May 15th, 2023

Innovation:

1:30pm - 1:55pm: Coffee, Pastries and Networking

2:00pm – 2:05pm: ReDI Innovation Introduction, Bogdan Vernescu, Vice Provost for Research

2:05pm – 3:00pm: Panel 1 - WPI Emerging and Earliest Startups: Jeremy Hitchcock, Trustee Moderator

- ➢ Joseph Yu – Using Immune Footprints for diagnostics
- ➢ Maanav Iyengar – Phase Maze
- ➢ Adam Powell – Excava
- ➢ Amelia Thomas – River Otter Renewables

3:00pm - 3:55pm: Panel 2 - WPI Existing Startups & More Established Companies: Henry Fitzgerald, Trustee Moderator

- ➢ Laxmi Wordham – Bright Feeds
- ➢ Daniel Pelaez – Cyvl
- ➢ Charlie Maddox – Enzymatic
- ➢ Joanne Luca – Life Instruments

4:00pm – 4:55pm: NAI Highlights / Overview and Award Winners

4:55pm – 5:00pm: Wrap-up, Bogdan Vernescu

5:00pm – 6:30pm: Poster and Cocktail Reception

WPI Research Poster and Cocktail Reception - May 15th, 5:00-6:30pm:

Author(s)	Poster / Research Topic Title
Sergey Makaroff (WPI), William Wartman (WPI), Zhi-De Deng (NIH), Aapo Nummenmaa (MGH)	*Charge-Based Brain Modeling Engine at Mesoscale and Multiscale*
Kevin Keating, Emma Tobin, Zekun Li, Joseph Collins, Nilesh Sharma; Eric Young	*Modular Part Sets for Metabolic Engineering of Nonconventional Yeast and Bacteria*
Elizabeth Crowley, Nicole Hermance, and Amity Manning	*Mitotic mechanisms to maintain genomic stability*
Yu Zhong, Songge Yang	*The effect of A-site doping elements and concentrations on the diffusivity and ionic conductivity of La2NiO4+δ studied by ab initio calculations*
Ben Nephew; Wesley Lo; Dmitry Korkin; Senbao Lu; Angela Rodriguez; Richard Lopez	*Machine Learning-Based Prediction of Mental Health Outcomes in High School Students*
Kellie Bushe, Brenton Faber PhD, NRP, Danielle Heims-Waldron, Liza Hote, James Ledwith, MD, Sahil Nawab, David Runyan, Sassicaia Schick MPH, Omar Taweh	*A Lower Threshold for Cardiovascular Disease Testing at a Free Medical Service*
Sara Saberi	*Harnessing Blockchain to Achieve Sustainable Supply Chain Management*
Joseph Adegite (WPI MME), Mert Vural (WPI MME), Ritwik Pandey (WPI RBE), Rao Pratap (WPI MME)	*Screen Printed Stretchable Electronics and Sensors*
Andrew Trapp, Yunus Telliel, Jen Pazour (RPI), Sarah Stanlick, Weixiao Huang, Darren Cole	*SWAP: A New Platform for Optimizing and Catalyzing Resource Sharing and Collaboration in Nonprofit Ecosystems*
Cagdas Onal, Zhi Li, Pratap Rao, Winston Soboyejo, Yunus Telliel, Jing Xiao	*Future of Robots in the Workplace (FORW-RD) NRT Program*
Cagdas Onal, Berk Calli, Yunus Telliel, Paul Mathisen, Sarah Strauss, Carrick Eggleston, Matt Urban (City of Worcester)	*Rapidly Deployable Robotic Inspection and Mapping of Complex Spaces*
Vadim Strizhov, Navid Ziaei, and Ali Yousefi	*Computer science for brain interfaces*
Ceren Yilmaz Akkaya (Postdoctoral Researcher, MME), Koby Farrington (PhD Student, ME), Julia Vekiarides (Freshman Undergraduate Student, ME), Pratap M. Rao (Assoc. Prof., MME)	*Towards a Sustainable, Affordable, and Accessible Clean Water Future: Photocatalytic Removal of Heavy Metals from Water*

May 16th, 2023

Research and Discovery:

8:00am - 8:15am: Coffee, Pastries and Networking

8:15am - 8:25am: Opening Remarks, Grace Wang, President

8:30am - 8:45am: Welcome, Bogdan Vernescu, Vice Provost for Research

8:45am - 8:55am: Overview, Wole Soboyejo, Provost

8:55am - 9:10am: Research Presentation, Dmitry Korkin, Harold L. Jurist '61 and Heather E. Jurist Dean's Professor, and 2022 Trustees' Awardee for Outstanding Research and Creative Scholarship

9:10am - 10:50am: Lightning Talks

➢ 9:10 - 9:20 Kenny Ching *"Competitive Familiarity: Learning to Coordinate by Competing"*

➢ 9:20 - 9:30 Inna Nechipurenko *"Regulation of heterotrimeric G proteins during neuronal development"*

➢ 9:30 - 9:40 Yihao Zheng *"Transdisciplinary Medical and Manufacturing Innovation"*

➢ 9:40 - 9:50 Ali Yousefi *"Analytical Tools to Study Preconscious Brain Signals"*

➢ 9:50-10:00 Sarah Strauss *"A Day in the (Research) Life of DIGS"*

➢ 10:00-10:10 Adam Sales *"The use of student log data from educational technology to evaluate and understand mathematics instruction"*

➢ 10:10-10:20 Rose Bohrer *"Transmodern Foundations of Computation"*

➢ 10:20-10:30 Jane Li *"Transparent and Intuitive Teleoperation Interfaces for the Future Nursing Robots and Workers"*

➢ 10:30-10:40 Seth Tuler *"Challenges of siting infrastructure for sustainability and climate resilience"*

➢ 10:40-10:50 Holger Droessler *"Where are the U.S. Territories? And Why?"*

10:50am – 11:00am: Break

11:00am - 11:52pm: Research Presentations (part 1)

➢ 11:00-11:13 Amity Manning *"CINfull divisions: epigenetic changes that drive tumor cell evolution"*

➢ 11:13-11:26 Ulkuhan Guler TBD

➢ 11:26-11:39 Richard Lopez *"What is my (virtual) self worth? Neural mechanisms of contingent self-worth and implications for enhancing health and wellbeing in daily life"*

➢ 11:39-11:52 Sandhya Balasubramanian *"Sustaining Women Presidencies in Higher Education"*

12:00pm - 12:30pm: Luncheon Break

12:30pm – 1:35pm: Research Presentations (part 2)

➢ 12:30-12:43 Mimi Sheller *"Global School Research Initiatives: The NOAA Climate Adaptation Program and new Opportunities to Build Global Regional Hubs for Student and Faculty Research"*

➢ 12:43-12:56 Loris Fichera *"Next-Generation Surgical Robots for Energy-based Surgery"*

➢ 12:56- 1:09 Eric Young *"Genetic design strategies for next-generation cell factories"*

➢ 1:09 - 1:22 Nikhil Karanjgaokar *"Development of Adaptive Metamaterials for Impact Mitigation"*

➢ 1:22 - 1:35 Carrick Eggleston *"Thermal, photocatalytic, and microbial electron transfer at the oxide- and sulfide-water interface: Earth-abundant reactive materials that create and maintain our living environment"*

1:35pm - 1:50pm: Research Presentation, Gregory Fischer, William Smith Dean's Professor, and 2021 Trustees' Awardee for Outstanding Research and Creative Scholarship

1:50pm - 2:00pm: Wrap-up, Bogdan Vernescu