SCHOLARSHIP & INNOVATION

AN INQUIRY
2018-2019

Report Prepared by:

IMSA SCHOLARSHIP & INNOVATION
COMMITTEE

AUGUST 2019

A LEARNING LABORATORY
Illinois Mathematics and Science Academy

"As we look forward to our fast-changing future, where the speed of change will never be slower than it has been in the past, IMSA continues to iterate to develop self-motivated, problem solvers, who write clearly and persuasively. Not being content with our past success, our charge is to move forward in testing hypotheses, gathering evidence, deriving conclusions, and repeating this cycle again and again, which is the definition of the scientific method. This method, in essence, is the spirit and practice of inquiry, innovation, and discovery. We continue to lean into being a learning laboratory because our changing world demands it and our students deserve no less."

Jose M. Torres, PhD, President (2014-Present),
Illinois Mathematics and Science Academy (IMSA).

The 'IMSA Idea' or 'IMSA Way' means:

- A collaborative partnership between diverse stakeholders — education, science, research, technology, innovation, business, and government.
- Serving as a catalyst and laboratory to stimulate excellence in STEM teaching and learning.
- Multi-dimensional admission criteria for identifying STEM talent and potential beyond a standardized test score.
- An innovative, advanced and "uniquely challenging" curriculum designed by IMSA faculty that integrates the habits of mind of science and mathematics with those of the arts and humanities. Advanced placement (AP) would not be the content or driver of the curriculum.
- Personalizing learning opportunities both on and off campus for independent study, research and mentorships.
- Formal interaction with some of the great minds of our time.

- Developing deep disciplinary and interdisciplinary expertise and integrative ways of knowing and experiencing the interdisciplinary nature of science by solving complex multidisciplinary problems.
- Learning experiences designed using current research on the learning sciences and how we learn.
- Commitment to treat each students as if they are capable of significantly influencing life on the planet.
- Embodies the following programmatic commitments:
  - Distributed expertise with students and teachers serving as co-learners and collaborators;
  - Fostering integrative habits of mind;
  - Designing competency-driven, inquiry-based, problem-centered, and integrative curriculum;
  - Experiential and technology embedded instruction;
  - Student-driven inquiry and research;
  - Flexible time structures to align with and support curricular and instructional goals and the commitment to share our learning, practices, processes, materials and models with educators and schools in Illinois and beyond.

SCHOLARSHIP AND INNOVATION COMMITTEE

The IMSA Scholarship and Innovation Committee was established in August, 2019 by Dr. José Torres based on report recommendations from Research Fellow, Dr. Page as a way to deepen a culture of scholarship, research and innovation across the IMSA community. The purpose of the committee is to create and communicate a shared vision, meaning and support for scholarship and innovation at IMSA, continuing its long tradition as a leading learning laboratory.

Committee membership for 2018-2019 included representatives from across the academy: Dr. José Torres (President & Co-chair), Dr. Kelly Page (Center for Innovation & Inquiry, Co-chair), Dr. Amber Stitziel Pareja and Jean Bigger (Principals Office), Richard Palmer and Benjamin Lepak (Student Affairs and Residential Life), Dr. Nadia Miskowiec (Faculty), Dr. Richard Schultz and Lindsey Herlehy (Center for Teaching & Learning).

COMMITTEE OBJECTIVES

- To create, communicate and support a shared vision and meaning for scholarship and innovation at IMSA as a learning laboratory.
- To foster a culture of 'doing' and 'sharing' about scholarship and innovation.
- To identify key multi-year priorities to invest resources that further scholarship, innovation, and professional development at IMSA.
- To establish formal relationships with key external partners such as with universities, foundations, research centers, innovation hubs to support scholarship and innovation.
- To forge connections across the IMSA community and partners that advance teaching and learning.

HOW DO WE CONSIDER, PRACTICE & SUPPORT SCHOLARSHIP & INNOVATION?

A Community Inquiry.

During 2018-2019, the committee identified three ways to explore with faculty and staff how we consider, practice and support scholarship and innovation at IMSA.

1: Secondary Research
A review of existing literature, secondary source material, video and audio content.

2: Interviews and Group Discussion
Interviews and a group discussion were conducted with faculty and staff.

3: Public Consultation and Exhibit
Two public research events were conducted over the course of a week. Individuals were encouraged to share their comments on a public board which posed the questions, "What is Scholarship?", "What is Innovation?" and "How can we support your work in these areas?". A lunch was also held where participants discussed the previous questions in addition to more detailed inquiries such as, "What are you currently doing?", "What would you like to do?", "How would you like to be recognized for your work?", "How are you currently supported?" and "What are the obstacles?"

WHAT IS SCHOLARSHIP & INNOVATION AT IMSA?
Community Insights.

A personal and intellectual journey of knowledge and growth, generating, experiencing and sharing new knowledge.

- **New, groundbreaking ideas.** Scholarship and innovation is creating new knowledge, coming up with cutting edge ideas, and breaking the boundaries of what is expected. It is forward thinking.
- **Original accomplishments.** Participants shared about scholarship and innovation as a "*forward thinking achievement that you work towards*" and research that is *"used and comes alive."*

Hannah Anderson, Doctoral Candidate and Institutional Research Associate.

- **A personal journey of growth.** It is the "pursuit of knowledge", the act of "generating your own understanding" , "generating new knowledge" and "always learning something new".
- **Scholarship was shared as generating and experiential knowledge.** One type is focused on *generating new knowledge* which is shared through mediums such as articles, books, scholarly conferences etc. The second is *experiential* as shared through professional development work, teaching conferences, and active participation with teaching and learning organizations.
- **Innovation was shared as creative and inquiry-driven shifting of norms, processes and paradigms** such as *"technological advances"*, *"questioning what is established"*, *"doing something that breaks all molds and shatters previous ways and paradigms"* and *"creative problem solving."*
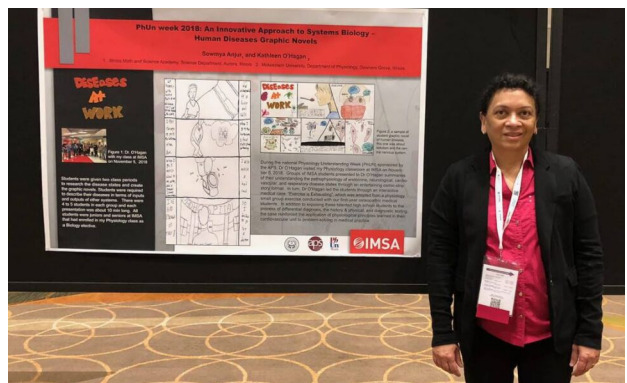
WHAT ARE EXAMPLES OF SCHOLARSHIP & INNOVATION AT IMSA?

Community Insights.

IMSA has been participating in scholarly and innovative activity for over 30 years, with scholarship and innovation occurring everywhere across the academy.

- **Presentations and publications.** Participants talked about faculty and staff presenting their work at conferences, publishing research articles and books.

- **Innovative work is occurring across the academy.** Participants mentioned examples such as our integration of the UN Sustainable Development Goals (SDG's) in our culture and activities, the Year of Inquiry on Student Well-being, trial and adoption of the LiveSafe App, development of Residence Life programming, the Bio-pilot research, and collaborations between people and departments across the academy.

- **Continuous improvement around the academy.** Participants talked about IMSA employees going through a daily, ongoing process of trying to make things better and more efficient.

- **Everywhere across the academy.** A few participants indicated that scholarship and innovation is happening "everywhere."

Top: Mr. Matthew McCutcheon, Mathematics Faculty
Bottom: Dr. Anjur Sowmya, Science Faculty.

WHAT ARE MODELS OF SCHOLARSHIP & INNOVATION WE COULD LEARN FROM?

Community Insights.

We need to consider scholarship and innovation in inclusive and expansive ways that reflect the realities of what it means to be a scholar and/or innovator at IMSA.

- **Learning about scholarship.** We turn to the work of Boyer (1990) who poses some interesting emerging issues for an academy such as IMSA in their consideration of scholarship and scholarly activity and the identification of four types of scholarship. This was expanded to five types by McNabb and Pawlyshyn (2014): *The scholarship of discovery, integration, application and engagement, teaching and learning and digital scholarship.* (Table 1).
- Boyer ultimately posits that:
  - There is a need for a more inclusive view of what it means to be a scholar, recognizing that knowledge is acquired through research, through synthesis, through practice and through teaching.
  - Faculty reward systems do not often match the full range of academic functions, competing obligations, and to reflect new realities of scholarship.

- **Learning about innovation.** is the multi-stage process of turning ideas into impact through implementation.
- To identify if something is an innovation, and what type of innovation it is we use a number of dimensions or criteria to recognize it as an innovation as opposed to an invention or idea. These include: Degree of Novelty, Type of Innovation, Degree of Impact, Speed of Impact (Table 2).
- A number of frameworks have been developed to frame different types of innovation. These approaches for categorizing innovation consider the sources of innovation, attempt to identify where to look for new innovation and help to in the measurement of innovation, allowing for performance comparison and evidence (Table 3).

Table 1. An Updated Boyer's Model of Scholarship

Type of Scholarship	Example of Application
The scholarship of discovery includes original research that advances knowledge (i.e., basic research).	• Internally or externally funded research projects • Research projects • Working papers • Peer-reviewed journal articles • Book chapters and /or books • Creative activity: Compositions, presentations, performances, exhibits and projects.
The scholarship of integration involves synthesis of information across disciplines, across topics within a discipline, or across time (i.e., interprofessional education, or science communication).	• Professional development workshops • Literature reviews • Presentations of research at conferences • Non-academic publications that address discipline-related concerns • Meta-analysis (contrasting or combining results from different studies)
The scholarship of application and engagement goes beyond the service duties of a faculty member to those within or outside the University and involves the rigor and application of disciplinary expertise with results that can be shared with and/or evaluated by peers (i.e., Cooperative State Research, Education, and Extension Service, or science diplomacy.	• Consulting activities in field or industry that directly relate to the intellectual work of the faculty member • Support or development of community activities in the field or industry that link with academic discipline • Formal development and /or oversight of practice/partnerships on behalf of the University that connect students with the field/industry • The application of theory in the field to real world problems. • Development of centers for study or service • Media contributions (newspaper, magazine, etc.)
The scholarship of teaching and learning is the systematic study of teaching and learning processes. It differs from scholarly teaching in that it requires a format that will allow public sharing and the opportunity for application and evaluation by others.	• Development of new or substantially revised courses, curricula • Innovative teaching materials/strategies • Educational research projects resulting in findings disseminated at professional conferences and/or in peer-reviewed publications • Projects funded by external or internal grants to support instructional activities • Production of videos for instruction • Technical, procedural or practical innovations made clinically or professionally • Publication of textbooks or teaching materials.
Digital scholarship is the use of digital evidence, methods of inquiry, research, publication and preservation to achieve scholarly and research goals. An open model for scholarly communication.	• Blogs / commentaries as communication in virtual spaces • Open Education Resources • Data visualization and manipulation • Metadata generation • Digital publishing

Joseph McNabb, PhD and Nancy Pawlyshyn, PhD (2014). Defining Scholarship: Boyer's 4 Models and The new digital scholarship: A Faculty Conversation. Faculty Fellows in Higher Education Administration March 13, 2014 Faculty Professional Development Day. Northeastern University.

To identify if something is an innovation, and what type of innovation it is we use a number of dimensions or criteria to recognize it as an innovation as opposed to an invention or idea.

Table 2. Dimensions of an Innovation

Dimension	Description
Degree of Novelty	Whether an innovation is new to the firm, new to the market, new to the industry, or new to the world.
Type of Innovation	Whether it is a social innovation, process, digital and/or technology, product innovation, organizational or business, creative or design innovation.
Degree of Impact	Whether there has been a shift or change in the norms of behavior, thinking or application.
Speed of Impact	Whether the entity brings incremental or radical change when implemented. Incremental innovation is an improvement in an existing thing (e.g. product, process or service). Radical innovation is finding an entirely new way of doing something.

Baregheh, A., Rowley, J., & Sambrook, S. (2009). Towards a multidisciplinary definition of innovation. Management Decision, 47, 1323-1339. (p.1334); Drucker, P. F. (2002). The Discipline of Innovation, Harvard Business Review; Subramanian, A. and S.Nilakanta (1996). Organizational innovativeness: Exploring the relationship between organizational determinants of innovation, types of innovations, and measures of organizational performance. Omega. 24 (6). pp.631-647.

A number of frameworks have been developed to frame different types of innovation. These approaches for categorizing innovation consider the sources of innovation, attempt to identify where to look for new innovation and help to in the measurement of innovation, allowing for performance comparison and evidence.

Table 3. Types of Innovations

Social Innovation	The implementation of new social initiatives, norms and practices that aim to meet and advance social needs and strengthen civil society.[10]
Digital & IT Innovation	The implementation of new digital tools, information technologies and/or computing languages or existing ones in new and different ways.[11]
Organizational & Business Innovation	The implementation of a new organisational methods in the undertaking of business practices, workplace organisation, partnerships or external relations.[12]
Product Innovation	The development and launch of new products (goods and/or services, tangible and/or intangible), changes in design of established products, or use of new materials or components in the manufacture of established products ~ so a product that is either new, or an improved version of previous goods or services.[13]
Process Innovation	The implementation of a new or significantly improved production or delivery methods, including significant changes in techniques, equipment and/or software.[14]
Creative & Design Innovation	The implementation of new creative and critical design processes that integrate and draw from across multiple and diverse disciplines and ways of thinking to innovate ~ to define, imagine, and advance a globally just future.[15]

Subramanian, A. and S.Nilakanta (1996). Organizational innovativeness: Exploring the relationship between organizational determinants of innovation, types of innovations, and measures of organizational performance. Omega. 24 (6). pp.631-647; Howaldt, J. and Schwarz, M. (2010). Social Innovation: Concepts, research fields and international trends. IMO international monitoring; Damanpour, F. (2017). Organizational Innovation: A Meta-Analysis Of Effects Of Determinants and Moderators. Academy of Management Journal. 34 (3); RG Fichman, BL Dos Santos, and ZE Zheng (2014). Digital innovation as a fundamental and powerful concept in the information systems curriculum. MIS quarterly, 38 (2). 329-353; Ettlie, J. E. and Reza, E. M. (1992). Organizational Integration and Process Innovation. Academy of Management Journal, 35 (4). [1] Walsh, V. (1996). Design, innovation and the boundaries of the firm. 25 (4), pp. 509-529.

HOW DO WE SHARE OUR SCHOLARSHIP & INNOVATION AT IMSA?

Community Insights.

IMSA has many forums, exhibits and activities for for youth, staff and faculty to share their scholarship and innovation across the IMSA community.

Activity	Location	Description	Timing	Responsible
YOUTH & ADULT				
Innovation Showcase	IN2	An annual showcase and demonstrations of scholarly activity and innovations from across the IMSA community.	2nd Semester	Scholarship & Innovation Committee & IN2
ArtExpo	Library	Creative and artistic STEAM exhibits, demonstrations, projects, and collaborations by faculty, staff, students, and alumni.	Intersession	IRC
Library Gallery	Above Old Cafe	Regularly plans and hosts exhibits that recognize and stimulate creativity and innovation within the community.	Ongoing	IRC
IMSA Walk/Tour	Across Campus	Exhibits and display cases across campus displaying IMSA works	Ongoing	Various
Digital Commons	Web	Globally accessible institutional repository and digital portfolio of open-access articles, conference proceedings, teacher resources, image and audio files, as well as provides references to books and other creative works not fully accessible online.	Ongoing	IRC
YOUTH				
IMSAloquium	Across Campus	An annual public event during which student inquiry and research (SIR) and internship projects are showcased.	2nd Semester	Principles Officer, SIR & IN2
Student Leadership Exchange (SLX)	Across Campus	An annual event that provides students with an opportunity to present their leadership projects and research.	2nd Semester	Student Affairs & LEAD

IMSA DIGITALCOMMONS

Strengthening Our Identity as a Learning Laboratory

DigitalCommons is IMSA's institutional repository and digital portfolio. The goal of the online repository is to share the intellectual output of IMSA and to increase visibility and impact through worldwide access.

IMSA Digital Commons - International Reach

KEY USE INDICATORS

- **5,278 Items** – includes white papers, final grant reports, and original film/video and music compositions
- **421,579 Full-text downloads** – bepress identifies and filters activity from robot sources. IMSA's downloads fall primarily into these categories: Education, Government, Commercial, Organization, and Library.
- **11,830 Institutions** – our highest number of downloads come from: the US Dept of Education, the Dept of Education in Georgia, Kentucky, Indiana, North Carolina, West Virginia, Maine, Orange County, Alabama Supercomputer Network, University of Illinois, Northwestern University, and Harvard.
- **210 Countries** – our highest number of downloads are in the US, France, Canada, United Kingdom, China, Philippines, India, Germany, Australia, Russian Federation, Iceland, and the Netherlands.

INTERESTING FACTS

- IMSA has never had a copyright or fair use challenge.
- 100% of academic teams are sharing their scholarship.
- Most teams are also sharing teaching units, select lesson plans, courses, distinguished student work, examples of student work.
- Top faculty/staff contributors: Sowmya Anjur, Adrienne Coleman, Lee Eysturlid, Adam Kotlarczyk, Mary Myers, Sarah O'leary-Driscoll, Liz Martinez, and Jose Torres
- Highest number of downloads for a faculty/staff submission: 30,644: Creating a "Mock Essay" to Teach MLA Format by Erin Micklo
- Highest number of downloads for a faculty/staff scholarship submission: 3,126: Assessing Differences in Students' Experiences in Traditional versus Scientific Teaching-Based Biology Course, authored by Sarah O'leary-Driscoll and Sue Styers and published by the NCSSSMST Journal, Spring 2010
- Most recent contribution: Using Forensics to Introduce IR Spectroscopy & Molecular Modeling, presented in July at ChemEd 2019 by Joe Golab
- Most recent success story: Hostos Community College (part of CUNY) recently discovered Lindsey Herlehy's STEM activities in DigitalCommons and has asked IMSA for permission to publish them in an OER textbook.

IMSA INNOVATION SHOWCASE 2019
Turning Ideas into Impact

On April 29, 2019 the first IMSA Innovation Showcase was hosted in the Steve and Jamie Chen Center for Innovation & Inquiry. The event was a public showcase and demo of innovations, scholarly and entrepreneurial activity developed and shared by youth, faculty and staff from across the IMSA community.

IMSA Innovation Showcase Keynote and Q&A with Betsy Ziegler, CEO of 1871 and IMSA TALENT CEO, Aliah Shaira De Guzman ('19)

Over 25 works were showcased to over 130 attendees, and a keynote address and Q&A with the CEO of 1871, Betsy Ziegler.

Table 5. IMSA Faculty, Staff and Alumni Projects Showcased

TITLE	WHO	TYPE	UN SDGs
IMSA Faculty, Staff and Alumni			
D-STEM Equity Model: Diversifying the STEM Education to Career Pathway	Adrienne Coleman	Research	GOAL 4, GOAL 10
Gastronomy	LaDonna Hawthorne	Program or Curriculum	GOAL 3, GOAL 4
Block Bins	Dane Christianson	Business	GOAL 11, GOAL 12
The Nine and advance reader copy of The Fall from the Thieves of Fate series.	Tracy Townsend	Creative work	GOAL 4
Microcontrollers	Mark Carlson and Phadmakar Patankar	Program or Curriculum	GOAL 4, GOAL 8, GOAL 9
French 4/5 projects	Nadia Miskowiec	Program or Curriculum	GOAL 6
Innovators Developing Accessible Tools for Astronomy (IDATA)	Matthew McCutcheon	Project	GOAL 9, GOAL 10
Factors that influence parental choice regarding STEM enrichment for 3rd-8th grade students	Christine Moskalik	Working Proposal	GOAL 4

Table 4. IMSA Youth Projects Showcased

TITLE	WHO	TYPE	UN SDGs
IMSA Youth Projects			
OneInMath	Prarthana	Social Initiative	GOAL 4, GOAL 10.
阴和阳: Balance and Harmony in the Cosmos	Lola Alao	Creative work	GOAL 3, GOAL 9, GOAL 16.
Gwendolyn Brooks	Samantha Lazcano	Project	GOAL 4
SchoolBoard	Samuel Anozie & Joy Taylor	Product and/or Technology	GOAL 4
Dialekt	Sophia Pribus	Social Initiative	GOAL 4, GOAL 8, GOAL 10
Titan Robotics FRC	Titan 2022 Team	Product and/or Technology	GOAL 4
The Oil Magnet	Eden Gorevoy, Marisa Patel-O'Connor, Sol Hwangbo	Product and/or Technology	GOAL 14
TYPE	Matt Niemiro	Creative work	GOAL 4
eleMENT	Madison Mazzorana, Hunter Welch, Shruti Shakthivel, Nikita Elkin, Eden Gorevoy, Suraj Sunkara, Max Knutson, Alec Chen	Program or Curriculum	GOAL 4
Iota Piscium	Madhumitha Manivannan	Product and/or Technology	GOAL 9, GOAL 17
Jugaad Journey Foundation	Ethan Talreja	Social Initiative	GOAL 1, GOAL 8, GOAL 9, GOAL 11, GOAL 17.
Fision	Eva Tuecke, Krisha Patel, Emily Shao, Xiaofan Li	Business	GOAL 3, GOAL 9, GOAL 11
TEDxYouth@IMSA	Krisha Patel	Event	GOAL 4, GOAL 10, GOAL 17
Triton Tech	Ahana Narayanan, Manasvi Thumu, Shivani Venkatraman	Project	GOAL 6
SocEnt	Jodie Meng and Doreen Xiao	Program or Curriculum	GOAL 4, GOAL 8, GOAL 9
3D Vase Series	Levi Raskin	Creative work	GOAL 9
Aristotle 3D Printer	Luca Ciampaglia and Levi Raskin	Product and/or Technology	GOAL 4, GOAL 8, GOAL 9

HOW DO WE CELEBRATE SCHOLARSHIP & INNOVATION AT IMSA?

Community Insights.

IMSA has a number of awards used to honor and celebrate scholarship and innovations at IMSA, and their creators.

- **Leon Lederman Award** - The formal annual recognition of faculty and staff scholarship.
- **Scott Swanson Fund for Transformative Student Learning and Innovation -** This fund supports the purchase, creation and use of leading-edge and emerging technologies for transformative student learning and innovation at IMSA.

THE LEON LEDERMAN SCHOLARSHIP AWARD RECEIPIENTS

- Angela Ahrendt, Ph.D.
- Sowmya Anjur, Ph.D.
- Lawrence "Bud" Bergie
- Jeong Choe-Hwang, Ph.D.
- Adrienne Coleman, Ph.D.
- Michael Dean
- Dave DeVol, Ph.D.
- Peter Dong, Ph.D.
- Lee Eysturlid, Ph.D.
- Jim Gerry
- Dan Gleason, Ph.D.
- Carl Heine, Ph.D.

- Diane Hinterlong
- John Kane
- Sanza Kazadi, Ph.D.
- Leah Kind, Ph.D.
- Adam Kotlarczyk, Ph.D.
- Kitty Lam, Ph.D.
- Branson Lawrence
- Vince Matsko
- Britta McKenna
- Barb Miller, Ph.D.
- Sarah O'Leary-Driscoll
- Noah Prince, Ph.D.

- Purva Rushi, Ph.D.
- Judy Scheppler, Ph.D.
- Megan Schrementi, Ph.D.
- Eric Smith, Ph.D.
- John Stark
- Laurie Sutherland
- José Torres, Ph.D.
- Tracy Townsend
- April Verser
- Yinshun Wang

HOW CAN WE SUPPORT AND ENCOURAGE SCHOLARSHIP & INNOVATION AT IMSA?

Community Insights.

We need to be intentional as to how we support, create time and space for scholarship and innovation.

- **Opportunities, space support, and mentorship.** Participants shared having financial support, space, opportunities, and mentorship to do something unique and different: *"It is a cutting edge idea that is supported academically and financially."*

- **Intentional dissemination at and outside IMSA.** Participants shared that there needs to be more intentional communication about the scholarship and innovation that is happening at IMSA: *"Sharing it will make more people want to do it more", "... having more examples of Scholarship and Innovation will enable faculty and staff to get a better understanding of it."* We are *"not always great about tooting our own horn with what we're doing – it's happening, but we aren't good about communicating it."*

- **Opportunities to present/share.** Participants came up with ways to present and share scholarship and innovation at IMSA, including: *Community day or campus coffee, an innovation day or showcase, Monthly scholarship and innovation series.*

- **Creation of time and space in the work day.** Participants shared that there needs to be structures in place to encourage staff members to engage in cutting edge work and to share it with others: *"We have busy day jobs, so we need to create the space for it."*

- **Standards of sharing.** Participants shared a need for an expectation or standard for sharing, that everyone participates in the sharing of the work they are doing (e.g., Digital Commons, IMSA Website).

HOW CAN WE CREATE SPACE TO FOSTER SCHOLARSHIP & INNOVATION AT IMSA?

Community Insights.

To create space requires aide in the areas of training, time, recognition and resources.

- **Protect professional work time.** Participants shared that protecting time during work hours was the most frequently requested commodity to support and advance scholarship and innovation at IMSA.

- **Provide more and different incentive-based rewards.** Participants shared ideas such as incentive-based recognition and rewards to foster it. Participants also shared no monetary incentive would be sufficient to entice them to do scholarly research work either because it simply did not eliminate other barriers or because it was not or should not be a priority at a high school.

- **Make involvement optional.** Participants requested that involvement in these areas and activities be optional and non-mandatory.

- **Ensure transparency, equity and inclusivity.** Participants shared that they wanted less "*administrative gate-keeping and roadblocks*". A number of staff asked for a more transparent approval processes when requesting time off and funds for the express purpose of attending conferences. They also voiced a concern that the current process feels like favoritism and lacks transparency, equity and inclusivity.

- **Improved expense reimbursement.** Participants also mentioned that quicker, more transparent and more consistent process in obtaining reimbursement for their scholarship and innovation activities would help them in participating at more conferences, workshops and sharing their work with others both inside and outside IMSA.

IMSA SCHOLARSHIP & INNOVATION - AN INQUIRY
Summary Insights 2018-2019

- *Scholarship and innovation is a personal and an intellectual journey of knowledge and growth, generating, experiencing and sharing new knowledge.*
- *Scholarship and innovation is happening everywhere across the academy.*
- *We need to define scholarship and innovation in inclusive and expansive ways that reflect the realities of what it means to be a scholar and/or an innovator.*
- *We need to be intentional as to how we support, create time and space for it.*
- *To create space requires aide in training, time, recognition and resources.*

The academy vision is that *"By 2022, IMSA is a Recognized Global Leader and Catalyst in Equity and Excellence in STEM Teaching and Learning, Innovation and Entrepreneurship."*

To achieve the vision and priority outcomes (Figure 1.) the IMSA community is participating in a multiplicity of scholarly and innovative activity, from a variety of sources, across disciplines and for different purposes. The IMSA Scholarship & Innovation committee will continue to support the community in the development, conduct and sharing of their scholarly and innovation activity.

Figure 1. Pillars & Priority Outcomes
'Be the Change'

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