

2015

2014-2015 Farquhar Forum

Farquhar College of Arts and Sciences

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FARQUHAR

FORUM

FARQUHAR COLLEGE OF ARTS AND SCIENCES

NOVA SOUTHEASTERN UNIVERSITY

2014-2015



Internships Open the Door to Promising Careers
Student of the Year Desiree Kennedy heads to Washington



LIFELONG LEARNING

In our mission statement—as in our classrooms—the Farquhar College of Arts and Sciences champions lifelong learning.

This commitment is far-reaching: from students just beginning their academic careers in the lab, the field, or on the stage; to faculty members **changing the world through multidisciplinary research**; and to alumni advancing in their professions while giving back to their communities.

The continued development of competencies and skills—honed inside the classroom and beyond—enables our graduates and faculty members to sustain their professional and **personal growth for a lifetime.**



WHEN HAROLD (DAN) MADDEN enrolled at the Farquhar College of Arts and Sciences, he was a successful businessman who had built and sold two computer companies. But something was missing: his college diploma.

Madden left college more than three decades earlier when he was drafted during the Vietnam War. After leaving the military, he opened his first computer company at age 24. Even with success, he never gave up his goal to complete his

undergraduate degree. When he graduated from the college in 2009, he was recognized as an outstanding student, having rediscovered the challenge, excitement, and energizing growth that learning—at any age and any stage of life—can generate.

Inspired by his undergraduate experience, Madden moved on to graduate school and is now pursuing a doctoral degree at NSU. Along the way, he has remained connected to the college as an active alumnus who seeks to inspire and help other students.

Valuing and encouraging lifelong learning is pivotal as the college strives to open doors to success for all of our students. This issue of the *Farquhar Forum* explores some of the college's initiatives that support this goal by connecting students to the next stage of their academic and professional development.

Last spring, undergraduate members of the college's Model United Nations Team hosted high school students on campus for the inaugural NSU High School Model U.N. Conference. The event offered high school students a preview of the college-level, critical-thinking skills; academic and personal growth; and extracurricular opportunities that lie ahead.

Similarly, many of our undergraduate students connect their college experience to the world at large by participating in internships and independent study research projects. Such is the case of Desiree Kennedy, student of the year, who is beginning a new job at the U.S. Department of the Interior, an opportunity made possible by an academic internship in Washington, D.C.

Taking the next step, these students and alumni exemplify the college's goal to foster a lifelong engagement with learning—an endeavor that is, by definition, a pathway to success.

Don Rosenblum, Ph.D.

Dean, Farquhar College of Arts and Sciences

FARQUHAR
FORUM
MAGAZINE

FARQUHAR COLLEGE OF ARTS AND SCIENCES

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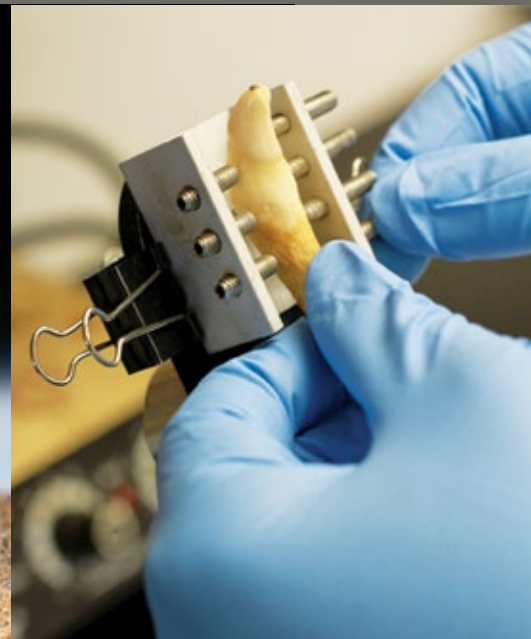


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TAKING A BITE INTO RESEARCH

Faculty Member and Students Examine the Disappearance of the Hawaiian Monk Seal



DURING THE PAST FOUR DECADES, THE HAWAIIAN MONK SEAL HAS BECOME ONE OF THE MOST ENDANGERED SPECIES IN THE WORLD—THEIR DEMISE BELIEVED TO BE THE RESULT OF ENVIRONMENTAL AND ANTHROPOGENIC FORCES.

SOLVING THE MYSTERY behind the seals' disappearance and uncovering correlating information about oceanic productivity are the goals of research being conducted by Amy Hirons, Ph.D., assistant professor at the Farquhar College of Arts and Sciences. Biology and marine biology students assisted with the research, including two recent graduates of the college: Joseph Deek (B.S. in Biology, 2014) and Mikaela Edwards (B.S. in Marine Biology, 2014). Marine biology major Courtney Cenkner will continue the work begun by Deek and Edwards.

The students received an honorable mention for their work at the 2014 Undergraduate Student Symposium. Their project,

“Hawaiian Monk Seals—Record of Environmental Influence in an Endangered Species,” is supported by a President’s Faculty Research and Development Grant.

With fewer than 1,300 Hawaiian monk seals left in the world, Hirons hopes the data will offer insight into why the marine mammals are dying at a rapid rate—especially juveniles—while also revealing important clues about environmental and oceanic changes. “Hawaiian monk seals have been in a steady decline for more than 40 years. They are recognized as the most endangered seal within U.S. waters,” said Hirons, a biological oceanographer who serves as the chair of the college’s marine biology major.

A chemical analysis of teeth and bone samples taken from deceased seals is helping Hirons and the students profile changes affecting the seals' survival and develop a time frame of environmental fluctuations and ecosystem changes.

Edwards participated in the research as part of an independent study course with Hirons. She plans to pursue a master's degree in marine science at NSU's Oceanographic Center. Deek contributed to the project as a predoctoral student and gained research experience while sharpening his manual dexterity skills.

"I've always been interested in research," said Deek, who plans to attend NSU's College of Dental Medicine. "Dr. Hirons had these teeth samples from the deceased seals. Knowing how that tied in with my future, working with her seemed like a perfect match," he said.

"I could hone in on my manual dexterity skills, get situated in a laboratory environment, and learn how to be a scientist. The early work reviewing the literature also was helpful with my other classes, and the journals helped with scientific comprehension and tied into the biochemical classes I was taking," added Deek, who was a member of the Undergraduate Honors Program and the Dual Admission Program in dental medicine.

At the lab at NSU's Oceanographic Center, Deek sectioned each tooth into halves and produced a very thin section of the middle of the tooth—striking a delicate balance to collect data while not damaging the tooth. "We're using the growth layers in the teeth to determine how old the seals were at the time of death," Deek said. "There has been a lot of varying data about whether the decreasing population is due to a loss of habitat or overfishing. By looking at the age of the teeth and oceanographic elements, we're trying to piece together why."

The teeth and bone samples were collected from seals located in the Northwest Hawaiian Island chain and main Hawaiian Islands and represent more than 225 deceased Hawaiian monk seals from the past 40 years. More than 200 canine teeth, ranging from about one to three inches long, are being sectioned and the growth layers counted to determine the ages of the seals.



(L–R): AMY HIRONS, PH.D., ASSISTANT PROFESSOR AT THE FARQUHAR COLLEGE OF ARTS AND SCIENCES; JOSEPH DEEK (B.S., BIOLOGY, 2014); MIKAELA EDWARDS (B.S., MARINE BIOLOGY, 2014); AND COURTNEY CENKNER (MARINE BIOLOGY MAJOR)

Collagen was extracted from 220 bone samples. Stable isotope ratios are collected from both the teeth and bone collagen, and the data is being used to reconstruct possible changes over time in the seals' diet, loss of prey species, or ecosystem changes.


"We are using these mammals as a means of studying year-to-year ocean productivity and as a tool to provide information about long-term environmental changes, such as ocean temperatures or salinity levels," Hirons said. "If we alter the productivity of the oceans, we are ultimately impacting humans. Is it something that humans are doing that is causing the population decline, or is it part of a natural cycle?"

(Continued on next page)



According to the assistant professor, “Environmental changes, especially changes in sea surface temperatures, affect not only the seals but also the food web. Population decreases during the 1980s and 1990s have been linked to the decrease of prey species,” she said.

For the students, “it was rewarding to see how far we came from the initial idea,” Deek said.

“Participating in a study such as this has driven me toward the continuation of my education in the hopes of working in conservation,” Edwards said. “Dr. Hirons has always been a fantastic mentor and has taught me so much throughout my undergraduate career. The experience I gained working in the lab and presenting with her and my classmates has helped me grow as a future researcher.” 

(ABOVE): JOSEPH DEEK (B.S., BIOLOGY, 2014) SECTIONS A SEAL TOOTH TO COLLECT DATA WITHOUT DAMAGING THE TOOTH, WHILE MARINE BIOLOGY MAJOR COURTNEY CENKNER OBSERVES.

READING THE GENETIC MAP

Biology Major Studies her DNA to Uncover Clues to Ancestral Migration



NATALIE NEGRON was curious about her family ancestry when she enrolled in Genetics and Genealogy, an Honors seminar offered at the Farquhar College of Arts and Sciences. So she began tracing her ancestral migration using genetic testing and genealogical records to help uncover details and information about her personal ancestry.



The results revealed that Negrón's mitochondrial DNA is linked to a human subpopulation with a relatively recent migration from Africa—a fact previously unknown to Negrón, whose family is Puerto Rican. “I had hypothesized that I would get results showing that I had European-Spanish origins for both my maternal and paternal lineages,” said Negrón, a senior biology major with a minor in history who is a member of both the Undergraduate Honors Program and NSU's Dual Admission Program for osteopathic medicine. “I was really surprised when I got the results.”

To explore the broader implications of this discovery, Negrón has begun to expand her research into a cross-disciplinary Honors thesis titled “Investigating African Ancestry in Puerto Rican Individuals via Testing of Mitochondrial and Autosomal DNA to Generate a Personal Phylogenetic Family Tree.” Using scientific and anthropological methodologies, Negrón hopes to gain a better understanding of her own ancestral history—leaving a clear map for her descendants—as well as create an outline for others who wish to pursue similar searches and contribute to the broader studies of human migration dating back thousands of years.

As part of the Honors class, Negrón conducted the genetic testing component of her research through The Genographic Project, a long-term research initiative and genetic anthropology study led by National Geographic. Begun in 2005, the project is designed to map historical human migration patterns

by collecting and analyzing DNA samples from hundreds of thousands of people worldwide.

“Researching ancestral lineages on a broader scale for large populations is very beneficial to both society and science,” Negrón said. “However, it is uniquely special when personal studies are conducted to trace paternal and maternal lineages as far back as possible. . . . So far, I've been able to trace my maternal line 60,000 years back.”

In addition to genetic testing, Negrón is assembling a family tree by conducting interviews with relatives and gleaned information from genealogical records. “I'm considering different historical events and movements that may have influenced the genetic makeup of the population of Puerto Rico (for instance, slavery),” she said. “I'm looking at literature documenting social and geographic data. By looking at social and economic factors, I'm hoping I'll be able to get a clearer picture of how the structure of the genetic population came to be the way it is today.”

According to Negrón, she wants to create a very detailed understanding of both sides of her ancestry. “Knowledge acquired from the genealogical and ancestral records will serve as a foundation for my biologically and historically based personal family narrative and family tree,” she said. “This narrative will tell the individual stories of my ancestors and how all their paths have crossed until the present day. Not only will this study help me create a better idea of my



BIOLOGY MAJOR NATALIE NEGRON SWABS A SALIVA SAMPLE FOR DNA IDENTIFICATION, THEN LATER ANALYZES THE RESULTS ON HER COMPUTER.

family’s past, it will also be beneficial for my descendants and their understanding of their own origins.”

Negron is gaining a multidisciplinary perspective by working with faculty advisers from different academic divisions. Emily Schmitt, Ph.D., professor and associate director of the college’s Division of Math, Science, and Technology, and James Doan, Ph.D., professor in the college’s Division of Humanities, co-teach the Genetics and Genealogy Honors seminar.

Under their mentorship, “I am exposed to two different ways of looking at the data—one from a more scientific view and the other from a humanities-based view,” Negron said. “Both Dr. Schmitt and Dr. Doan keep my view of the research a little broader, so I can see the total picture.”

“Through her thesis project, Natalie is utilizing cutting-edge research tools to learn more about the genetic identities of her ancestors than has ever been possible before,” Schmitt said. “She is able to study thousands of genetic markers simultaneously to help uncover her near-to-deep ancestral roots. I enjoy thinking of her as my ‘grandstudent’ since her high school biology teacher, Aimee Rivera Azua [B.S., Biology, 2007], also was a student of mine at the college. We are both very proud of her.”

“Natalie is successfully combining scientific and humanistic approaches and methodologies. She combined the genetic/genealogical research on her Puerto Rican family background

with questions about her own racial and ethnic identity,” Doan said.

“Prior to this study, my understanding of my ancestral background was limited to the notion that the vast majority of my family originated in Puerto Rico. None of my living family members suspected such a relatively recent African link,” said Negron, who presented her initial findings at the National Biological Honor Society (TriBeta) National Convention in Erie, Pennsylvania, in June 2014.

“It was always thought that our family had originated from Spain, as do many Puerto Rican individuals ... and as our paternal genetic testing also supports,” Negron said. She hopes that others will be encouraged by the modern simplicity and availability of genetic testing to trace their own ancestries.

“Anyone wishing to pursue similar personal genetic interests and record their ancestral lineages can utilize the methods and results of my research as an outline for how to conduct their own studies. The ability to document ancestry has never been greater and more economical,” she said.

“The amount of information you can learn about yourself and your ancestry through simple genetic tests—with just a few cheek swabs, you can uncover so much.” Negron hopes to present a final report of her research at the college’s 2015 Undergraduate Student Symposium in April. **F**





LASER FOCUS

Independent Study Students Zero in on Research

WHETHER IN THE FIELD OR IN THE LABORATORY, student participation in independent study projects reflects the breadth—and depth—of undergraduate research at the Farquhar College of Arts and Sciences.

From biology and psychology to legal studies and philosophy, undergraduates are contributing to significant research by spending a semester exploring and analyzing a specific topic of interest under the close guidance of a faculty member. This coursework often leads to recognition through publishable research or the students presenting their findings at national and international conferences as well as at NSU's Undergraduate Student Symposium.

Independent study fosters faculty mentorship, while encouraging students to develop research, writing, and analytical skills they can apply at the graduate and professional levels. Students also walk away with an in-depth understanding of their chosen subject matters, having focused their unique courses on a single question, concept, or hypothesis.

"I believe independent study provides a powerful opportunity for students to have a taste of cutting-edge, firsthand experience in scientific research and other scholarly pursuits," said Song Gao, Ph.D., associate professor at the college. "It links classroom learning with real-world discovery."

What's in Our Water? Student Research Seeks Answers and Yields Honors

HOW SAFE IS THE WATER YOU DRINK?

Do you know what's in bottled or fountain drinking water? What impact does water contamination have on human health and the environment?

At the Farquhar College of Arts and Sciences, junior biology major Roshni Patel and Karem Molinares (B.S. in Biology, 2014) sought answers to these questions by measuring various ion concentrations in samples of bottled and fountain drinking water. Their research, based on work completed for independent study courses, won first-place honors at the 2014 Undergraduate Student Symposium.

“Our project—‘Evaluating Common Ion Concentrations in Bottled Drinking Water and Local Marine Water’—was focused on the presence of contaminants in drinking water, specifically with an interest in human toxicology and environmental hazards,” said Patel, a member of the Undergraduate Honors Program and NSU’s Dual Admission Program for osteopathic medicine.

The students’ goals were to measure concentrations of common ions, metals, and bacteria in drinking water samples presumed to be clean and safe; evaluate cases in which chemicals exceeded regulated standards; and assess the differences in drinking water quality from different sources and processes.

As part of the study, the students collected samples of bottled drinking water from two common brands and fountain drinking water from four college campuses (NSU, University of South Florida, Rutgers University, and Hillsborough Community College).

The samples were tested for concentrations of ions including chloride and sulfate. The results were compared to the values reported by the water distributing companies and national standards set by the federal Environmental Protection Agency (EPA). EPA standards determine drinking water’s allowed maximum contaminant level (MCL) deemed safe for human health, and secondary MCL for known contaminants that may cause changes in the taste, odor, or color of the water, or to consumers’ skin or teeth.



ROSHNI PATEL, JUNIOR BIOLOGY MAJOR

Through their research, the students found a small fraction of drinking water samples that met or exceeded these contaminant levels, as well as some discrepancies between the measured levels of nitrate, fluoride, and sulfate and those values reported by the water manufacturers.

(Continued on next page)

“Some [contaminant levels] were above the EPA regulated values,” said Molinares, who is applying to dental schools and plans to begin in fall 2015. “A significant part of this study was raising awareness about the contents of our drinking water. This is very important because water is a major component of life, and we need to know what is safe for us to drink.”

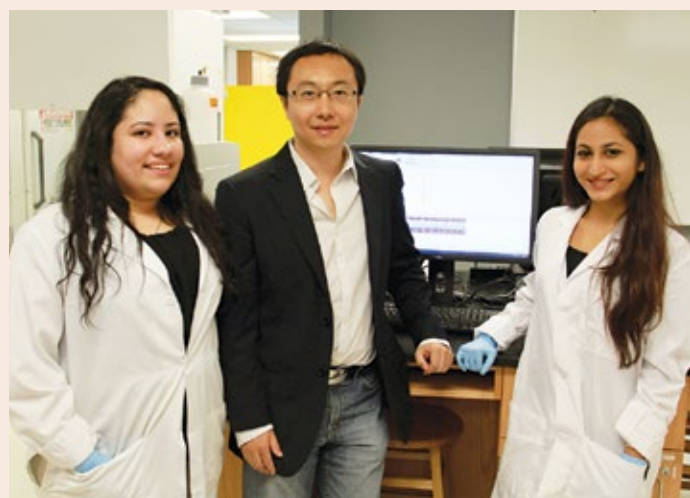
“I am very excited that the students’ findings have generated new research directions to pursue,” said Song Gao, Ph.D., associate professor at the college and the faculty adviser for the students’ independent study courses. “The quality of their work was very high. While the majority of samples show chemical levels below EPA regulated values, cases where certain chemicals exceeded MCLs and secondary MCLs did occur occasionally in certain brands of bottled water,” said Gao. Josh Loomis, Ph.D., assistant professor at the college, also worked with the students by assisting with the bacteria analysis.

According to Gao, “In the campus water samples, the chemical contaminants did not exceed regulated values, although several samples from one campus did show bacteria counts far exceeding EPA mandated values. This should make people wary of the public drinking fountains on college campuses in terms of health hazards.” Gao also pointed out that the team “observed the fascinating link between low bacteria counts and high copper concentrations. Antimicrobial agents, and their roles in helping increase water quality, warrant further investigation,” he said.

On behalf of the research team, Patel presented the results of the study at the 2014 Association for Environmental Studies and Sciences Conference in New York City in June 2014. Patel became interested in water contamination issues while attending the annual Green Chemistry and Engineering Conference as a National Science Foundation scholar in 2012.

“Although the field of green chemistry is relatively new, the science is rooted in simple but modern ideas about sustainability,” said Patel, who is pursuing a minor in chemistry. “As a premedical student, I’m interested in the potential toxicological effects and health hazards of different water contaminants, such as organic pharmaceuticals or inorganic ions. Independent study has given me an opportunity to continue pursuing this topic.”

“I believe independent study at NSU provides a very unique and powerful opportunity for the student to have a taste of cutting-edge, firsthand experience in scientific research or other scholarly pursuits,”




(TOP)

KAREM MOLINARES (B.S. IN BIOLOGY 2014)

(BOTTOM)

MOLINARES (LEFT) AND PATEL WITH FACULTY ADVISER SONG GAO, PH.D., ASSOCIATE PROFESSOR AT THE COLLEGE

Gao said. “It links classroom learning with research discovery and real-world problem solving and develops teamwork skills by having students work with faculty members and fellow students. All of this is an added value to the student’s college education and future career.” 

Legal Studies Major Wins Recognition for Review of Abortion Laws

DOUBLE MAJORING in legal studies and political science, Louize Fiore wanted to examine and understand the legal complexities of a controversial Texas statute regulating doctors who perform abortions.

A senior at the Farquhar College of Arts and Sciences, Fiore turned her legal curiosity into an independent study course designed to research abortion laws under the guidance of Vicki Toscano, J.D., Ph.D., assistant professor at the college. Fiore's research won first place in the oral presentations category of the 2014 Undergraduate Student Symposium, and her legal review article was selected for publication in the *Columbia Undergraduate Law Review*.

"I chose abortion rights because it's a popular topic, yet it's rarely discussed from a strictly legal viewpoint," said Fiore. "At that time, Dr. Toscano was working on an article related to abortion rights, and she discussed it during lectures. As my independent study began, I started to see the legal complexity of abortion laws throughout the United States and the way that most courts were misusing the constitutional test designed to determine if an abortion regulation is legal."

Fiore examined the issues surrounding the Texas statute and wrote a review titled, "The Excessive Political Dominance over Doctors: How Texas' Newest Abortion Regulations Violate Women's Constitutional Rights." Under the new statute, physicians who perform abortions must have hospital admitting privileges at a facility within 30 miles of the doctor's clinic. The statute does not provide an exemption for medical emergencies and has left 24 counties in Texas' Rio Grande Valley without providers, limiting local women's access to abortions.

In her research, Fiore examined *Planned Parenthood v. Casey*, a 1992 U.S. Supreme Court case that affirmed the basic ruling legalizing abortions in the 1973 landmark case, *Roe v. Wade*, and prohibited state regulations from creating "an actual substantial burden on women's rights to choose an abortion."

"Most legal scholars and courts interpret the undue burden test in *Planned Parenthood v. Casey* to prohibit state regulations that create an actual, substantial burden on women's rights to choose an abortion. Nevertheless, in the Texas case, the U.S. Court of Appeal for the Fifth District departed from Casey's



LOUIZE FIORE, A DOUBLE MAJOR IN LEGAL STUDIES AND POLITICAL SCIENCE, EXAMINED THE COMPLEXITIES OF A TEXAS STATUTE REGULATING ABORTIONS.

legal precedent by staying [stopping] the Western District of Texas' injunction relating to this unconstitutional statute," Fiore wrote.

"I wanted my article to show how careless the courts have become when measuring a woman's fundamental right to have an abortion," Fiore said. "This case was perfect because the negative effects of the law are so obvious. I wanted to demonstrate how the Fifth District appellate court's opinion clearly went against what the undue burden test was designed to accomplish."

She added, "In Texas, many women will be without abortion providers, and somehow, our courts have allowed that to

(Continued on next page)

happen. This is not about pro-life or pro-choice. This is about legislators and courts manipulating the system and disregarding [legal] precedents in order to serve their agendas.”

By choosing to explore this subject through an independent study course, Fiore was able to work closely with Toscano to tailor her research to this specialized area of legal scholarship.

“The first several weeks were designed for Louize to read several important court cases and law reviews in this area while engaging in research to narrow down her topic of interest,”

Toscano said. “I directed her in terms of providing her initially with the important law and analysis in this area, but she came up with the specific abortion regulation she wanted to write about and did much of her own research,” she added.


“Timing in writing a good law review article is essential,” Toscano also said, “and Louize found a new type of abortion regulation that had just been reviewed by a district court.

While she was working on this project, it was reviewed in an important case by an appellate court as well. Her analysis was timely, unique, and highlighted an extremely important law just as people and the courts started to take notice of it.”

Independent study courses foster a faculty-student mentorship and provide students with expertise and research skills they can apply to other endeavors.

“Independent study has assisted me with research tools that I will use in the future,” said Fiore, who plans to attend law school and pursue a legal career. “I was able to really immerse myself in one topic. I had the privilege to analyze the topic in a manner unlike a classroom setting. Working on a project like this for four months, I was able to look at the complexities of the topic and the intricacies of our legal system.”

In addition, said Fiore, “The knowledge you receive from the faculty member is impossible to measure. Dr. Toscano’s dedication, knowledge, and encouragement helped me to accomplish what I did with this article. This process really allowed me to see her as a mentor.”

“Given the right fit between a professor’s expertise and a student’s interest, an independent study course can transform a student into an individual whose work can rival professional scholars. Louize’s understanding and knowledge in the area of abortion law and regulations rivals that of professors in the field,” Toscano said. “The independent study experience models the correct way to conduct research and writing in a student’s chosen field, giving [him or her] the knowledge and tools needed to produce other important research, even on other topics. The benefits of this to the student are extraordinary.” 

Psychology Graduate Recognized for Research on “Reframing” Working Memory

WHAT IS WORKING MEMORY? Can interventions designed to reframe how a person views a task help increase working memory and its critical link to cognitive skills such as reading comprehension, reasoning, and intelligence?

During his senior year in the psychology program at the Farquhar College of Arts and Sciences, Honors student Matthew Welhaf examined the role of working memory in his research project “You’re Not as Dumb as You Think You Are: The Impact of a Metacognitive Reframing Intervention,” which received an honorable mention at the 2014 Undergraduate Student Symposium. “Interventions designed to increase working memory are of great interest given the possible benefits in reading comprehension and academic performance,” said Welhaf, a 2014 graduate of the college’s B.S. in Psychology program.

Welhaf conducted the research as part of an independent study course directed by Jonathan Banks, Ph.D., assistant professor at the college. In the study, participants were asked to complete an unsolvable anagram task. Afterward, one group was asked to read a “reframing script” which said that a poor performance should be expected on the first completion of this difficult task—thus, “they’re not as dumb as they think.” A control group did not receive this feedback.

After reading the script, participants were asked to perform a second exercise—a working memory test. The reframing intervention—in this case, the script—was designed to reduce the number of “task-unrelated thoughts,” off-task thoughts that can interfere with working memory and impair performance in a variety of cognitive functions.



“INDEPENDENT STUDY GIVES YOU AN OPPORTUNITY TO EXPLORE YOUR INTERESTS AND GO TO THE NEXT STEP... TO PUT YOUR STAMP ON THE SCIENTIFIC FIELD.”

—MATTHEW WELHAF (B.S., PSYCHOLOGY, 2014)


The results did not show a difference in the participants' overall scores on the working memory test or a reduction in the number of task-unrelated thoughts. However, the “reframing condition” did alter the impact of task-unrelated thoughts. Participants who read the script had faster speeds and fewer speed-related errors on the working memory test than those in the control group.

“Interventions designed to reframe metacognitive interpretations of the difficulty of a subjective task have been shown to improve cognitive performance,” Welhaf said. “We were looking at whether an intervention can change the effect or reduce the interference of off-task thoughts. These findings demonstrate that while metacognitive interventions may not reduce task-unrelated thoughts, they may alter their impact on working-memory task performance.”

According to Banks, “The results of Matt’s study help us to understand the relationship between task-unrelated thoughts

and working memory. Typically, the relationship between task-unrelated thoughts and cognitive task performance is negative. When thoughts that are unrelated to the task occur, they impair task performance,” he said. “However, the current results suggest that it may be possible to alter this relationship. If we can reduce the negative impact of task-unrelated thoughts on task performance then we may be able to increase performance in a variety of cognitive tasks.”

For Welhaf, the project helped him “learn the ropes” of academic research and delve deeper into an area of interest. He will begin classes in fall 2014 in the college’s M.S. in Experimental Psychology program.

“Independent study gives you an opportunity to explore your interests and go to the next step— reviewing literature, data compilation, doing research, and analyzing results,” Welhaf said. “You get the chance to add to a body of scientific literature— to put your stamp on the scientific field. It allows you to do the bulk of the work and grow as an academic scholar.” 

IN THE FIELD, HANDS-ON, AND OPENING DOORS

Internships Offer a World of Opportunity



Coupled with the advantages of small class sizes, faculty mentoring, and student-centered instruction, diverse experiential learning opportunities distinguish the Farquhar College of Arts and Sciences from other institutions—and pave the pathway to success for our students.

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FROM CONDUCTING RESEARCH at medical institutions to providing therapy to autistic children to working with federal agencies, internships enable undergraduate students to advance in their degree programs while they apply classroom-based lessons, develop new skills, explore professions, and connect with experts in their chosen fields.

These hands-on experiences often reaffirm or even redefine students' academic passions and career goals—underscoring the value of supporting real-world learning opportunities for the next generation of dedicated professionals.

2014 Student of the Year Heads to Washington, D.C.

MOVING CLOSER TO HER GOAL of a career in law or public service, alumna Desiree Kennedy is starting a new job in Washington, D.C.—an opportunity made possible by an academic internship at The Washington Center.

“This internship helped me decide what my next step would be after graduation. It would not be an exaggeration to say that this program changed my life,” said Kennedy, a 2014 graduate (B.A. in Legal Studies, B.A. in Political Science) of the Farquhar College of Arts and Sciences.

Kennedy was offered a full-time position at the U.S. Department of the Interior in Washington, D.C., following her exemplary work during the nine-week summer internship. The college’s 2014 Student of the Year, Kennedy was also a member of the Undergraduate Honors Program, a founding and award-winning member of the university’s Model United Nations team, and cocaptain of NSU’s Mock Trial Team.

“While at NSU, Desiree made the Dean’s List each and every semester,” said G. Nelson Bass III, J.D., Ph.D., assistant professor, chair of the political science major at the college, and faculty adviser of the Model U.N. team. “Her hard work paid off when she was offered a job in Washington, D.C., based on her internship, and was also accepted into the Graduate School of Political Management at George Washington University.”

In her new job, Kennedy will manage the Senior Executive Service (SES) Candidate Development Program, which trains executives in the functions of different government agencies. “The intent is to engage federal agencies [in promoting] cooperation with each other,” Kennedy said. “During the internship, I worked on developing the program. I gave presentations to the Office of Management and Budget and to the assistant secretary of the Department of the Interior. I was offered a job to return and continue working on the program.”

Kennedy applied for the internship after hearing a representative from The Washington Center speak in her political science class. As an intern, she participated in the center’s political leaders program, which led to her assignment at the U.S. Department of the Interior.

(Continued on next page)




“Interning in Washington, D.C., seemed like the perfect way to get one step closer to my goals.”

— DESIREE KENNEDY

“Interning in Washington, D.C., seemed like the perfect way to get one step closer to my goals,” said Kennedy, who plans to eventually attend law school and pursue a career in law, politics, or diplomacy. “For me, this was a way to learn about my future career and so much more. “It was the best decision I ever made. Not only did I fall in love with the city, but the program at The Washington Center was fantastic. I was able to apply what I learned in the classroom—something I had never experienced before,” she said.

“Desiree is not only exceptionally bright, but she also possesses a tremendous work ethic and an excellent sense

of maturity and responsibility,” Bass said. “She combined all of these traits both inside and outside the classroom to maximize her undergraduate experience. She possesses these qualities while also being affable and well-liked by her peers and professors,” he added.

“I think this really speaks to the goal of a liberal arts education at NSU—producing smart, well-rounded, and gregarious leaders and citizens. I have no doubt Desiree is on her way to amazing things.” 

Music to Their Ears: Student Intern Strikes a Chord with Autistic Children

STEPHANIE CACERES brings music to the ears of children at the Center for Autism and Related Disabilities (CARD).

A music major pursuing a minor in psychology at the Farquhar College of Arts and Sciences, Caceres is exploring the field of music therapy through a long-term internship at CARD, a collaboration between NSU and the University of Miami. Working with autistic children and teens, she takes a hands-on approach to each session by singing songs, marching, playing games, and engaging children with activities that are fun and aimed at developing motor, problem-solving, social, and communication skills.

“If I see them moving toward a certain instrument, we will do an activity with that particular instrument so they feel like they can make choices about which activities we do,” said Caceres, who is working under the supervision of Bill J. Adams, D.M.A., associate professor and coordinator of performing arts at the college, and Marlene Sotelo, Ed.D., former director of education and training at CARD’s Broward Satellite Office.

“I interact with my clients through music,” Caceres said. “My goal is to use music as a means of expressive communication ... using music therapy rather than music education. The important thing is not what they know about theory or playing an instrument, but how they use their knowledge of music to help them function and cope with everyday life.”



“
My favorite moment is when I realize I have made a strong bond ... the moment when they are so excited about music time. That moment makes me feel like I am really making an impact on their lives, and it makes what I do so rewarding.”

—STEPHANIE CACERES


According to Adams, Caceres is a natural for the position. “Stephanie is unique in that her warm, open personality lends itself beautifully to this kind of interaction,” he said. “This is part music therapy, part music appreciation, and part performance. Music has such power, not only for the listeners, but also for those who perform.”

Adams added, “In Stephanie’s case, she combines her love of music with its power to transform communication into a therapy. Working with trained speech-language pathologists, Stephanie can learn how to utilize her musical skills to break through to a person—in this case, children with autism—and create new pathways of development and improvement. Music therapy is a field of employment with degrees and certifications. Our approach is unique because it is hands-on, such as Stephanie’s experience.”

Caceres said she applies what she learns in the classroom—such as improvisation—during all of the sessions with her clients. “I use my knowledge of music theory, improvisation, and song writing to create activities that will promote learning,” she said. “The internship has helped me realize my passion for music therapy and lead me on the right track to becoming

a successful music therapist. It also provides experience for graduate school and knowledge I can use for the rest of my career.”

The experience has been life-changing for Caceres. “My clients did not communicate well when I first met them. I was so nervous because I didn’t know how I was going to get through to them. Over time, with all the therapy, they can now clearly communicate wants, feelings, and emotions. I consider myself blessed to be a part of that. From them, I am learning to be compassionate with people of all developmental stages,” she said. “My favorite moment is when I realize I have made a strong bond ... the moment when they are so excited about music time. That moment makes me feel like I am really making an impact on their lives, and it makes what I do so rewarding.”

Caceres plans to continue the internship through her senior year, and then pursue a graduate degree in music therapy. “Music is a stronger tool than most people may think. Music can truly make a difference in a person’s ability to function in society and cope with life. I can honestly say music therapy is my passion. I cannot imagine doing anything else,” she said. 

Homeland Security Internship Fuels Student’s Goal of Becoming a Judge

AS A SUMMER INTERN at the U.S. Department of Homeland Security, criminal justice major Manon Ferdani got a close-up view of an immigration court and the legal system, inspiring her to pursue her goals of becoming a prosecutor and a judge.

Ferdani was an intern for the Miami field office of Immigration and Customs Enforcement (ICE), the investigative arm of Homeland Security, at the Krome Service Processing Center. “As soon as I saw the opportunity to work for the ICE legal firm, I thought it would be a great experience,” said Ferdani, a senior and a member of the college’s Undergraduate Honors Program. “I chose criminal justice as a major because this is what I’m interested in. Everything about the law fascinates me.”

“An internship with ICE provides our students with the opportunity to work with the federal government law enforcement agency and engage in a variety of litigation-related duties,

including court attendance, drafting legal documents, researching criminal records, and preparing cases for trial,” said Jessica Garcia-Brown, J.D., LL.M., the associate professor at the college who helped Ferdani secure the internship. “The internship also provides the opportunity to learn immigration and criminal law extensively from a substantive and practical perspective. These are tasks usually reserved for second-year law students,” Garcia-Brown said.

Ferdani spent much of the internship attending court hearings, writing motions, and researching or obtaining documents relevant to a detainee’s case. “Every day was a little different,” she said. “On a typical day, I went to court in the mornings for the calendar hearings. This is when the detainees go before an immigration judge. The judge explains the charges against them

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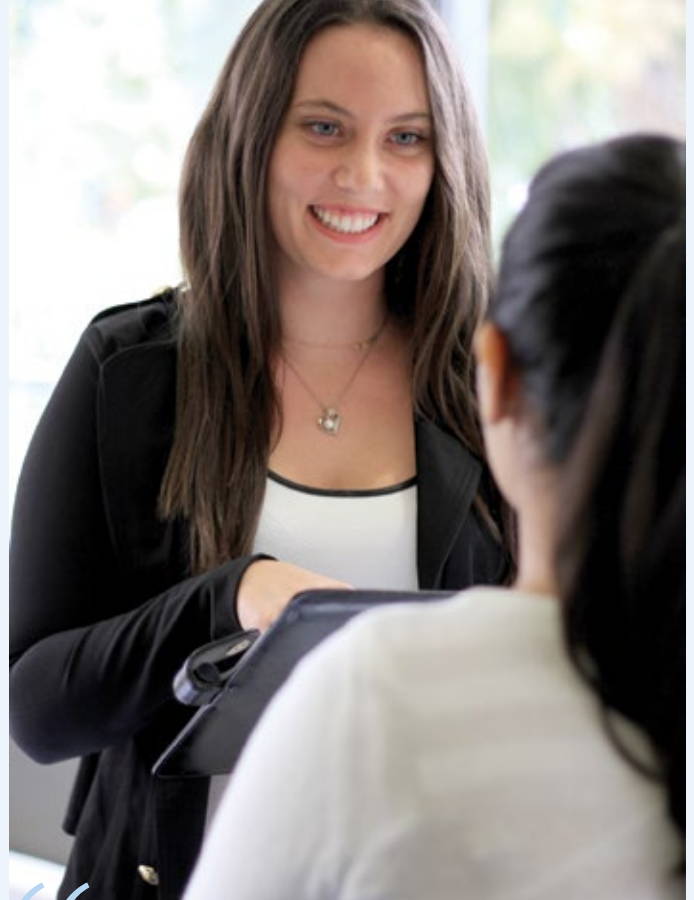
and why they might be deported. They are given time to find an attorney, or they may continue while representing themselves.”

Ferdani helped the office prepare for the hearings by checking case files and contacting agencies to obtain any necessary legal documents, and in some cases, a detainee’s past criminal record. “I wrote motions for summary affirmance, which explained why the Department of Homeland Security believed that a detainee should be deported. And I wrote motions to subpoena to obtain documents from other agencies,” she said.

The criminal justice student also did a lot of research. “I learned a lot about immigration court and how it works,” Ferdani said. I learned that criminal court and immigration court work a little differently. In immigration court, the government does not provide attorneys to the defendants—however, they are given a list in order to find an attorney for little or no money, and at no cost to the government. Sometimes the detainees do not retain attorneys; they represent themselves.”

The ICE internship is open to NSU students in the criminal justice, legal studies, and paralegal studies majors. According to Garcia-Brown, “This partnership with ICE came about when Andrew Brown, J.D., an adjunct professor at the college and assistant chief counsel for the Department of Homeland Security, asked whether we would be interested in having our students intern at his office,” she said. “We anticipate placing more students in these internships in upcoming semesters.”

Gaining hands-on experience and working with lawyers and judges in a fast-paced environment confirmed Ferdani’s decision to pursue law school and a career in law. “This internship definitely helped me prepare for my future,” Ferdani said. “I wasn’t sure I wanted to go to law school. I wasn’t sure if I was capable of being an attorney. However,



“*I wasn’t sure if I was capable of being an attorney. However, this internship boosted my confidence, and now I know this is what I want to do. I want to become a prosecutor. After that, I would love to become a judge. You never know where life will take you.*”

—MANON FERDANI

this internship boosted my confidence, and now I know this is what I want to do. I want to become a prosecutor. After that, I would love to become a judge. You never know where life will take you.” **F**

Harvard Laboratory Internship Rejuvenates Student’s Aspirations

BIOLOGY MAJOR Marcus Engel is the first student at the Farquhar College of Arts and Sciences to complete a summer research internship at the Harvard Medical School/ Dana-Farber Cancer Institute in Boston, Massachusetts. Engel, who plans to attend medical school and pursue a

career in medicine, says he returned from the experience with “a better understanding of how science works.”

He conducted research in the laboratory of Joseph Sodroski, M.D., under the mentorship of Navid Madani, Ph.D., whose group is working on small molecule HIV-1 entry

inhibitors and prophylactic modalities to inhibit HIV-1 infection. Their focus is to design and characterize the usage of small molecule HIV-1 entry inhibitors with possible application in preventing infection through the use of potent HIV microbicides. Engel assisted in exploring the mechanism of HIV-1 entry into target cells, studying HIV-1 viral proteins and small molecule inhibitors of HIV-1 entry into cells.

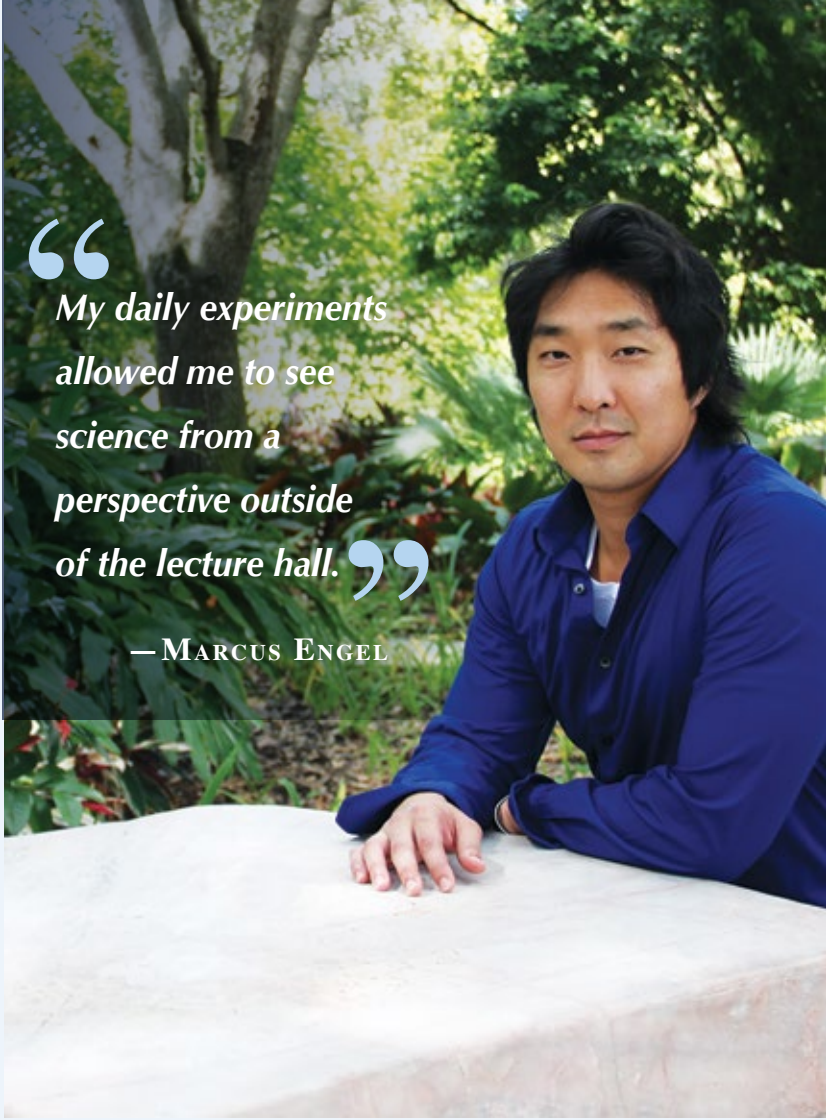
"I learned dozens of laboratory techniques—such as chromatography, tissue culture, and viral assays," Engel said. "My daily experiments allowed me to see science from a perspective outside of the lecture hall—and weekly research, discussions, presentations, and problem solving continues to push me to think critically in academia," he added. "Exposure to a researcher's work ethic, optimized techniques, and real-life problem solving are a few motivating aspects that will continue to drive me."

Aarti Raja, Ph.D., the assistant professor at the college who supervised Engel's internship, said the research internship at Harvard is a new initiative with a goal to provide NSU students with "an opportunity to partake in cutting-edge research at world-renowned institutions—to show our students that nothing is out of reach for them."

According to Raja, the internship is a great opportunity for the students to interact with researchers from around the world and step outside their comfort zone of familiar faces and the cozy classroom setting. "It is, essentially, a way to open doors to students, broaden their horizons, and showcase the many opportunities that are out there for them," he said.

"This was a great way for Marcus to try his hand at research and meet other students, faculty members, and researchers from around the world," Raja added. "It is an enriching experience for a student to interact with people with diverse backgrounds, learn from different faculty members and professionals, and chart his or her own career path based on these experiences."

For Engel, the internship provided hands-on learning of the skills, techniques, and practices necessary to work in a laboratory. "Experiments can be sensitive, and for anyone working in a laboratory for the first time, good practices can be challenging," he said. "There is a pretty significant




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*My daily experiments
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of the lecture hall.*”

—MARCUS ENGEL

learning curve. Simple dilutions techniques, unique laboratory tools, and hand-eye coordination are a few areas that many people take for granted. I was able to learn what it takes to be proficient and to develop a methodical approach to conducting experiments and vastly improve upon my skills."

Working in a real-life setting also recharged Engel's aspirations and long-term goals. "I think it's easy to lose track of your goals in an academic setting," he said. Often times, goals and grades become synonymous. Working on real-life problems rejuvenates your goals. It recharged me for future academic challenges."

The biology major summed up his internship saying, "working at Harvard was very inspiring. The people are motivated and focused. They have a 'you can do anything' mentality that is contagious. My experience this summer changed my outlook inside and outside of the classroom, and it may affect where I end up in the future." 

FROM MARINE LIFE TO STAGE LIGHTS: OUTSTANDING SENIOR FOLLOWS TWO PASSIONS TO SUCCESS

AS A STUDENT at the Farquhar College of Arts and Sciences, Emma Magner learned that it's acceptable—and often life changing—to move in a new direction or follow a passion on the “unknown path.”

Recognized as an Outstanding Student of the Class of 2014, Magner graduated with bachelor's degrees in marine biology and theatre and represented her classmates as the student speaker at commencement. Fascinated by science at a young age, Magner started her undergraduate studies as a marine biology major.

As a freshman, she packed her schedule with pre-requisites and courses that fit her major, leaving her to choose just one elective. She chose theatre “just for the fun of it,” not foreseeing that the discipline would become her second major in her junior year. “At first, I was hesitant to alter my original course,” Magner said. “But through the freedom that NSU gave me, I had the opportunity to find myself and nurture my passion for theatre” as well as marine biology.

Growing up in southern Illinois, Magner made frequent visits to Florida with her family. “I fell in love with the ocean,” she said, sparking her interest to study marine science at NSU. “From a young age, I loved science and nature. I knew I wanted to be a marine biologist. In high school, I was involved in drama, and I loved that as well. I was very passionate about both of them.”

During her first semester at NSU, Magner won the role of Cecily in the theatrical production of *The Importance of Being Earnest*. During the next three years, she acted in several productions and worked in technical positions or as stage manager behind the scenes. Her performances included the roles Brenda and the clown/therapist in *Wonder of the World*, Elmire in *Tartuffe*, Angel in *Everyman*, and Cassandra in *The Trojan Women*.

“Acting took me away from the pressures of school,” she said. “It wasn't science. It kept me involved.

It helped give me balance. Theatre is an expressive outlet. It puts a joy in my heart. I love the adrenaline of being on stage. It is unpredictable. If something happens, the show must go on.”

As a marine biology student, Magner participated in travel-study courses, exploring environments in the Galapagos Islands and Baja California, Mexico, where she made a documentary about a whale-watching trip. In summer 2014, she traveled to Alaska with a group of students led by Paul Arena, Ph.D., assistant professor at the college, whom Magner considers one of her mentors.

“She was always a delight to have in my classes,” Arena said. “She always put her best foot forward, maintained an excellent attitude, and was generally a positive spirit, which lifted up all those around her. She pushed herself to learn and understand the material, which I believe encouraged others in the class to do the same. The passion for knowledge is catchy and contagious, and Emma surely has the bug.”

An active member of NSU's Nature Club, Magner participated in beach cleanups, butterfly garden plantings, exotic species removals, and the planting of native vegetation outside NSU's Parker Building. In Alaska, she observed the diversity of large megafauna and wildlife such as bears, wolves, moose, whales, sea lions, and sea otters in their natural habitat, Arena said.

“These trips have broadened my perspective on life and have really solidified how passionate I am about nature and the organisms with which we share our world,” said Magner, who hopes to eventually work on coral, sea grass, or oyster bed restoration projects. “I want to give back to the environment. I want to leave some mark on the world.”

She credits her NSU professors for helping her succeed in college, including Arena and Mark Duncan, M.F.A., associate professor and assistant director of the college's

“

Acting took me away from the pressures of school. It wasn't science. It kept me involved. It helped give me balance. Theatre is an expressive outlet. It puts a joy in my heart. I love the adrenaline of being on stage. It is unpredictable. If something happens, the show must go on.

”

—EMMA MAGNER

Division of Performing and Visual Arts. Duncan gave Magner the confidence to add theatre as a second major during her junior year, she said.

“Emma is a true collaborator and had a great rapport with both the faculty and her fellow classmates. Her infectious optimism and positive demeanor were great assets to the theatre program,” Duncan said.

The late faculty member Edward O. Keith, Ph.D., sparked her interest in marine mammals and encouraged her to pursue internships at facilities such as the Dolphin Research Center in Grassy Key (Florida Keys), and Sea Life Park Hawaii on the island of Oahu, where she worked with dolphins and sea lions.

“Being at NSU was really an uplifting experience,” said Magner, who hopes to earn a graduate degree in marine biology and work in marine mammal research, as well as perform in community theatre. “I will always have a passion for acting. I don't want to let it die. I'm definitely going to keep both passions in my life.”

At commencement, Magner encouraged her classmates to embrace the unknown path ahead. “Remember, life



EMMA MAGNER IN THE COLLEGE'S 2013 PRODUCTION OF *THE TROJAN WOMEN*

is not set in stone, and it is okay to take a step back and get lost on this unknown path—the unknown path that presents the wonderful journey of life. Getting lost will only help us find ourselves, bringing forth possibilities and challenges. ...Embrace the freedom of not knowing what lies ahead.” **F**

GIVING BACK: ALUMNUS DAN MADDEN HELPS STUDENTS “REAP THE REWARDS” OF LEARNING

WHEN HAROLD (DAN) MADDEN enrolled at the Farquhar College of Arts and Sciences, he was a successful entrepreneur who had built two computer software companies—and had been away from the classroom for 34 years.

When Madden graduated as an Outstanding Student in 2009 (B.S., Computer Information Systems), he fulfilled an important promise to himself. “I enrolled at NSU in order to finish something I had started 40 years earlier—my college degree,” said Madden who was a senior studying mathematics at the University of Houston when he was drafted during the Vietnam War.

He left college to join the U.S. Air Force and later enrolled in a two-year computer programming track that he finished in two months. In the early 1970s, he started a software development business in Houston, at the dawn of the computer age. He built the company from scratch to a staff of 35 employees.

“There were no PCs, no Internet yet,” said Madden, who sold the business in 1981, shortly before the collapse of the oil industry and the economy in Houston. He then moved to South Florida and started a second company before going to work at Eastern Metal Supply, where he is currently general manager and chief information officer. Along the way, he promised himself that he would finish his degree before age 60.

“Since computers were my whole career, I decided to go back to school to formalize my computer training,” he said. “I was looking to validate my 30 years of training in the field. The reason I selected NSU was two-fold—they offered an online program that fit my schedule, and I liked their curriculum. Once I started my studies, I realized how applicable what I was learning in class was to solving complex problems.”

After years away from school, his study habits were rusty. “The very first week, I sat in a classroom for

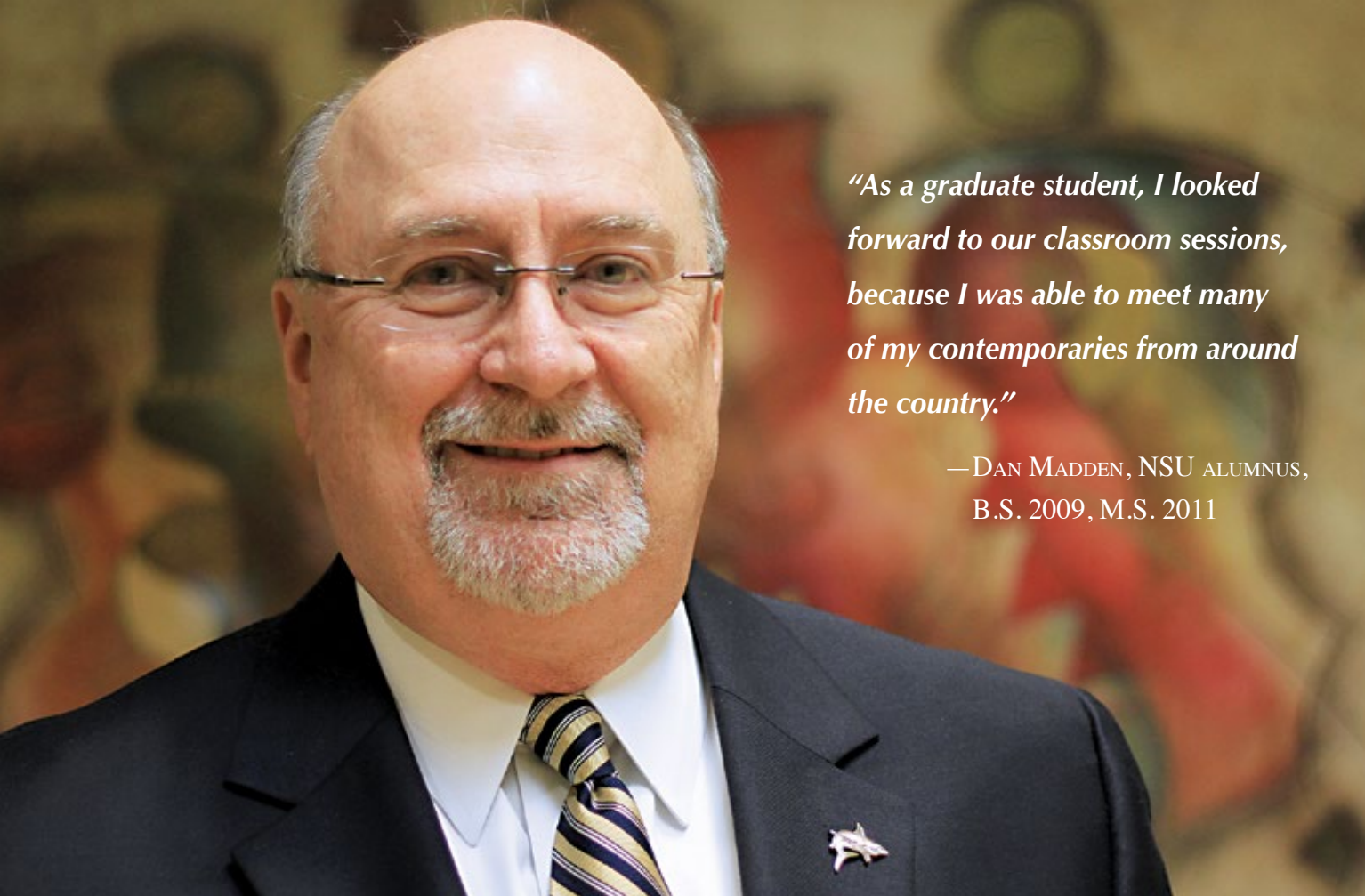
the first time in 34 years, and I said to myself, ‘what was I thinking going back to school?’ I had to create study habits again, learn how to take tests again, how to write papers, how to meet deadlines. I had a child and a business. I complained about every course—‘this is the hardest course I’ve ever had.’ My wife would say, ‘you say that about every course.’ But I never thought twice about staying in school. I loved it.”

Madden credits his professors for that. Among them were Saeed Rajput, Ph.D., associate professor and assistant director of the college’s Division of Math, Science, and Technology, who was one of Madden’s first professors at NSU. “Saeed is the reason I stayed in school and stayed at NSU,” Madden said. “He shared my enthusiasm for computers, and he understood business. ...In every single class, there was always something I could take back to work to help solve a particular problem we were working on.”

“Dan really showed interest in inquisitive learning,” Rajput said. “It’s my style to keep students engaged and try to discover capabilities that they might not know about themselves. Dan always did better than I expected on the challenges I threw at him. He challenged the ideas in conventional material and proposed alternatives resulting in several intellectual discussions,” added Rajput. “This clearly indicated that he was ready for a Ph.D. program.”

According to the professor, Madden had his own way of bringing out the best in people. “Once we were better acquainted, I encouraged Dan’s classmates to take advantage of his experience. Students like Dan make our program unique and distinct from traditional programs,” Rajput said.

Madden’s next step was graduate school. “I wanted to continue the path I had started on, as I was thoroughly enjoying my experience,” said Madden, who earned an M.S. in Computer Information Systems in 2011 from NSU’s Graduate School of Computer and Information Sciences. He is now enrolled in the doctoral program there.



“As a graduate student, I looked forward to our classroom sessions, because I was able to meet many of my contemporaries from around the country.”

—DAN MADDEN, NSU ALUMNUS,
B.S. 2009, M.S. 2011

“As a graduate student, I looked forward to our classroom sessions, because I was able to meet many of my contemporaries from around the country,” Madden said. “These students came from different backgrounds and industries, and it was always interesting and intellectually stimulating to discuss various aspects of the information industry. We learned that there are always different approaches to solving a problem.”


As an alumnus of the college, Madden strives to give back and stay involved at NSU. He has served as vice-chair of the Dean’s Council since 2009. He and his wife, Penny, established the Dan Madden Family Changing Lives Scholarship to help undergraduate students succeed. “My family has always been interested in education,” said Madden, whose wife was a PTA president and a Broward County Volunteer of the Year while their son was growing up.

“Once I started at NSU, I was impressed with the academic rigor, and I wanted to help other students attend,” Madden added. “My interest has always been related to science, technology, engineering, and math. I have a concern that we are drifting away from those disciplines. I wanted to

encourage students to attend college locally to take advantage of the STEM courses at NSU.”

“Dan has been a model alumnus with regard to his service to the community and the college following graduation,” said Don Rosenblum, Ph.D., dean of the college. “He stays connected and attends lectures, receptions, and performances. He and Penny are engaged with NSU in many ways.”

According to the dean, Madden’s service as vice-chair of the Dean’s Council puts him in regular contact with senior leaders from the South Florida professional community. “He’s a great ambassador of the college and the university—and a good friend,” Rosenblum said. When Madden graduated at age 61—one year older than his personal goal—“I was very proud to be up there on that stage,” Rosenblum added.

Madden’s advice to students: “Finish college. Go to graduate school now. Don’t wait until you’re 60, because you’ll reap the rewards of what you’re learning now. Recognize opportunities. I’m going to keep going [to school] until I stop having fun.” 

TACKLING THE BIG QUESTIONS: POLITICAL SCIENCE PROGRAM ATTRACTS STUDENTS WHO SEEK TO MAKE THE WORLD A BETTER PLACE

WHEN KELSEY OBRINGER ARRIVED AT NSU, she had “no idea” what she wanted to study or which academic major or career path to follow. That changed during her first semester when she took the course American Government and Politics, taught by G. Nelson Bass III, J.D., Ph.D., assistant professor at the college, and chair of the political science major.

Soon after, Obringer—now a senior at the Farquhar College of Arts and Sciences—selected the then-new political science major as her academic focus. “The political science major has helped me develop my writing and critical-thinking skills,” Obringer said. “It has introduced me to a wide array of subjects that help make me a well-rounded student. And it has provided me with a support system and professors whom I consider mentors.”

Although often viewed as a vehicle for prelaw students, “the major is perfect for students interested in a wide range of fields, including public service, law, diplomacy, and even those interested in working in the private sector on issues of public policy,” Bass said. “Many students are interested in working on political campaigns or for one of the major political parties, while some graduates of the program enter various departments of state, local, or federal government. In addition, many graduates interested in teaching at the secondary or collegiate level enter graduate programs in political science or a related field.”

Linea Cutter, a senior with a double major in political science and history, is considering possible careers in academia, government, and diplomacy or lobbying work related to international issues. She plans to pursue a doctoral degree in political science with a focus on international relations.

“This major has provided me with many tools that I will use extensively in my graduate studies,” said Cutter, a member of the Undergraduate Honors Program. “I chose political science because I’ve always been interested in history and realized that to truly comprehend historical events, it is important to understand their complex political underpinnings.”

According to Cutter, she took an introduction to political science class to test the waters. “The material helped me to fully understand the theories and institutions that have shaped historical political actors ... and that still hold influence and help explain today’s intricate political and economic landscape,” she said. “I realized that a major in political science would allow me to expand my political and historical knowledge ... to understand the forces behind events that occur on both the domestic and international levels, and that I could use this grid of knowledge to evaluate these events for myself.”

The major helps prepare students for a graduate program and professional career by focusing on developing critical thinking, reading, and writing skills, Bass said. “Given the controversial nature of many of the subjects, it is crucial that students are able to express themselves through the written word and also be able to analyze and synthesize the ideas presented in a variety of texts,” he said.

Many political science students develop and practice such skills by participating in NSU’s Model United Nations team, known as the Nova International Relations Association (NIRA). Model U.N. provides an academic simulation of the international organization dedicated to international peace, security, and development.

As a cocurricular supplement to the political science major, Model U.N. enables student participants to assume the role of delegates representing member



AS THE TEAM'S FACULTY ADVISER, G. NELSON BASS III, J.D., PH.D., ASSISTANT PROFESSOR (LEFT), HELPS STUDENTS DEVELOP CRITICAL THINKING AND COMMUNICATION SKILLS THROUGH NSU'S MODEL UNITED NATIONS TEAM.

nations by researching, writing, and presenting a member nation's viewpoint on a given topic. The goal is to use diplomacy skills and parliamentary procedure to find solutions to global issues. NIRA has won numerous honors at state and regional conferences.

"I've been able to use the knowledge I gained from my political science courses at the Model U.N. conferences we compete in—negotiating with other delegates regarding domestic and international issues," Cutter said. "Model U.N. is a great outlet for political science majors to put their knowledge into practice and network with other students around the United States at the same time."

"Being part of Model U.N. incorporates academic skills, such as research, public speaking, and interpersonal

relations, that are applicable to all fields," said Andrew Jones, a senior with a double major in political science and legal studies who plans to attend graduate school.


"You are asked to step out of your American shoes and step into those of another country. You have to research an issue and be able to express it eloquently and diplomatically." This experience benefits political science students because "it gives students the chance to learn something new about the world we live in and to practice speech and debate skills. It also brings you together with people of similar interests," Jones said.

In addition to participating in NIRA, political science majors are encouraged to gain practical, hands-on experience in the field.

(Continued on next page)

"I was an intern at a state senator's office, and I saw how legislation was created and established. I also saw how that legislation was applied [at the judicial level] during an internship with the New Jersey Superior Court," said Obringer, who plans to attend graduate school and possibly pursue a career as a college professor with a focus on global politics and international relations.

Political science major and honors student Nadim Visram plans to attend law school and pursue a career as a lobbyist for green energy. In political science, "it's important to study the dynamics, and more importantly, get involved in some role play to get a feel for our [political and economic] struggles," said Visram, who is also a member of the Model U.N. team and in NSU's Dual Admission Program for law.

"Political science majors are drawn from students who want to make the world a better place and better understand the complexity of the world around them," Bass said. "Ideally, the major attracts students who are open to big ideas and debates between various philosophies. So much of the field revolves around tackling big questions concerning the common good." 



MARCO BAEZ (LEFT) AND ANDREW JONES TOOK HOME HONORS AT THE NINTH ANNUAL FLORIDA MODEL UNITED NATIONS (FMUN) CONFERENCE IN GAINESVILLE, FLORIDA.

(TOP): LINNEA CUTTER AND REHAN SHERALI WON TOP INDIVIDUAL AWARDS AT THE 2014 SOUTHERN REGIONAL MODEL UNITED NATIONS CONFERENCE IN CHARLOTTE, NORTH CAROLINA.

(BOTTOM): VANESSA DUBOULAY (LEFT) WAS NAMED ONE OF THE TOP THREE "OUTSTANDING DELEGATIONS" (ALONG WITH BAEZ) AT THE FMUN CONFERENCE IN OCTOBER 2014. DUBOULAY IS SEEN HERE WITH MEI POU HO, A 2014 GRADUATE AND FORMER MODEL U.N. TEAM MEMBER.

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October 10–19, 2014

By Christopher Durang

Betty is looking forward to her summer share at the ocean but instead finds death, destruction, and mayhem in her seaside retreat.

Novapool: Making Connections

Friday, November 21, 2014

This unique production features dance students performing on stage at NSU and simultaneously across the pond at Liverpool John Moores University in England.

Freckleface Strawberry The Musical

November 21–23, 2014

By Gary Kupper and Rose Caiola, this family musical is based on the bestselling book written by actress Julianne Moore. It features soaring music, and awesome dancing, and is full of laughs.



PEACE: A Holiday Concert

December 5–6, 2014

Join the NSU community for an evening of holiday favorites and music from the around the world performed by NSU's ensembles.

Improv Jam!

Friday, January 16, 2015

This fan favorite returns with an evening of sketch comedy, improvisational theater, and pop music.

Dance Works

January 30–31, 2015

The NSU Dance Ensemble members perform new works by faculty members and guest choreographers.



A Piece of My Heart

February 13–22, 2015

By Shirley Lauro

This powerful true drama is the story of six women—five nurses and a country-western singer—who go to Vietnam to entertain the troops.

Broadway Bash

Friday, April 10, 2015

Spotlighting the best of Broadway, this bash includes musical showstoppers and ballads from several award-winning shows.

Spring Music Concert

Saturday, April 18, 2015

Join the Bossa Nova Chorale for a concert filled with springtime spirit featuring selections that range from gospel tunes and spirituals to ancient chants and lush choral music.



Festival of Student Works

April 24–26, 2015

A selection of theater, dance, and music works directed, choreographed, and performed by NSU students.

THE FACULTY SERIES



Faculty Recitals

Tuesday, September 16, 2014

Tuesday, January 27, 2015

Wednesday, March 18, 2015

These performances feature a wide repertoire from the college's music faculty members.

THE EXHIBITION SERIES

Seventh Annual Faculty Exhibition

September 30–November 25, 2014

This gallery show features faculty members' works in various media—including painting, printmaking, book art, and sculpture.

Seventh Annual Juried Student Exhibition

February 17–April 14, 2015

Art and design students compete for top honors exhibiting works in various media.

2014–2015/DISTINGUISHED SPEAKERS SERIES

EACH YEAR, the Farquhar College of Arts and Sciences brings to campus a series of prominent leaders in their fields through the Distinguished Speakers Series. These events are free and open to the public. Tickets are often required for admission.

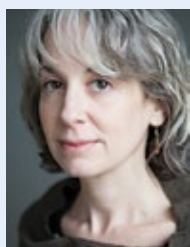
For the latest details and profiles of each speaker, visit www.fcas.nova.edu and click on Arts, Culture, News.



James McBride, Author, Musician

Friday, August 22, 2014

Best-selling author and musician James McBride served as keynote speaker at NSU's 2014 Convocation ceremony. McBride is the author of the college's 2014 First-Year Reading Program selection, *The Color of Water: A Black Man's Tribute to His White Mother*, among other books, and the cowriter of the film *Red Hook Summer* with Spike Lee. An award-winning composer and saxophonist, McBride explores issues of identity, race, and heritage in his work.



Jessica Wapner, Science and Medicine Writer

Thursday, November 6, 2014

Jessica Wapner is a freelance writer focused on health care and medicine. Helping to unravel the complex world of health care, her work has been published in *The New York Times*, *Scientific American*, and *Psychology Today*, among other publications. She also maintains a blog on the ethics and economics of the pharmaceutical industry, hosted by the Public Library of Science network.



Daniel Levitin, Ph.D., Neuroscientist, Musician

Wednesday, February 11, 2015

At McGill University, Daniel Levitin is the James McGill Professor of Psychology and Neuroscience and director of the Laboratory for Music Cognition, Perception, and Expertise. His work explores how the brain works, and in particular, the brains of highly successful people and accomplished musicians. He has written more than 400 scientific and popular articles on music and neuroscience. As a musician, he is the recipient of 14 gold and platinum records.