. This temporary color change is called dynamic sexual dichromatism, but most studies have only considered colors from total emanated light. Biofluorescence occurs when an organism absorbs and emits light into the environment at a longer wavelength. Amphibians biofluoresce in response to ultra-violet and blue light, but previous studies have not focused on the potential for sexually dimorphic signaling involving biofluorescence. In this project I found variation in how male and female Grey and Cope's Grey Treefrogs biofluoresce. I sampled populations of from Lake Maria State Park in Minnesota. I photographed ventral surfaces of males and females under white, ultra-violet (UV), and blue excitation lights while in the field, and collected six individuals to measure the emission spectrum of fluorescence in a controlled laboratory setting. Data describing the brightness of the throats under blue and UV excitation light was collected from photographs of individual frogs. These results indicate that males and females within this complex biofluoresce differently. The throats of females biofluoresce brightly whereas those of males do not. The bones, yellow-pigmented inner thigh, and mucous also biofluoresce. Under UV excitation these species had a peak intensity within the range of blue light (500 – 520 nm) and under blue excitation they had a peak intensity within green light (520 – 565nm). These results show that there is variation within the fluorescence of individual frogs. This research provides fundamental knowledge about fluorescence in the Grey Treefrog complex and can lead to research about fluorescence and mate choice within these frogs.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P87

Presentation Type: Poster Presentation

Presenter(s): Cassandra Rawlings

Faculty Mentor(s): Odessa Luna

Husky Compact Dimension: INTEGRATE

Title: A Literature Review of Behavioral Research Involving Virtual Training

Abstract:

An empirically supported method in managing student disruptive behavior in the classroom is the application of behavioral principles. However, access to highly qualified trainers to train teachers in such practices are often limited. Though preferred, live training from an expert trainer is likely a financial and time barrier to school districts in under-privileged or under-resourced communities. As an alternative to live training, it might be prudent for school personnel to have access to virtual training that does not require hiring a skilled trainer. Furthermore, the purposes of this project are to 1) systematically review scholarly journal articles to describe how researchers have used virtual training from 2015 to 2020, 2) examine gaps in the recent virtual training research, and 3) provide recommendations for future researchers when training teachers virtually. Generally, there is growing body of behavioral research showing virtual training is an effective and efficient modality to train parents and staff to implement behavior-analytic procedures for children diagnosed with autism (e.g., discrete-trial training, preference assessment, and visual inspection of data). Despite the demonstrated efficacy of virtual training for parents and staff, the current behavioral literature has not yet determined the effectiveness of virtual training as a modality for teachers in classrooms.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P88

Presentation Type: Poster Presentation

Presenter(s): Casper Maul

Faculty Mentor(s): Rob Mann

Husky Compact Dimension: ENGAGE

Title: Analysis of the Manlick Site Spear in Historical Context

Abstract:

This research analyzes a spear found at the Manlick site during the Morrison County Archaeological Survey of 2020 and places it into its historical context. To do this, the age of the site was determined to be mid-19th century based upon other artifacts found at the site. With this date, it was determined that the earliest recorded occupancy of that site was by the Coe family in the 1850's. The artifact itself was also analyzed, which included attempting to recreate the missing portions of the spear, removing some of the rust, and comparing it to other spears used over time in the Minnesota area. This comparison of the shape and weight of the spear makes it likely that it was a jabbing spear used in a shallow river or pond. This research also includes how this spear was likely used, leading to the analysis of different spearfishing practices found in the area, utilized mainly by the Ojibwe and later by European settlers. In the end, it was determined that the spear was likely used by the Coe family, possibly to fish in a stream that once flowed nearby. For future research, it is recommended to look more into the construction of the spear and spears like it in the area and to look into European spearfishing practices that may have been used by the Coe family.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P89

Presentation Type: Poster Presentation

Presenter(s): Daniel Muntifering

Faculty Mentor(s): Rob Mann

Husky Compact Dimension: THINK

Title: Research and Analysis of Cast Iron Artifacts

Abstract:

I will be presenting my research and analysis of a piece of cast iron located on a 19th century site, known as the Manlick site. The site is located near Belle Prairie in Morrison County, MN. I will begin describing the background and uses of cast iron pots in a 19th-century home. After I will describe the various archaeology and laboratory methods for locating and analyzing cast iron artifacts. My presentation will end with my analysis of cast iron in the lab.

In the lab I began by determining my piece of iron was in fact cast iron and not wrought Iron. The three factors that show my piece is cast and not wrought is color, use, and artifact attributes. My artifact had a darker color, curved like a vessel, and had a seam. All three indicators show that this piece of iron is in fact cast iron.

To estimate the potential size of the cast iron pot, I tied a string to a pencil and matched the 5-degree curve of the artifact. Tracing an entire circle on a piece of paper, I could estimate the potential size of the vessel to be approximately 38 cm at the seam.

Assuming my artifact was cast when our site was occupied in the late 19th century, I was able to determine what potential handles and the shape of the pot looked like. By the end of the 19th-century cast iron pots had more curved handles and a squashed look.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P90

Presentation Type: Poster Presentation

Presenter(s): Olivia Schomer

Faculty Mentor(s): Rob Mann

Husky Compact Dimension: SEEK

Title: Analysis of the Yellow Brick Recovered at Manlick Farm Site

Abstract:

Bricks have served as the foundation for structures like homes and farmsteads for thousands of years. Discovering brick at a potential archaeological site can help indicate the past presence of a structure. There are several different types of brick, which can help archaeologists determine the context surrounding the buildings and structures from which they were built. Most brick that is found at archaeological sites is red brick, which is the type of brick most people think of when discussing brick buildings and foundations. Yellow brick, however, was discovered at the Manlick site in Belle Prairie, Minnesota, possibly indicating a past presence of a yellow brick structure. Although brick plays an important role in determining the location of a previous structure, there are other artifacts, including window glass and nails, that also help archaeologists come to this conclusion. Each of these types of artifacts were also recovered at the Manlick site. The brick is probably the most interesting because of its color. The fact that the brick is yellow may indicate that it was made locally and could have a connection to a yellow brick manufacturer in Minnesota, such as the Chaska Brick Company. An understanding and analysis of the yellow brick that was discovered at the Manlick site might help us identify the use of Chaska brick in Belle Prairie as well as understand the importance of a local brick manufacturer during the historic period of Minnesota.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P91

Presentation Type: Poster Presentation

Presenter(s): Ujala Chawla

Faculty Mentor(s): Louise Millis

Husky Compact Dimension: THINK

Title: Broth Cultivation and DNA Extraction of Isolates Grown from Anaerobic Digester Samples

Abstract:

Anaerobic digestion involves the breakdown of organic waste materials into biofertilizer and methane gas. Methanogens play an important role in the process of anaerobic digestion through the production of methane gas, which is harnessed and used as a form of renewable energy. The extraction of DNA from archaea, like methanogens, is difficult to accomplish due to their incredibly strong outer membranes. The goal of this project was to design a protocol that allowed us to reliably and efficiently extract DNA from methanogenic isolates using the tools that were available to us in our lab. Prior to DNA extraction, samples taken from the inside of various working anaerobic digesters were cultivated under anaerobic conditions using small anaerobic chambers; isolates were then identified and grown separately in BHI broth. A protocol created by Yu and Morrison that utilized repeated bead beating with pure zirconia beads was adapted to the tools and technology that we had available to us. Modifications included the use of a vortexer in place of the Mini-BeadBeater and increased incubation time with isopropanol to increase precipitation of nucleic acid content. We used the adapted protocol to extract DNA from 37 isolates total with plans to perform PCR and gel electrophoresis on the samples to identify genes that indicate methane production. DNA extractions were successfully performed on all 37 isolates, with yields of at least 10 ng/uL amino acid content per sample. Through the use of tools, technology, and the scientific community available to us through St. Cloud State University, we were able to successfully modify and complete DNA extraction on methanogenic isolates.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P92

Presentation Type: Poster Presentation

Presenter(s): Alexis Iverson, Yahya Abdulrahman

Faculty Mentor(s): James Poole

Husky Compact Dimension: THINK

Title: Hydroxyl Radical Reactions in Non-Aqueous Solutions

Abstract:

The hydroxyl radical (HOâ€¢) is the most important member of a family of chemical compounds known as reactive oxygen species (ROS) – it is ubiquitous in biological, atmospheric and hydrological chemistry. The present study focused on the reactions of organic ring compounds known as arenes, which include environmental contaminants such as polycyclic aromatic hydrocarbons (PAH) and polychlorinated biphenyls (PCB), with HOâ€¢ in solution. The overarching goal was to determine the preference of chemical bonding of hydroxyl radical to these substrates and understand how they are destroyed in the environment. For this study, HO• was generated in the presence of arenes and the products trapped using the aminoxyl radical scavenger, (2,2,6,6-Tetramethylpiperidin-1-yl)oxyl (TEMPO). Product distributions were measured by Nuclear Magnetic Resonance (NMR) spectrometry. Results for 1,3,5-trimethyl benzene (mesitylene), 1,2-dimethyl benzene (ortho-xylene), 1,3-dimethyl benzene (meta-xylene), 1,4-dimethyl benzene (para-xylene), and toluene suggest HO• favors addition at the position next to the methyl group (the ortho- position) relative to addition elsewhere on the ring (para- and meta-), and hydrogen abstraction from the methyl group. The methodology used, along with the results from this research may be applied further to more complex arene substrates in the future.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P93

Presentation Type: Poster Presentation

Presenter(s): Aswan Abdi

Faculty Mentor(s): Jennifer Quinlan

Husky Compact Dimension: INTEGRATE

Title: Why do normal people commit genocides

Abstract:

When we think about genocides today, an important questions rises up; who are the killers on the frontlines of genocide and how do they come to do such extraordinary evil? The answer to that is normal, ordinary people. The answer to that rises another important question of why do normal people commit genocides.Mass atrocities happen because ordinary individuals choose to kill other individual humans in large numbers and over an extended period. One mere example is the Rwandan genocide where within 100 days, 800,000 people have been killed. My project will be a full research on why normal and regular people commit genocides. What motivates and leads mass murderers to kill someone they consider a friend, a loving neighbor, or even a family member? What are the motivations behind it, and are there any psychological factors at play?

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P94

Presentation Type: Poster Presentation

Presenter(s): Jacob Anderson

Faculty Mentor(s): Jennifer Quinlan

Husky Compact Dimension: SEEK

Title: The Impact of Social Isolation

Abstract:

Throughout history, academics have researched how crucial social interaction is for mental health. Looking at it from the other side, it can be reasoned that social isolation is detrimental to our overall health. With COVID-19 being in action for about a year after it obtained “pandemic” status, it has become relatively wide known that age and underlying health conditions pose as central risk factors, but what else makes one susceptible to catch COVID-19? Due to the quarantine, many have had to endure prolonged periods of social isolation, but even though quarantine is intended to limit exposure, it has underlying impacts on our health. One who is cut off from others will inevitably undergo mental stressors that can compromise their immune system. In this research paper, the impact of social isolation on humans will be thoroughly discussed. To do so, it will consider both isolation as well as interaction and then connect the research findings to how our present-day pandemic has limited our social interaction. First, by acknowledging the initial impact of an imposed quarantine; and second, by analyzing the effects of social isolation that follow.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P95

Presentation Type: Poster Presentation

Presenter(s): Sabrin Bashir

Faculty Mentor(s): Jennifer Quinlan

Husky Compact Dimension: SEEK

Title: Racism in healthcare

Abstract:

In this research paper, I will be addressing the problem of racism in health care and the challenges black patients face especially women. It's said that black women are 243% more likely to die from pregnancy or childbirth related complications than white women. There have been times when women who were in extreme pain were dismissed simply because the caretakers thought they were overreacting. This stems from the idea that black women are "aggressive" or "overreact" and they will "abuse prescription pain killers". Many women of color fear going to the hospital and this is a prime example of why. A recent study also shows that medical students/physicians thought that the nerve endings of black people were less sensitive than those of white people. There are many myths about black people having a high pain threshold which have been disproved by science.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P96

Presentation Type: Poster Presentation

Presenter(s): Holly Boeckermann

Faculty Mentor(s): Jennifer Quinlan

Husky Compact Dimension: THINK

Title: Communication through Costuming

Abstract:

Understanding why characters are wearing certain items of clothing could give viewers a deeper understanding of the characters. The main focus for this research project is: How do costuming choices in movies and or television shows communicate feelings and ideas to viewers? To answer this question the Marvel Cinematic Universe will be put under a microscope to have a broad range of characters and costumes to study. This will be done through researching human communication, color theory, and communication through clothing. Doing this will give a better understanding of why specific costume choices are made and what emotions are being conveyed through costuming.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P97

Presentation Type: Poster Presentation

Presenter(s): Myla Bondhus

Faculty Mentor(s): Jennifer Quinlan

Husky Compact Dimension: SEEK

Title: Guiding the Youth

Abstract:

Mental health is so important in today's society. To help guide students with this growing struggle, high school counselors are placed in their lives. With social emotional education, mental health resources, and breaks throughout the day, high schoolers have many different escape methods from the stress they are put under, but what about elementary students? What are their escape methods? Recess? Many students struggle behind the scenes, and have many responsibilities placed on their shoulders at such young ages. Elementary schools should invest a part of their day the have one on one time with their students on a rotation or add a school counselor that the students can go talk to when they have questions or just need someone to listen. You never know what is going on in a student's life no matter what age they are. An elementary counselor or one on one time could really be a beneficial part of a student's day at school. Doing such a thing as talking about your day or problems can lighten the weight and brighten your day. I will analyze the importance of guidance counselors in elementary schools, different ways to accomplish having mental health help, and how it will benefit the students.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P98

Presentation Type: Poster Presentation

Presenter(s): Amanda Borgmann

Faculty Mentor(s): Jennifer Quinlan

Husky Compact Dimension: THINK

Title: What Fiction Tells Us About Cultural Attitudes

Abstract:

It is currently thought that fiction is merely a reflection of the cultures of the time. Humans are social creatures, and a substantial part of human interaction can be stripped down to the barest example of narratives: simple storytelling. Although perhaps initially used as a survival tactic, storytelling evolved with the human mind to encompass more than “time, place, incident” dictations, resulting in effective and compelling works of fiction, with some more modern works now held as highly-regarded literature. However, since storytelling evolved with humanity and started as a means of communication, narratives within fiction may greatly impact human behavior and culture as they adjust to meet those imaginative landscapes. Through my research, I will be exploring how fiction and culture interact and whether fiction stories can significantly change our understandings of identity and morality.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P99

Presentation Type: Poster Presentation

Presenter(s): Sarah Brown

Faculty Mentor(s): Jennifer Quinlan

Husky Compact Dimension: SEEK

Title: Feminism in Hip Hop

Abstract:

Hip Hop is a culture that has mainly grown from the patriarchy and by taking a feminist lens to it you can see the gender exploration and classism that happens within the culture. I took a Hip-Hop studies class last semester, and the history of Hip Hop is something that most people do not realize. There is a correlation between people in the Hip Hop culture and what class in society they are. Looking at the gender role, opportunity, and stereotypes to see the sexism that happens in Hip Hop. Hip-Hop feminism is changing the name for Hip Hop because it is calling out the sexism that is happening. Going deeper within the culture, historical and present, well adding a feminist lens to Hip Hop. The articles that I have are interesting, and I was surprised, but thankful, about how much information is already out there about Hip-Hop feminism. They support my main points and teach me more than I thought. Hip Hop is an underrated culture that just needs a feminist lens.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P100

Presentation Type: Poster Presentation

Presenter(s): Kylee Crews

Faculty Mentor(s): Jennifer Quinlan

Husky Compact Dimension: ENGAGE

Title: Gendered Toys and Play and the Effects on Child Development

Abstract:

Before a child is even born, one of the first things we know about them is their gender. Expectant parents host gender reveal parties and then buy baby items and toys of their anticipated child's gender. Then, once children are born, girls play with dolls and dresses while boys play with cars and superhero action figures. As those children continue to grow they, for the most part, continue to act within their gendered norms: they ask for a "boy toy" or a "girl toy" when they eat fast food, they primarily have friends that are their same gender, and they play in ways that "boys'' and "girls" play. These children also view gender roles acted out in the home. They may see their mother cook dinner while their father does handiwork, or their father may go off to work while their mother stays home and takes care of them. Gender affects the lives of children in more ways than we may realize. Gender, essentially, is one of the first things they are educated about in our society and gender and the gender norms that they learn can impact their thinking, being, and the people that they grow up to be; but how exactly does this exposure to gender affect a child's growing mind. On a cognitive level, does it affect their ability to cognitively think? On a social level does it affect their ability to make friends or interpret social cues?

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P101

Presentation Type: Poster Presentation

Presenter(s): Jeffrey Ernst

Faculty Mentor(s): Michael Gorman

Husky Compact Dimension: INTEGRATE

Title: The Importance of Web Design in Gaining User Retention

Abstract:

This project aims to demonstrate and analyze common web design choices and their effects on user retention on various websites to better understand what keeps users interested and engaged with their community. Web design also effects ease of use, as poor usability can negatively effect the performance of a website. This project will examine several studies about the development of websites ranging from social media to public medical websites to determine common design practices found in all examples. The effects of common features like search bars, organizational tabs and customer support will be discussed as well as more platform-specific functions like friends lists and curated advertisements to determine their positive or negative impact on websites as a whole. User retention on websites is incredibly important because it can directly effect the income of small businesses and corporations alike. Success of a website can cause an increase of sales in a product, just like how a negative view of a website can harm sales. A good website is incredibly important for small businesses because it provides a focal point for online interactions regarding that business and it makes advertising that business significantly easier.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P102

Presentation Type: Poster Presentation

Presenter(s): Caylee Gabel

Faculty Mentor(s): Jennifer Quinlan

Husky Compact Dimension: ENGAGE

Title: The United States Criminal Justice System: An Extension of Slavery

Abstract:

Although many may consider the Emancipation Proclamation the end of slavery in America, there is plenty of research that says otherwise. In fact, some scholars will argue that the United States criminal justice system is an extension of slavery. This prejudiced criminal justice system has been blamed for the mass incarceration of black people across decades. This research paper will explore the ways that policing was formed around early slave patrols, and how modern policing is still affected by these vigilante practices. It will also explore the legislation that has contributed to mass incarceration, as well as the drawbacks of legislation meant to provide equality for people of color. This paper will also discuss the criminal justice system as an inherently racist system. From the system of bail to the level of policing in black communities, there are many examples of inequality in the justice system. Although there are stereotypes about which races commit more crimes, there is research to show that these stereotypes are prejudiced and untrue. Instead, racial profiling and police brutality have caused a divide between law enforcement and communities of color. Finally, this paper will explore the inequalities in black communities as outcomes of the many disparities that exist in the criminal justice system.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P103

Presentation Type: Poster Presentation

Presenter(s): Mitchell Hieserich

Faculty Mentor(s): Jennifer Quinlan

Husky Compact Dimension: THINK

Title: Is lying to our kids about beings such as Santa Clause and the Easter bunny a harmful thing to do when those lies come from the people who they are supposed to trust the most?

Abstract:

As the title says, my research project is about the potentially harmful effects of lying to our kids about things like Santa, The Easter Bunny, and The Easter Bunny. Lying to children has a wide array of consequences on their development and that is what this project will be heavily focused on. However, different lies result in different outcomes. Children still have a moral sense of why lies were told (whether it be for selfish or compassionate reasons) and so I will focus on the type of lie Santa might be and the corresponding attitude children have towards it. But as I said, the project will be focused on the harmful effects of lying in general as it's important to understand that before knowing about more specific circumstances. Not only that, but I may have a small tangent on the importance of truth in our lives.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P104

Presentation Type: Poster Presentation

Presenter(s): Olivia Lamb

Faculty Mentor(s): Jennifer Quinlan

Husky Compact Dimension: SEEK

Title: Aging at a Cellular Level and Aging Prevention

Abstract:

Whether people like to admit it or not, aging is inevitable. However, research is beginning to uncover both the biological factors of aging at a cellular level, and new ideas as to how this process can be slowed. This research is designated towards finding answers and solutions as to how and why aging occurs in humans. Two sources of information include the National Institute of Aging, and The Encyclopedia of Aging. Two consistent ideas of cellular aging that have recently emerged are telomere degradation and protein aggregation. I will be looking into detail about what these processes entail and how it leads to aging in humans.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P105

Presentation Type: Poster Presentation

Presenter(s): Isabelle Lefebvre

Faculty Mentor(s): Jennifer Quinlan

Husky Compact Dimension: SEEK

Title: How Generalized Anxiety Effects the body both physically and Psychologically

Abstract:

Anxiety is something we all struggle with; whether we label it anxiety or not, it is our body's natural response to stress. However, for some individuals, anxiety is a daily struggle; this is known as Generalized Anxiety Disorder or GAD. GAD causes the individual to be in a constant state of stress. Little things like social interaction, getting dressed, work/school assignments, etc., cause them to be stressed. Therefore, the stress causes their bodies to respond by feeling fatigued, irritable, tense, etc. This paper aims to address how anxiety affects the body both physically and physiologically by looking at how our body responds to excessive amounts of stress and by looking at the stressors that cause this reaction.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P106

Presentation Type: Poster Presentation

Presenter(s): Fatha Mahamud

Faculty Mentor(s): Jennifer Quinlan

Husky Compact Dimension: SEEK

Title: The Lasting imprints and the psychological behavior behind genocides

Abstract:

This is preliminary research to investigate the lasting imprints of genocides, the long- and short-term effects on survivors, as well as the psychology of genocidal behavior. A compelling look into what causes perpetrators to commit such an evil act, how they are organized and who's targeted, and why they are targeted. The term genocide was only coined in 1939, and it refers to the killing and mass destruction of a racial or ethnic group (Cox). This paper will further examine the trauma, vulnerability, and resilience in post-genocides (Rwanda, Holocaust, Armenian, Bosnia, etc.). Furthermore, it will explain how genocide is a broader war, and crime against humanity that derives from racial discrimination against one group.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P107

Presentation Type: Poster Presentation

Presenter(s): Josiah Missler

Faculty Mentor(s): Jennifer Quinlan

Husky Compact Dimension: INTEGRATE

Title: Your Brain on Social Media: The Psychological Effects of Social Networking Sites on the Human Brain

Abstract:

In the technological age that we have created over the past few decades, the average person in the United States has twenty-four seven access to endless information at their fingertips. Such a large variable within our day to day lives is bound to have an impact of some kind on an individual's psyche. Does the exposure to these relentless streams of news and negative comments change the how we interreact with others? In this paper I set out to find if social media in the modern age affects how people think, act, or feel in their day-to-day life outside of the internet.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P108

Presentation Type: Poster Presentation

Presenter(s): Cori Olson

Faculty Mentor(s): Jennifer Quinlan

Husky Compact Dimension: ENGAGE

Title: Reality of a Communication Disorder

Abstract:

Communication is a very large part of our life. Without communication there would be no way to have any type of interaction with others around us. Almost 8 percent of U.S. children have a communication or swallowing disorder that they are born with. Some children are also born into having other language and speech problems called communication differences. Many other communication or swallowing disorders develop later in life or are the cause of other medical issues that individuals may already have or medical issues that suddenly come up. I will go further into this and my research will explore the different kinds of communication disorders, and the reasons that they occur. I will also explore and discuss some signs and symptoms of having a communication or throat disorder and what some causes are to developing a disorder. Having a communication disorder does not define a person or make them any different. I will explore how having a communication disorder may impact an individuals life and what some struggles and strengths those individuals may have. There are also many technologies and programs out in the world that were created to assist those that have any type of a communication disorder. I will explore what some of those technologies and programs are and how they help those that use them.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P109

Presentation Type: Poster Presentation

Presenter(s): Taylor Payne

Faculty Mentor(s): Jennifer Quinlan

Husky Compact Dimension: ACT

Title: Influencers in Social Media

Abstract:

Social media influencers are a growing part of society's developmental online experience worldwide, bringing forth a status of persuasion as well as superiority to the mundane. Aforementioned influencers carry the weight of an online dimension, leading trends and connecting parasocially to their audiences in order for personal, financial, and reputational growth. Looking inside the lives and responsibilities of a famed networker across the web, it is cardinal in comprehending both the rise and fall of a person's career and personal life from both on and off a screen.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P110

Presentation Type: Poster Presentation

Presenter(s): Anna Roggeman

Faculty Mentor(s): Jennifer Quinlan

Husky Compact Dimension: SEEK

Title: The Social Implications of Stuttering

Abstract:

For my research paper I have decided to do stuttering. I have a strong passion for Communication Disorders and have chosen it for my major. I am going to focus on the social implications of stuttering and methods to help it. There is stigma surrounding this disorder, especially in the social realm. People who stutter are often embarrassed to step into the light out of fear of being judged for something they cannot control. There are numerous ways to handle a stutter. There is no “one size fits all” method to it. Each person with a stutter is unique, therefore requiring a unique treatment. In my paper, I will demonstrate the different methods of treatment.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P111

Presentation Type: Poster Presentation

Presenter(s): Marileah Stang

Faculty Mentor(s): Jennifer Quinlan

Husky Compact Dimension: SEEK

Title: Mental Effects of Method Acting

Abstract:

The world of theatre has been around for many ages. How exactly do these actors and actresses step into the life of the person they display on stage or screen? There are different ways that actors and actresses to get into character in order to fully take on the role. One of these ways is method acting. Many people in plays, television shows, and movies use this form of acting. This research paper will explore more about what method acting is and why many use this form. The paper will also focus on what effects this type of acting has on the actors and actresses in their daily life and on stage. What are the personal stories of people who have struggled with the acting life? What are the benefits and what are the consequences? Should there be more attention on the psychological effects that acting can have on people? This research paper will discuss all of these questions and help develop more of an understanding of what actors and actresses go through to provide entertainment to many.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P112

Presentation Type: Poster Presentation

Presenter(s): Vanessa Waldorf

Faculty Mentor(s): Jennifer Quinlan

Husky Compact Dimension: THINK

Title: How Religious United States Presidents Used Their Religious Beliefs to Influence The Way They Ran The U.S.

Abstract:

As my project title states, my paper will be discussing how the United States presidents used religion in their political ruling. I will not be discussing every president, but I will be bringing up a few different presidents who had a significant tie to their faith throughout their presidential term. Every United States president has been religious one way or another, yet they are all unique in that case. Some used religion to win over the public while others were more genuine about it as it had simply always been a part of their lives. In addition, I will be talking about how different laws and actions were put in place that are backed by presidents' religious beliefs. I will bring up various laws and regulations that are known to be controversial yet have been resolved when there is a healthy relationship among religion and politics. Adding onto the religious beliefs of presidents, I will also be touching on how the public has reacted to religion in politics. I am not trying to convince my readers that religious presidents are basically going to have the government run by the Pope. In turn, I want to explain how U.S. presidents have used religion to back their morals and good character while keeping a healthy balance between religion and politics.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P113

Presentation Type: Poster Presentation

Presenter(s): Miraf Molla, Mahmoud Hashish

Faculty Mentor(s): Satomi Kohno

Husky Compact Dimension: THINK

Title: Can mint (cool-sensation) change the sex ratio of American alligator?

Abstract:

Many reptiles, including the American alligator, become male or female depending on the temperature surrounding their eggs. The only three-degree difference in Celsius (=5.4°F) differs their sexes: Lower temperature (30°C = 86°F) and higher temperature (33°C = 91.4°F) produces female and male, respectively. Moreover, exposure to female hormone-like environmental contaminants can produce more females by overriding the temperature sensitivity. Therefore, they are vulnerable to climate change and global warming as well as environmental pollutions. It is essential to understand the detailed mechanisms of their temperature-dependent sex determination to conserve their population. The goal of this project is to evaluate the effects of lower temperature sensors on sex determination in the American alligator, which is a species vulnerable to climate change and pollutions. Vertebrate animals sense the temperature via specific sensor proteins responsible for a selective range of temperature. The sensor proteins can respond to temperature and chemicals: Temperature sensor around 30°C is also known to a menthol receptor. For this research, alligator eggs were exposed to a chemical that activates or blocks the 30°C temperature sensor one week before the temperature sensitive period in sex determination. Fetal alligator was dissected and histological analysis was performed. We hypothesize that an activation or blockage of the sensor around 30°C during fetal development would produce more males or females, respectively. Results will provide better understandings of molecular mechanisms in reptile sex determination.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P114 **Presentation Type**: Poster Presentation

Presenter(s): Timothy Ahrens, Travis Arend, Mosley Ayinde, Evan Infante, Samuel Artz

Faculty Mentor(s): Nancy Sundheim

Husky Compact Dimension: INTEGRATE

Title: Louis Industries Ergonomics Project

Abstract:

With this project we were tasked with Evaluating the ergonomic situation at three main areas within the sheet metal facility at Louis Industries. These three areas are the Pheonix Laser, Skelton Picking station, and Brake Press area. The Pheonix Laser being a CNC sheet metal laser where the workers have to get sheets of metal on and off of the laser bed, the Skelton picking area where the workers pick parts out of the lasered sheet metal that comes from other laser machines, and lastly the brake press area where workers use brake presses to form sheet metal parts. After developing an understanding of the ergonomic issues at hand and researching / brainstorming possible solutions to the issues in these areas. These solutions will be presented to Louis Industries at the end of the projects duration with the goal of Louis Industries Implementing changes to improve the Ergonomic conditions. This project is meant to improve the ergonomic situation for the people working on the shop floor and therefore reduce injury and the cost that comes with it at Louis Industries. We will show this improvement using a current state ergonomic assessment using a REBA (Rapid Entire Body Assessment) chart, then comparing those numbers to another REBA chart assessing the potential ergonomic situation given the theoretical implementation of our solutions. This, paired with the economical benefits of an ergonomic work environment, we hope will lead Louis Industries to implement the suggested improvements.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P115 **Presentation Type**: Poster Presentation

Presenter(s): Bryce Borchert, Louis Williams, Adam Lemke, Tira Casey

Faculty Mentor(s): Nancy Sundheim, Jungwon Ahn

Husky Compact Dimension: INTEGRATE

Title: Spot Welding Automation

Abstract:

My team and I were given an opportunity to solve a bottleneck at Louis IND for our senior project. Their spot welding process involves placing threaded tabs onto Sheetmetal and manually welding them. They can currently do 200 welds per hour. They wanted us to find a way to improve the process in any way possible. We proposed to the company 3 different levels of automation ranging from better ergonomics up to a fully automated cell that involves CNC welding and robot material handling. The company decided to go with our mid level of automation that incorporated manual material handling while automating tab placement and a vision system for quality control. We are working on a price estimate for a pick and place robotic arm for tab placement and a vision system at the end for quality control. The original spot welder will also be used. The worker will be able to weld all the tabs while the pick and place places the tabs on another part. By the time the poster board is due we will have machines picked out along with a price estimate, work station layout, and metrics detailing the improvement of the defect rate and welds per hour over the original workstation.

ST. CLOUD STATE UNIVERSITY | HUSKIES SHOWCASE

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P116

Presentation Type: Poster Presentation

Presenter(s): Alexander Meyers

Faculty Mentor(s): David Switzer

Husky Compact Dimension: THINK

Title: Issues on Health Disparities

Abstract:

This project displays different issues on health disparities in the US and the world. The posters show the evaluation of an issue that arise from the disparities we observe in the healthcare sector, from utilization, health coverage, health access, discrimination from providers and systems, representation in healthcare professions, to health outcomes. Some topics may reconnect these issues to the current COVID19 pandemic.

CANCELED

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P117

Presentation Type: Poster Presentation

Presenter(s): Anuj Simkhada, Jay Dev Upadhaya, Ali Alharbi

Faculty Mentor(s): Shensheng Tang

Husky Compact Dimension: THINK

Title: Smart Induction Heater

Abstract:

Since the beginning of mankind, starting with firing up woods, people were always looking to develop a safer and efficient way to cook. Nowadays, with the development of technology, most homes make use of a stove. However, along with all the development and technology we have, there are still some unintended mistakes that cause disasters such as fires. Thus, brings up certain questions like: How efficient and secure is the stove that we use at home? How much energy does it consume? Which stove is less harmful to human health?The proposed project offers a safer and more efficient way of cooking by designing a smart induction cooktop. It is safer in terms of human safety which reduces the risk of fire in the houses and in terms of human health it is safer for the environment. In one of Scheckel's experiments, burning in natural gas produced 1.16 pounds of CO2 to boil water. On the other hand, the induction cooker produced 0.29 pounds of CO2 to boil the same amount of water. Thus, society can have less harm in their health and be safe using a smart induction. In terms of the consumption of energy, it is a main factor for the population.Based on the article Induction Cooking Technology Design and Assessment, 90% of the energy consumed in the induction cooker is used to heat the food. While in the electric stove 74% of the energy is consumed to heat the food and 40% of the energy consumed to heat the food in the gas stove . Therefore, the induction cooker is more efficient because it needs less electricity. This smart induction cooktop that will be designed can be used to reduce harm to society as we will be able to turn it off via a microcontroller using our smartphone. Also, based on the information that the user enters on the cooktop, the cooktop will be able to set the timer. If a sensor detects that here is extreme heat on the cooktop, it will turn off automatically and send an alert to the user.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P118 **Presentation Type**: Poster Presentation

Presenter(s): Sally DeFelice, Katarina Wilke, Maria Bloch, Carly Dupre

Faculty Mentor(s): Janet Tilstra

Husky Compact Dimension: THINK

Title: Print Awareness: Helping Your Child Understand How Reading Works

Abstract:

We have planned and implemented therapy activities that target print awareness to educate families about language development as part of a class project for CSD 461, Language Disorders. This activity had a target audience of families with children around the age of 3 years to 5 years old, but was also able to be adjusted for families that have other children older or younger than this target age group. Between the age of 3 years to 5 years old is around the age when typically developing children develop letter/sound correspondence as well as word-reading skills. Around this age is also when children develop the ability to read and understand text in context. The development of these skills lays an important foundation for literary and academic success. We have partnered with the Great River Children's Museum and their Curious George Exhibit, as well as The United Way in their Llama-Llama-Read-A-Rama event, both of which promote reading and literacy development. The core of our activity remained the same for each of the two events but have been adjusted to meet both the differing parameters and context of each event.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P119 **Presentation Type**: Poster Presentation

Presenter(s): Bishesta Karanjit, Emily Wolcott, Hilary Ijiyode, Virsaviya Isaykina

Faculty Mentor(s): Janet Tilstra

Husky Compact Dimension: SEEK

Title: Childhood Stuttering: What do I need to know?

Abstract:

For our project, we will use our knowledge and understanding of communication disorders, specifically stuttering, to create a resource to help community members learn about childhood stuttering. Our presentation is in the form of a brochure that will be distributed to pediatricians within the St. Cloud area to share valuable information regarding childhood stuttering. We will be collaborating with each other and with the community to form a comprehensive and credible resource that pediatricians can use to be informed of stuttering as well as distribute to parents or any member of the general public who might be interested in learning about stuttering. The brochure will contain information about the prevalence and incidence of stuttering, factors that may cause stuttering in children, along with tips to communicate with children who have stuttering. The brochure will also contain information regarding how and where to refer a child for assessment and treatment of possible stuttering. There are many misconceptions and misunderstandings about stuttering among people who might not have had much exposure to stuttering as a whole and we hope that we will be able to clear some of the misconceptions away with the information we have in our brochure.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P120 **Presentation Type**: Poster Presentation

Presenter(s): Josephine Kodet, Naomi Strobush, Hamda Yusuf, Virsaviya Isaykina

Faculty Mentor(s): Janet Tilstra

Husky Compact Dimension: COMMUNICATE

Title: Partnering with Great River Children's Museum to Extend the Curious George Exhibit

Abstract:

For class CSD 461, we were assigned a project to help extend the Curious George Exhibit at the Great River Children's Museum. For this community event, we choose a Curious George book and designed a learning activity that focused on vocabulary and semantics within the chosen book. This activity targeted 3-4-year-old children from all different backgrounds and is made to be accessible, accommodating, and affordable. The activity can be done with parents, grandparents, or older siblings. This activity will be implemented at the virtual Llama- Llama Read-A-Rama Pajama Party presented by United Way. We strived to make this learning activity interactive and engaging to promote development of vocabulary. The class voted on 3 activities that should be implemented and developed for the event. The class will volunteer at the Great River Children’s Museum event on Tuesday April 20th.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P121 **Presentation Type**: Poster Presentation

Presenter(s): Mackenzie McGrath, Lacey Entzi, Olivia Travis, Josephine Kodet

Faculty Mentor(s): Janet Tilstra

Husky Compact Dimension: SEEK

Title: CSD 432 Advocating for PWS

Abstract:

For class CSD 432, Fluency Disorders, we were assigned a project to help educate the community and advocate for people who stutter. Our project will consist of a two page information handout for a community agency or information desk such as the YMCA, Lindgren Child Care Center, and Halenbeck. At these locations we will display our handouts so they are easily accessible to willing community members in order to spread the information in which we are advocating. Our main purpose of this show case would be to increase awareness of stuttering and appropriateness of interactions with people who stutter. We want people who have normal disfluency to better understand the core and secondary behaviors of stuttering as well as the feeling and attitudes that affect daily life for people who stutter. Along with educating what stuttering is, we want to provide the skills of communication when interacting with an individual who stutters. Our target population for this project will be individuals with limited knowledge of stuttering and individuals who are interested in gaining knowledge of this fluency disorder.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P122 **Presentation Type**: Poster Presentation

Presenter(s): Britney Penaz, Maryssa Burg, Alyssa Knutson, Ashley Spanier

Faculty Mentor(s): Janet Tilstra

Husky Compact Dimension: COMMUNICATE

Title: Information about Stutter for Caregivers

Abstract:

As part of a class project in CSD 432, Fluency Disorders, we are creating a poster to educate caregivers about childhood stuttering. By April 13, we will be visiting a site that is popular to families and we will be giving caregivers handouts that provide families information about stuttering. On the handout we create, we will be providing caregivers with information about stuttering, receiving therapy, reducing severe stuttering, and how to decrease family distress. Our information provided will help families with assisting a child who stutters. We will introduce strategies and activities that we learned in our CSD 432 course that parents can do with their child to enhance their connection and communication skills with their child. This will be important for caregivers and their children because it will teach them how to cope with the disorder and give them ways to support each other.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P123 **Presentation Type**: Poster Presentation

Presenter(s): Julie Thao, Wendy Lee, Lucia Laituri

Faculty Mentor(s): Janet Tilstra

Husky Compact Dimension: ACT

Title: Stuttering in Adolescents and Adults: Spreading Knowledge and Awareness

Abstract:

As part of our Communication Science and Disorders: (CSD 432) Fluency Disorders class, we will be advocating for adolescents and adults who stutter as an ally. Stuttering is a speech disorder that affects normal fluency and is common in persons of all ages. Our course curriculum focuses on how to identify and assess characteristics of fluency disorders in addition to developing relevant skills used in prevention, advocating, diagnosing, and intervention of the fluency disorders. We will be using this opportunity to apply our knowledge and promote awareness about stuttering to the community. This project will consist of trifold brochures that will highlight the main characteristics of typical disfluency patterns, as well as information regarding people who stutter and about their community, and resources or ways a Speech Language Pathologist may help. We want our campus community to have a better understanding of stuttering, what impacts it has on a person who stutters and effective ways they can use to communicate to a person who stutters. This accomplishment will increase awareness about stuttering and how to appropriately interact with people who stutter. Because our main target audience will be college students, we will be distributing these brochures to the front desks in the dorms around campus.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P124 **Presentation Type**: Poster Presentation

Presenter(s): Erin Titus, Emily Archer, Lacy Entzi, Julia Kolles

Faculty Mentor(s): Janet Tilstra

Husky Compact Dimension: SEEK

Title: GRCM and CMUW Collaboration: Pragmatic Language Activities

Abstract:

As a part of a class project in CSD 461, Language Disorders, we have partnered with Great River Children's Museum to extend their exhibit with an activity for the Curious George exhibit and have also partnered with the Central Minnesota United Way for their Llama-Llama Read-A-Rama event. We have designed two activities that focus on developing pragmatics and social language emphasizing emotion recognition and regulation. We designed the activities targeting three- to four-year-old children but included modifications and adaptation for children that may not be in the target age range. In class, we have extensively studied the development of language in children and the process of pragmatic language development. In early childhood development, being able to recognize and name emotions is critical for the development of social language and pragmatic skills. Our project required children, with assistance from their caregiver, to recognize and discuss and put into action emotions portrayed by the characters in the Curious George and Llama-Llama books. Our presentation will include a demonstration of the activities and a discussion of the materials and handouts used to complete the activities by the children and their caregiver.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P125

Presentation Type: Poster Presentation

Presenter(s): Samantha Witt, Shuler Neyssen, Erin Judd

Faculty Mentor(s): Janet Tilstra

Husky Compact Dimension: SEEK

Title: Stuttering Uncovered

Abstract:

In the class CSD 432 Fluency Disorders, we have been covering the fluency disorder of stuttering. So as a part of this CSD 432 Fluency Disorders class, we are completing a project to create a shared understanding of fluency disorders, specifically stuttering. A part of this project includes spreading awareness through the husky showcase. Our project has a focus on being an ally for those who have a fluency disorder. Part of being an ally includes advocating for adolescents and adults who stutter. For our project, we are creating a poster/corkboard design to be hung in the hallway of an elementary school to help spread information on fluency disorders. Making this information accessible to not only children but having their teachers discuss the information with them as well can help promote early education which can help reduce the likelihood of bullying. Another way we plan on being an ally is by providing pamphlets on the board for kids to take as well as by handing out this information to faculty. We will be asking the faculty members to cover the material with their class. Our project connects to the Husky compact in several ways. The area of the Huskey compact it connects to the most is seeking and applying knowledge.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P126

Presentation Type: Poster Presentation

Presenter(s): Jay Marszalek

Faculty Mentor(s): Steve Anderson

Husky Compact Dimension: THINK

Title: Meteorology communication during a severe thunderstorm

Abstract:

In this project the attendee will be able to learn about what it takes to communicate information about severe thunderstorms, and the history behind communicating in the meteorology felid about severe thunderstorms. Another thing that this project will be about is the nature of severe thunderstorms and the facts behind the storms and the unknowns of the these storms as well. Further this presentation will go into the details about the equipment that meterologist use to forecast the weather, and how they help give information to people in need of knowing if they need to be worried and or take action to protect them selves during such a event. One of the most important things that will be covered will be information on how you can protect your self during a severe thunderstorm and little things to look for to determine if you need to find shelter or not too. This presentation will further dive deeper into metrological terms that the common person may not understand that has significance, that everyone should understand, and on how to apply the terms to the certain scenario the person may be in. The last thing that will be covered is the science behind why forecasting these thunderstorms are so difficult and why most of the weather reports or predictions are almost always wrong and why that is.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P127

Presentation Type: Poster Presentation

Presenter(s): Brynn Barthel

Faculty Mentor(s): H. Giovanni Antunez, Erica Karger-Gatzow

Husky Compact Dimension: THINK

Title: Condom Club

Abstract:

What is Condom Club?
Members of the condom club are eligible to purchase condoms at rates significantly lower than retail price after learning about the importance of and proper use of condoms.

What are the benefits of Condom Club?
Condom Club members receive a dozen condoms each month for free. Dental dams and lubricant are also available.As a member you will receive a FREE Condom Club member button and emails sharing upcoming discounts.

How do you join the Condom Club?
To be eligible for Condom Club, a person must complete a brief educational component. There are two ways to complete the educational requirements for condom club. First, attend a sexual health program presented by Health Promotion on campus. Otherwise, students can watch the "Condom Club Video" at the Healthy Huskies office in Eastman 111. It is just that EASY.

Where do I go?
You can get Condom Club safer sex products at the Healthy Huskies office- Eastman 111. Healthy Huskies is working on re-creating condom club.

More information coming soon.

Condom Club does not distribute safer sex materials without also providing health-enhancing education and the opportunity for students to ask questions and receive other health resources.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P128

Presentation Type: Poster Presentation

Presenter(s): Julia Stotz

Faculty Mentor(s): H. Giovanni Antunez

Husky Compact Dimension: THINK

Title: Life as a Personal Trainer

Abstract:

For my internship i have been working at a gym. I've noticed a lot of things and get a lot of the same questions. so i plan to go over what i have seen and what it is like doing what i do. going over 1 on 1 training, group training, and questions often asked i think are important.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P129 **Presentation Type**: Poster Presentation

Presenter(s): Ahmed Doudin, Yahya Abdulrahman

Faculty Mentor(s): Nathan Bruender

Husky Compact Dimension: THINK

Title: How the Catalytic Efficiency of Arogenate Dehydrogenase is Influenced by Site-Directed Mutagenesis

Abstract:

The goal of this study is to perform site-directed mutagenesis on Arogenate Dehydrogenase and analyze for any changes in the protein function, specifically its ability to bind to the two substrates L-arogenate and NAD+. Arogenate Dehydrogenase is an oxidoreductase enzyme that is responsible for converting L-Arogenate to L-tyrosine by the assistance of the cofactor, NAD+. The plasmid was extracted and purified. This was followed by site-directed mutagenesis on the nucleotides which will result in changing the gene of interest. Therefore, a replacement of proline with phenylalanine might change the primary structure of the protein and its tertiary structures. It is hypothesized that the mutation will increase the catalytic efficiency of the enzyme. In other words, it will increase the kcat of the enzyme decrease its Km. The presented data will discuss the kinetic analysis of the experiment.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P130 **Presentation Type**: Poster Presentation

Presenter(s): Lakpa Sherpa, Sindhu Bhandari, Lakpa Sherps

Faculty Mentor(s): Nathan Bruender

Husky Compact Dimension: SEEK

Title: Analysis of Pyrroline-5-carboxylate reductase mutant activity

Abstract:

The aim of this experiment was to study the changes that occur in the enzymatic activity of Pyrroline-5-carboxylate reductase and the protein activity as a result of mutation of Asparagine to Cysteine. The enzyme Pyrroline-5-carboxylate reductase is the enzyme that catalyzes the chemical reaction which converts pyrroline-5-carboxylate to L-proline using NADPH. Enzyme Pyrroline-5-carboxylate reductase has a domain with many residues around its active site. Asparagine was found to be conserved in the enzyme. Asparagine and Cysteine are amino acids that has different side chains and properties. Cysteine is the polar hydrophobic amino acid with a sulfide group on it making protein structure more stable while Asn is a polar hydrophilic with carbonyl oxygen and NH2 groups. Before the beginning of the lab, the forward and reverse primer was designed for our experiment where asparagine (N) is mutated by Cystine. Miniprep SOP ligation was performed for the extraction of the plasmid. The nucleotides that code for Asparagine was changed with the nucleotides that code for Cysteine through independent site-directed mutagenesis. Independent site-directed mutagenesis creates the point mutation in our targeted location in our DNA plasmid. Then, the changes that occur in our protein activity were studied as a result of DNA manipulation. We hypothesized that the point mutation (Asparagine to Cysteine) will decrease the kcat of the enzyme Pyrroline-5-carboxylate reductase due to a decrease in the enzymatic activity.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P131

Presentation Type: Poster Presentation

Presenter(s): Waldina Lopes

Faculty Mentor(s): Monica Garcia-Perez

Husky Compact Dimension: THINK

Title: Issues on Health Disparities

Abstract:

The projects will be about the Health disparities for black women in The US.

First, I will point out the history of black women in the health system.

Then I will point out the difficulties black women face in the health system:1. Complications black

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P132

Presentation Type: Poster Presentation

Presenter(s): John Tshimbalanga

Faculty Mentor(s): Monica Garcia-Perez

Husky Compact Dimension: THINK

Title: Issue on Health Disparities in US and the rest of world

Abstract:

The summary of my project on Issue on Health Disparities in US and the rest of the world is to show how America is one of the largest countries that have a population of at least 330 Million; this population is composed of different levels in the number of 8 groups. The study divides the U.S. population into eight distinct groups with different epidemiologic patterns and mortality experience. Here is the classification of the Eight Americas: Asians (America 1), below-median-income whites living in the Northland (America 2), middle America (America 3), poor whites living in Appalachia and the Mississippi Valley (America 4), Native Americans living on reservations in the West (America 5), black middle-America (America 6), poor blacks living in the rural South (America 7), and blacks living in high-risk urban environments (America 8). Life expectancy for males in America 8 is 21 years lower than life expectancy for females in America 1. For males, the gap between America 1 and America 8, 16.1 years, is as large as the gap between Iceland with the highest male life expectancy in the world and Bangladesh. Even in Americas 5, 6, 7, and 8, U.S. child mortality is in the middle of the range defined by the Organization of Economic Cooperation and Development (OECD) countries. For young and middle-aged males and females, however, mortality experience in the disadvantaged Americas is up to two times worse than the worst OECD country.

Concerning the mortality, the enormous excess of young and middle-aged mortality is largely due to chronic disease death. Based on the World Health Organization Comparative Risk Assessment project, it is expected that the major risks in the United States to be tobacco, alcohol, obesity, blood pressure, and cholesterol. Risk factor analysis using data for the Eight Americas suggests that the pattern for tobacco, alcohol, and obesity is distinct for each America. Currently available data in the public domain do not provide an adequate basis to assess levels of blood pressure and cholesterol in the Eight Americas. In the United States of America, concerning health disparities, the proposition would be that the public health will need to increase its focus on chronic diseases in young and middle-aged Americans.

Furthermore, racial and ethnic disparities in health and health care are pervasive. To find ways and solution to fight disparities, a number of research and policy issues have been raised in the examination of disparities. Using of the analysis of some methodological, conceptual, and political issues that underlie disparities research. Specifically examined are the research challenges posed by the different ways of defining disparities, heterogeneity within racial or ethnic groups, measurement issues,

conceptual levels of analyses, and financial/political factors. It is suggested that research funding for disparities research be substantially supported and encouraged and that researchers more adequately address methodological and conceptual difficulties that are associated with disparities research.

To overcome disparities, here are some solutions according to healthaffaires.org, Disparities in U.S. health care result from a complex mixture of systemic quality and access problems intertwined with historic injury. The many dimensions of health disparities include race, ethnicity, socioeconomic status, and geography. It is critically important for policymakers to define the problem correctly so that our solutions address their intended goal–health security for all regardless of socioeconomic characteristics. Further, U.S. efforts to eliminate disparities must also be part of a broader effort to transform health care and thus must focus, first and foremost, on improving the quality of care delivered to the individual patient.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P133 **Presentation Type**: Poster Presentation

Presenter(s): Sailesh Timilsena

Faculty Mentor(s): Shensheng Tang

Husky Compact Dimension: SEEK

Title: A Simple Internet of Things (IoT) System for Temperature Monitoring

Abstract:

This project implements a simple Internet of Things (IoT) system for temperature monitoring. It is aimed towards implementing an IoT system which can read and display a temperature sensing data. The system is divided into four modules, a sensor module, a master control module, a computer-based GUI and a cloud server. A temperature sensor senses data and sends it to cloud through WiFi as well as a GUI (graphical user interface) running on PC via UART serial communication port. A Master control module, which is based on an ARM Cortex-M4 core-based development board, controls the temperature data to the GUI for display as well as to the cloud for display. The GUI, implemented through C# programming by Microsoft Visual Studio, communicates with the master control module over WiFi for temperature monitoring. The temperature can also be monitored remotely through a cloud server on an Mbed OS (operating system) platform from anywhere if a computer with Internet connection is provided. The temperature can be real-time monitored continuously and displayed on the cloud and the GUI. The project can be used to demonstrate the concept of a basic IoT system for college students with engineering major and also serve as an introduction for IoT hobbyists.

ST. CLOUD STATE UNIVERSITY | HUSKIES SHOWCASE

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P134

Presentation Type: Poster Presentation

Presenter(s): Joey Kneeland

Faculty Mentor(s): Kathleen Uradnik

Husky Compact Dimension: SEEK

Title: Health Disparities In The United States

Abstract:

In this project I will be researching health disparities in the U.S. I will research the causes and effects of these disparities and who are most effected by them. I will also find pictures or graphs to showcase these disparities in comparison with other communities and healthcare in other parts of the developed world. I will find this information and make a power point PDF to showcase this information in a clear and concise way. I will delve into various concepts related to health disparities such as wealth inequality, private health insurance, pharmaceutical industries, and medical debt. These are just a few of the issues that arise in our flawed healthcare system and a fundamentally unequal society at a systemic that minorities have to navigate and find solutions to these problems or ways to at least manage them.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P135

Presentation Type: Poster Presentation

Presenter(s): Deborah Enem

Faculty Mentor(s): Steve Anderson

Husky Compact Dimension: THINK

Title: The Human Mind in our Society

Abstract:

My project is about two classes I took: Principles of Sociology and Developmental Psychology. There is a relationship between the two courses: both courses focus on Man – not biologically. They both deal with the positive science of behaviors and are interdependent.Sociology studies society's behavior and relationships (skills included). Psychology studies human behavior and experience.Psychology is all about exploring man's mind and his behavior. Sociology explores our society -through family, religion, race- and how it affects man's behavior and relationships. The project is about the human mind when it comes to interpersonal skills.Psychology and Sociology influences the human mind. Do you want to know why do humans act the way humans act? Is there an explanation -a justifiable one- for this or not? Before I continue, I hope you know how much of an impact the society has been in how human beings behave. It influences the behavior and mind of humans. There is a deep relationship between humans and societies; society has influenced how the human mind works. It is from the society that we learn human nature, that we learn the mysteries behind humans behavior. I am very much interested as you might be in solving this mystery of why the human mind is the way it is and how this causes the birth of interpersonal skills. I have visited different websites researching how much the human mind is dependent on social relationships, and I could come up with these three most effective points. In this paper, I claimed that the human mind correlate with social behavior; I defended how and why they do.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: P136 **Presentation Type**: Poster Presentation

Presenter(s): Douglas Osindi, John Omondi, Brendon Mayer, Barger Kaitlyn

Faculty Mentor(s): Nancy Sundheim, Jungwon Ahn

Husky Compact Dimension: THINK

Title: ICM Ferrule process improvement

Abstract:

Inserted Cardiac monitor (ICM) is one of the Boston Scientific products that is inserted under the skin in order to monitor heart rate.Our main objective for this product is to improve the manufacturing process by reducing or eliminating manual deburring.Our team therefore came up with three possible solutions that would help in solving this problem.

These solutions were:

1. Machining the part in one operation
2. Drill hole during operation two
3. Use rotary to machine the part

Considering the timeline given to complete on this project, the team had to have initial plans so as a to create a clear road map on what we should be doing and at what time. This project was then divided into three phases:

1. Calculating potential saving
2. creating detailed proposal plan
3. Create detailed implementation plan

There were also three factors that we used in order to measure our success metrics

1. machine cycle time
2. Machine cost
3. Improve quality

Since Boston Scientific is medical device manufacturing company dedicated to innovating medical solution that improve the health of patient around the world, our team is collaborating hand in hand with the engineers in order to solve this problem.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: D1 **Presentation Type**: Demonstration

Presenter(s): Olivia Yost, Sarah Walker, Ashley Spanier, Mackenzie Mcgrath

Faculty Mentor(s): Janet Tilstra

Husky Compact Dimension: SEEK

Title: Morpho-Syntactic Language Activity

Abstract:

As part of a class project in CSD 461, Language Disorders, we will create a project to be used at the Central Minnesota United Way Llama Llama Read-A-Rama Pajama Party at the St Cloud Public Library and the Great River Children's Museum. Our goal is to increase communication between parents, children, and the community as well as to introduce children to literacy skills. This project will focus on developing the children's morpho-syntactic skills, particularly the recognition of tenses, words that are plural, and how the meanings of words change as you add bound morphemes. We will create a language activity for 3-4 year-olds and their parent/guardians that will target these language goals. We will work directly with the organizers at the Llama-llama Read-A-Rama Event and the Great River Children's Museum.

2021 VIRTUAL HUSKIES SHOWCASE ABSTRACTS

Abstract Code: D2 **Presentation Type**: Demonstration

Presenter(s): Olivia Travis, Samantha Witt, Amy Stafki, Allison Graves, Samantha Coplen

Faculty Mentor(s): Janet Tilstra

Husky Compact Dimension: SEEK

Title: Creating a Shared Understanding of Phonological Awareness

Abstract:

As part of a class project in CSD 461, Language Disorders, we will create two similar activities to be used for this presentation. This project is in collaboration with the Central Minnesota United Way Llama Llama Read-A-Rama Pajama Party at the St Cloud Public Library and at the Great River Children's Museum as a part of the Curious George exhibit. Our project has a focus on phonological awareness with a focus on rhyming. Our activities will be family-friendly and focus on promoting parent-child interactions involving reading and language. In class, we are learning about language development and language disorders and we want to encourage early childhood reading skills and language. Developing language skills at a young age is key so our activities include ideas for building language and reading skills in children. This is a large part of phonological awareness. Another one of our goals with this project is to create a shared understanding of phonological awareness not only with children but between family members. Parents play a key part in helping their child to learn and grow so keeping parents as educated as possible is beneficial to improving the growth of the future generations of the world.

Thank you to all our faculty whose efforts are vital to the student research, scholarship, creative activity, and community engagement we celebrate today. Your support is invaluable to the learning and development of St. Cloud State University students.

Special thanks to all the faculty, staff, and student volunteers who serve on the planning committee members in support of Huskies Showcase.

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