

**2023 Undergraduate Summer Research and Innovation Symposium  
and  
National Academy of Inventors (NAI) – NJIT Innovation Day**

**Agenda**

**July 27, 2023, Ballroom A&B, Student Campus Center**

- 8.30 AM – 9.00 AM: Registration and Breakfast
- 9.00 AM - 9.10 AM: Introduction to the NAI-NJIT Workshop and Welcome Remarks  
Teik Lim, President  
Atam Dhawan, Interim Provost and Senior Executive Vice President
- 9.10 AM - 9.40 AM: Distinguished Keynote Presentation -1  
Robert Cohen, Chair, Board of Trustees and Inventor  
President, Stryker Digital, Robotics, and Enabling Technology
- 9.40 AM - 10.20 AM: Distinguished Keynote Presentation -2  
Dereje Agonafer, Presidential Distinguished Professor, UTA  
Member, National Academy of Engineering; Member, The  
Academy of Medicine, Engineering and Science of Texas  
Fellow: AAAS, ASME and NAI
- 10.20 AM - 10.30 AM: Break
- 10.30 AM - 11.30 AM: URI Summer Research Symposium Session -5  
Robotics and Machine Intelligence
- 11.30 AM - 1.00 PM: NAI-NJIT Chapter Launch and Induction Ceremony
- 11.30 AM – 11.45 AM: State of the NAI-NJIT Chapter  
Atam Dhawan, President, NAI-NJIT Chapter
- 11.45 AM – 12.15 PM: Distinguished Keynote Presentation -3  
Jamie Renee, Executive Director, NAI

	12.15 PM – 12.30 PM: NAI Chapter Induction Ceremony and Closing Remarks
	12.30 PM – 1.00 PM: Networking and Lunch
1.00 PM – 2.00 PM:	URI Summer Research Symposium Session -6 Environment and Sustainability
2.00 PM – 2.15 PM:	Coffee Break
2.15 PM – 3.00 PM:	URI Summer Research Symposium Session -7 Environment and Sustainability
3.00 PM – 3.15 PM:	Break
3.15 PM- 4.00 PM:	Dr. James Stevenson Innovation Awards

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### Biographical Sketch of Dr. James Stevenson

**Jim Stevenson, PhD:** Jim Stevenson was a Corporate Fellow at Honeywell International from 1996 until his retirement in March of 2011. His professional work at Honeywell focused on polymer and composite materials and applications for mechanical and electronic structures and enclosures in an aerospace environment. Nine patents and 17 publications followed from this work.

Following a postdoctoral year at Columbia University, Dr. Stevenson joined the Chemical Engineering Department at Cornell University where he earned tenure in 1977. He was a founding member of the Cornell Injection Molding Project, was highly rated for his teaching, and prepared 17 publications. He earned his M.S. and Ph.D. degrees in Chemical Engineering at the University of Wisconsin, Madison and a B.S.Ch.E. from Rensselaer Polytechnic Institute.

Prior to joining Honeywell, Dr. Stevenson was Director of Research at Trexel, a start-up company near Boston commercializing microcellular foam technology. He proposed injection molding as the preferred foaming process, a result that led to nine patents. For the previous 19 years Dr. Stevenson served in technical and management positions with GenCorp, Inc. in Akron, OH. One development of the Extrusion Laboratory, which he supervised, was curved extrusion technology. While at GenCorp, Dr. Stevenson received eight patents and published 23 articles, two book chapters, and a book *Innovation in Polymer Processing: Molding*.

After retirement from Honeywell, Dr. Stevenson founded a consulting company, Stevenson PolyTech LLC, which specializes in polymer material/ process development and industrial short courses with more than 45 presentations worldwide. During his retirement, Dr. Stevenson helped to organize and funded the TechQuest competition which, now in its seventh

year, awarded five innovation prizes and fellowships to NJIT undergraduates. He was also instrumental in setting up Innovation Day which celebrates the numerous technical awards won by NJIT undergraduates and hosts electronic presentations of their many innovative projects. Jim served as a member of the URI External Advisory Board and predecessor organizations since 2012. Jim and his wife Steffi also supported endowed undergraduate scholarships for NJIT students primarily from Irvington and Newark high schools. In 2017, Jim received the *Special Friend of the University* award for outstanding contributions by a non-alumnus. He also served on the Board of Directors of the Honeywell retirees association.

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### Biographical Sketches: Keynote Speakers

**Dereje Agonafer, PhD** is a Presidential Distinguished Professor in the Department of Mechanical and Aerospace Engineering. He heads two centers and is “Site Director of NSF IUCRC in Energy Efficient Systems” and Director of “Electronics, MEMS and Nanoelectronics Systems Packaging Center”, and is now building a new center called RAHIS (Reliability Assessment in Heterogenous Integrated Systems). After receiving his PhD at Howard University, he worked for 15 years at IBM and in 1991, at IBM, he was awarded the "IBM Outstanding Technical Achievement Award in Appreciation for Computer Aided Thermal Modeling.” Since joining UTA in 1999, he has graduated over 250 graduate students (a record for the University) including 32 PhDs. Professor Agonafer is currently advising 15 PhDs and several MS students. His current primary research areas are in energy efficiency of data centers, heterogeneous integration, and 3D packaging and cooling. He has served on boards including at Howard University, CU Boulder, CCNY and Princeton University. He has offered numerous keynotes internationally. He has also won several awards including: 2008 Semi-Therm Thermi Award; 2009 InterPACK Excellence Award; 2014 ITherm Achievement Award; 2014 NSBE Golden Torch Award honoree for Golden Torch Legacy; 1998 Distinguished Alum Award from the University of Colorado Boulder and Distinguished PhD Alum Award from Howard University. In 2019, he received the ASME prestigious Heat Transfer Memorial Award and 2020, he received a Lifetime Achievement Award by the SEMI-THERM Educational Foundation Thermal Hall of Fame. He is a Fellow of AAAS, ASME, and National Academy of Inventors. In 2019, Professor Agonafer was elected to the National Academy of Engineering. <https://www.uta.edu/news/news-releases/2019/02/08/dereje-agonafer-elected-nae> On March 2020, Professor Agonafer was presented the Howard University Alumni Award for Distinguished Postgraduate Achievement In the field of Engineering at the 153rd Charter Day Dinner.

Professor Agonafer is married to his wife Carolyn and they have two children; a son, Dr. Damena Agonafer who is Associate Professor & Clark Faculty Fellow at University of Maryland, College Park, and a daughter, Dr. Senayet Agonafer, a Regional Chief Radiologist at Lenox Hill Radiology in New York City.

Dr. Agonafer’s research expertise areas include Electronic cooling: air, indirect liquid cooling, immersion cooling both single and two phase, thermal and Reliability Assessment in Heterogenous Integrated Systems, consulting - patent litigation as an expert witness/consultant in electronic cooling

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**Robert Cohen** is a pioneer and successful inventor in the field of total knee and hip joint replacement implants and surgery with 29 US and international patents. His leading innovations and inventions revolutionized the orthopedic joint replacement implant concepts and associated surgical preparation procedures. He laid the foundation of the innovative design of joint implants for the construction of artificial knee and hip implants and enabling technologies for proven significant improvements enhancing the success, stability, efficacy, and longevity of implants avoiding the need of revision surgery. His technological inventions have been used in joint replacement knee/hip implants and surgical procedures for more than 4 million patients worldwide. He has built an ecosystem of technology innovations and their translation to clinical applications that have and continue to transform the entire global field of orthopedic joint replacement surgery creating a tremendous positive impact on patient mobility, quality of life, and global healthcare. He is a Fellow of the American Institute of Medical and Biological Engineering. He serves as the Chair of the Board of Trustees of the New Jersey Institute of Technology and member of numerous advisory boards including R&D Council of NJ, and American Institute for Medical and Biological Engineering.

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**Jamie Renee** serves as the Executive Director for the National Academy of Inventors (NAI). Before assuming the role as Executive Director, she served for two years as the Senior Advisor to the Academy's Founder and President, Dr. Paul Sanberg, overseeing strategic partnerships, Board engagement, and team development. As Executive Director, she is committed to growing the impact of NAI through strategic partnerships and intentional member engagement and making strides in reaching and involving underrepresented populations in the innovation and invention ecosystem. Jamie has a heart for humanity and a mind for business. Korn Ferry ranked her business acumen in the top 2.5% of executive leaders worldwide. She has more than 25 years of corporate and nonprofit experience, having served in leadership roles within Home Depot, OAI, The Children's Home, United Way, and Habitat for Humanity. An alumna of the University of North Florida, Jamie is certified in Strength-based Professional Coaching from Gallup, Social Responsibility Planning from Yale, and Culture Creation from Harvard.

Before her appointment at the Academy, Jamie founded Good Day Solutions, a consulting firm specializing in strategic planning and culture alignment. Her firm worked with organizations and leaders committed to leveraging best practices that put people first and build a culture of inclusivity, trust, and cohesion. Jamie is passionate about bringing out the best in individuals and teams. She is committed to measuring and celebrating what matters and helps leaders identify and prioritize the key activities aligned with achieving success. She has extensive experience developing and implementing strategic plans, leadership and team coaching, and project implementation. Having overseen multiple mergers and acquisitions, her passion for building cohesive teams and inspiring positive change helps take teams and operations to new levels.

Jamie is an avid life-long learner and loves to teach what she learns. As part of her commitment to "be the good in the world," she founded Engage364, a nonprofit focused on mobilizing business leaders to engage with at-risk youth to help them discover and make a plan for their purpose.

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URI External Advisor Board Members and Judges:

**Brian Kiernan**, Angel Investor, Executive VP and Chief Scientist (ret), InterDigital Communications Corp. (<https://www.linkedin.com/in/brian-kiernan-a5636b11/>)

**Govi Rao**, Co-Founder, Carbon Group Global (<https://carbongroup.global/>)  
(<https://www.linkedin.com/in/govirao/>)

**Manish Patel**, CEO, TrickyWater LLC ([www.trickywater.com](http://www.trickywater.com))  
(<https://www.linkedin.com/in/manish-patel-innovate/>)

**Pallavi Madakasira**, Vice President at the [Phase Change Solutions](#),  
(<https://www.linkedin.com/in/pallavi-madakasira-3418aa/>)

**Liz Miller**, President, Summit Place Financial Advisors, LLC (<https://www.linkedin.com/in/liz-miller-cfa-cfp-5100096/>)

**Shashi Patel**, Manager – Engineering, PSEG (<https://www.linkedin.com/in/shashikant-patel-1073161b/>)

**Alfredo Matos**, President and CEO, A Z Matos, LLC (<https://www.linkedin.com/in/alfredo-al-matos-bs-msee-mba-47abb627/>)

**Peggy McHale**, Serial Entrepreneur | Board Director| Author,  
(<https://www.linkedin.com/in/peggymchale/>)