STEM Faculty Launch Program
2017 Participants

Yewande Abraham is a doctoral candidate in Architectural Engineering at The Pennsylvania State University in University Park, Pennsylvania. She received her Bachelors and Masters in Civil Engineering from Cardiff University in Wales, United Kingdom. Yewande's research interests are in sustainability, energy efficiency, and occupant behavior and occupant satisfaction in buildings. She is completing her Ph.D. under the supervision of Prof. Chimay Anumba and Dr. Somayeh Asadi. Yewande is focusing on building systems and the interrelationships between occupants, indoor environmental conditions, and energy consumption in buildings. She is developing a methodology to improve how occupant values can be better accounted for in buildings while minimizing energy wastage.

Marzieh Ayati received her Bachelor of Science and Master of Science in Computer Science at Sharif University of Technology, Iran. In 2011, she came to United States to pursue her PhD in Computer Science at Case Western Reserve University. Marzieh's research area is bioinformatics and computational biology. She has been working on integration of different biology data to accelerate the transition to personalized medicine.

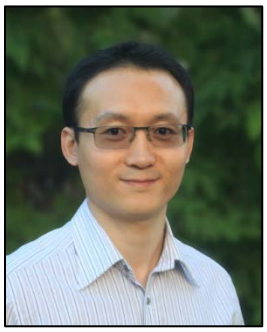
Morvarid Azizian is a postdoctoral researcher at the University of California-Irvine (UCI) and a visiting scientist in the Biogeochemistry Department of Southern California Coastal Water Research Project (SCCWRP). She received her PhD, MS, and BS degrees in chemical engineering from UCI, the University of Tehran, and Iran's Azad University, respectively. Morvarid's research focuses on developing and testing process-based models of nitrogen transformations in streams and coastal waters, which then can be used to better manage nitrogen processing within impacted watersheds. She has served as a teaching assistant and an invited lecturer for multiple environmental and chemical engineering courses at the graduate- and undergraduate levels.

Emily Beck is currently a postdoctoral fellow in the pediatric regenerative medicine lab at the University of Colorado Denver Anschutz Medical Campus under the mentorship of Dr. Jeffrey Jacot. She received her BS in Biological and Agricultural Engineering from Kansas State University in 2008 and her PhD in Bioengineering from the University of Kansas (KU) in 2015 under Dr. Michael Detamore. She was the recipient of a NSF Graduate Research Fellowship, an NSF GK-12 fellowship, and she was recognized as a KU Woman of Distinction for her outreach efforts while at KU. Following her graduate work, she was a postdoc at the University of Kansas Medical Center where she engineered electrospun vascular grafts under the mentorship of Dr. Clay Quint.

Sarah Brown is a University of California, Berkeley Chancellor's Postdoctoral Fellow in the Department of Electrical Engineering and Computer Sciences. Sarah received her BS in Electrical Engineering with a minor in Biomedical Engineering in May 2011 magna cum laude, MS in Electrical and Computer Engineering in January 2014, and PhD in Electrical Engineering in December 2016 all from Northeastern University. Her graduate studies were supported by a Draper Laboratory Fellowship and a National Science Foundation Graduate Research Fellowship. Sarah's research interests are in the design and analysis of machine learning methods for scientific research, to date focusing on psychology and neuroscience applications.

Karen Cumings is a doctoral candidate in the Department of Mathematical Sciences at Rensselaer Polytechnic Institute, and she anticipates defending and submitting her thesis by December 2017. Prior to entering graduate schools, Karen had teaching experiences from kindergarten through twelfth grade. She decided to pursue a graduate degree in mathematics, so they she could teach college mathematics courses where there is a greater emphasis on mathematical understanding and inquiry. She hopes to find a position as an assistant professor after graduation where she can continue conducting research in mathematical ecology and apply her background in research-based pedagogical techniques to more effectively teach her students how to think about and do mathematics.

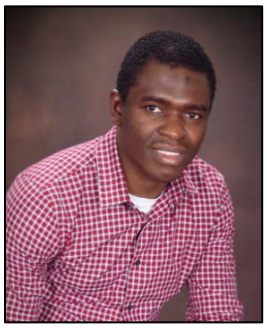
Alperen Degirmenci is a PhD candidate in Engineering Sciences at the John A. Paulson School of Engineering and Applied Sciences at Harvard University. He has been working in the BioRobotics Laboratory since 2012 under the supervision of Prof. Robert D. Howe. Alperen earned his MS degree from Harvard University in 2015, and a B. degree in Mechanical Engineering from the Johns Hopkins University in 2012, with minors in mathematics, computer science, robotics, and computer-integrated surgery. Alperen's research at Harvard focuses on real-time, high-performance algorithm development for medical ultrasound image processing and robotic procedure guidance in catheter-based cardiac interventions.



Yonghui Ding is currently a postdoctoral scholar at University of Colorado Boulder working with Dr. Wei Tan researching 3D bioprinting and biomanufacturing of novel biomaterials for vascular tissue engineering. He is looking for a tenure-track faculty position to build a world-class multidisciplinary laboratory focusing on advanced biomanufacturing of 3D vascular tissue models for drug testing and disease modelling. He received his Ph.D. in Mechanical Engineering and MPhil in Biomedical Engineering from the Hong Kong University of Science and Technology. Yonghui received "Best Young Scientist Award" from the 4th Asian Biomaterials Congress in 2013. He received "Best Teaching Assistant Award" in 2012 and attained a level of CIRTL associate by accomplishing the training program of Evidence-Based Introduction to Teaching in 2017.

Maria Duenas Decamp is an Assistant Professor in the Program in Molecular Medicine department at UMASS Medical School. She hold a Bachelor of Science in Biology from University of Madrid in Madrid, Spain and a PhD in Biology from University Carlos III of Madrid in Madrid, Spain. At the Department of Molecular Medicine at University of Massachusetts Medical School, Maria has demonstrated that HIV-1-Infected Hematopoietic Progenitor Cells can differentiate into HIV+ mature derived cells that produce infective viral particles.

Allison Dzubak earned her undergraduate and graduate degrees from the University of Minnesota in Minneapolis. She worked under the advisement of Professor Laura Gagliardi in the department of chemistry, and in her PhD she focused on the computational modeling of gas adsorption, separation, and reactivity in metal-organic frameworks that have coordinatively unsaturated active transition metal sites. Currently, as a postdoc at Oak Ridge National Lab, Allison is working under the direction of Fernando Reboredo in the materials science and technology division applying quantum Monte Carlo techniques to study properties of strongly-orrelated materials. She has been working to quantify and reduce errors for transition metal elements in diffusion quantum Monte Carlo incurred through the use of non-local pseudopotentials. Allison is interested in applying QMC methods in order to predictively and rationally design heterogeneous catalysts.

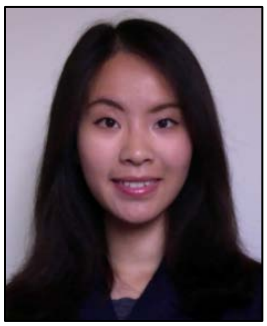


Chinedu Ekuma is a National Research Council Research Associate in the Theoretical Chemistry Division at the U.S. Naval Research Laboratory, Washington, D.C. He obtained his PhD in Computational Condensed Matter and Material Physics from the Louisiana State University. Chinedu's current research focuses on combining first-principles with many-body approaches to study (strongly correlated) materials. These properties can be tuned to improve or engineer new functionalities for device applications. He is particularly interested in advancing our knowledge on the decades-old problem of electron localization, where he pioneered the development of a first-principles-based approach and currently applying it to explore the role of atomic defects and electron-electron interactions in low-dimensional materials.

Alex Godwin is a graduate research assistant and PhD candidate in the Human-Centered Computing program at Georgia Tech. His research is focused on using information visualization and novel interaction techniques to make civic data more accessible. His work has been published at IEEE VIS, EuroVIS, HICSS, HFES, and more. Alex spent several years in industry as a research scientist for Charles River Analytics, a software research and development company in Cambridge, MA, designing user interfaces, data visualizations, and mobile training apps. He completed his BS and MS in Computer Science at the University of North Carolina in Charlotte, where he wrote his master's thesis on temporal sequence analysis.

Urcan Guler is a senior research associate at Purdue University. Urcan received his PhD in Electrical Engineering from Purdue University where he focused on nanophotonics and nanofabrication. Later, he joined a startup company as the Chief Scientist where his responsibilities were patent portfolio development, product design, and proof-of-concept studies. Urcan received his BS and MS degrees in Physics from the Middle East Technical University in Ankara, Turkey. He recently worked on applications compelling extremely high temperatures and chemically aggressive environment. He is interested in operando characterization schemes and development of multifunctional nanomaterials and devices for energy harvesting, sensing, and biomedical applications.

Jianying Hu is currently a research associate in the Department of Civil Engineering at Case Western Reserve University working with Dr. Bill Yu. She received her PhD in Civil Engineering from Case Western Reserve University in 2016. Her research covers a broad area of civil engineering, materials science and engineering, polymer engineering, and computer simulation. Jianying's research interest is design of multifunctional materials for sustainability, energy, and environment. Her current research focuses on design of optical materials for energy saving in buildings.



Jingjie Hu is currently a fifth year PhD candidate in the Mechanical and Aerospace Engineering Department at Princeton University, working with Professor Winston Soboyejo. Her research interests span the areas of biomedical engineering, mechanical engineering and materials science, with a focus on utilizing nanoparticles for early detection and localized treatment of breast cancer. She received her BSE in mechanical engineering with Summa Cum Laude from the University of Michigan in 2013.

Casey Kelleher is a mathematics National Science Foundation postdoctoral fellow at Princeton University. She graduated from the Blended Masters and Bachelors program in Mathematics at California Polytechnic State University at San Luis Obispo in June 2012. She received her PhD in mathematics at University of California, Irvine in July 2017. Casey's research is in geometric analysis with a focus on studying geometric flows. In addition to mathematics, Casey enjoys generally being outside, travelling (especially to Japan), and creating multimedia artwork.

Kitty Kumar is a postdoctoral associate at Carnegie Mellon University. Her interests broadly encompass smart materials and structures for soft devices and fabrication methods to manufacture such devices at a large scale. She is interested in developing next-generation soft devices and systems by seamlessly fusing biological principles, chemistry and engineering. Kitty received her Ph.D. from the University of Toronto, where she focused on the fabrication of flexible solar cells and developed a novel laser processing technique to structure dielectric thin films for flexible electronics. During the postdoctoral position at the Wyss Institute for Biologically Inspired Technologies, Harvard University, she concentrated on the design and fabrication of bio-inspired advanced soft robotic systems for biomedical applications.

Melinda Lanius is putting the finishing touches on her dissertation in Mathematics at the University of Illinois at Urbana-Champaign. An avid traveler, she hunts for opportunities to go share her research with others. As a proud alumna of Wellesley College and a soon to be graduate of the University of Illinois, she is open to a wide variety of academic homes, from a research-oriented liberal arts college to a leading research university or institution. When not working on research, Melinda loves to engage with her communities. To share the joy of research mathematics with local families, Melinda organizes a Saturday afternoon math-carnival called Gathering for Gardner.

Abigail Marsh, is a 5th year PhD student studying computer science in the Societal Computing program at Carnegie Mellon University. Her research investigates digital privacy in families, especially the tension between children's online safety and privacy.

Marie Meyer, is a PhD student in the Department of Mathematics at the University of Kentucky finishing up her last year. Marie received her BA in Mathematics from the College of Saint Benedict (St. Joseph, MN) in 2013, and she received her MA in Mathematics from the University of Kentucky in 2015. Her research interests lie in algebraic and geometric combinatorics, which is a subfield of discrete mathematics. Marie is especially interested in problems related to polytopes and graph Laplacian matrices. Her career goal is to become a math professor at a liberal arts college where she can work with students both in the classroom and through undergraduate research.

Jessica Morgan is a PhD Candidate in the Department of Aerospace Engineering at The Pennsylvania Brigham Young University (’11, ’15). Her research endeavors range from origami-inspired space mechanisms to investigating jet noise. During an internship at NASA Marshall, she developed a passion for Aerospace Engineering and propulsion systems. Currently, Jessica’s dissertation research is focused on investigating a jet engine noise reduction method using fluidic inserts. Her research interests include: space mechanisms, propulsion, acoustics, fluid dynamics, and turbulence.

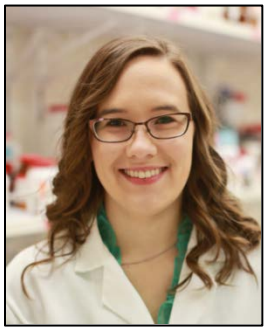
Vy Nguyen is a graduate student in Mathematics at University of Tennessee Knoxville. She has been a graduate teaching associate there since 2014. Her field of research is Probability. Vy earned her bachelor degree in Mathematics from Georgia Institute of Technology in 2013. She worked as an undergraduate teaching assistant and a research assistant under REU at Georgia Tech. She was awarded MESA-NSF STEM scholar and Math-MCTP Georgia Tech Scholarship. Vy is original from Vietnam and moved to the United States with her family in 2007.

Christian Noack graduated with a BS in Economics and a BA in Mathematics from SUNY Binghamton in 2010. After completing three actuarial exams and a related internship he decided to pursue a PhD in mathematics. He attended the University of Florida with a National Science Foundation Bridge to the Doctorate Fellowship where he obtained his masters in Mathematics in 2012. Christian is currently in his final year of a mathematics PhD program at the University of Wisconsin-Madison and plans to graduate in August 2018. His research is in probability theory. More specifically, he is interested in exactly solvable lattice directed polymer models in the KPZ universality class.

Renee Oats is a recent doctoral graduate from Michigan Technological University. Renee's research involves advancing photogrammetric-based imaging techniques as an efficient non-contact approach for condition assessment of infrastructures systems with great accuracy. She is very passionate about advancement of engineering technologies to ensure safe infrastructure systems ensuring safe structural condition for the public. In this regard, Renee is involved in several outreach with national organizations holding several memberships. She is also very passionate about advocating for diversity initiatives for underrepresented students and women in STEM often serving as a coach and mentor to local students and university organization chapters.

Eric Patrick was born and raised in Kenya, where he did his studies and acquired a Bachelor of Science degree at the University of Nairobi. He joined Wayne State University, Michigan in August 2008 for his graduate studies majoring in Biochemistry. Eric was introduced to the field of molecular biophysics, and he focused largely on single-molecule fluorescence methods to study nucleic acids structural dynamics for his doctoral work. After his PhD, he continued with single-molecule biophysics studies but now focused more on force methods to study nucleic acid remodeling enzymes. In the future, Eric would like to extend this further to in singulo in-vivo studies so as to cover the whole single-molecule biophysics spectrum and contribute more to the development of the field with a view of extending this knowledge to his country of origin through collaborations and trainings.

David Pierre is currently a postdoctoral fellow at Clemson University. He received his PhD in Bioengineering from Syracuse University. His dissertation, titled “Design, Material and Surgical Assembly Effects on Fretting Corrosion Behavior of Modular Tapers in Orthopedic Implants”, largely focused on the in-vitro testing of orthopedic hip implants and materials. Upon completion of his dissertation he accepted a postdoctoral fellowship at Clemson University under the newly appointed Hansjörg Wyss Endowed Chair for Regenerative Medicine. His roles and responsibilities include acquisition and expansion of the lab, research, teaching and mentorship of graduate and undergraduate students. The experience has given him a unique perspective into starting a brand new lab while continuing the flow of research.



Rebecca Pollet is currently a postdoctoral researcher with Dr. Nicole Koropatkin at the University of Michigan. She received her PhD in Biochemistry in 2016 from the University of North Carolina at Chapel Hill working with Dr. Matthew Redinbo and her BS in Biochemistry in 2011 from the University of Tulsa. During her graduate training, Rebecca was the recipient of a NSF Graduate Research Fellowship and was a funded trainee in the Initiative for Maximizing Student Diversity program. During her PhD she created a catalog of beta-glucuronidase enzymes expressed by the human gut microbiota. Rebecca is committed to undergraduate education, especially the value of laboratory experience, and hopes to utilize this passion for teaching and research in a tenure track position.

Radhika Prabhakar is a PhD candidate in Electrical engineering at University of Cincinnati, Ohio. As a doctoral researcher, her primary research area is thermoelectric energy harvesting. She is working on the development and characterization of flexible thermoelectric materials and devices to realize wearable thermoelectric generators. Prior to this she completed her Master’s in Microsystems Engineering from University of Freiburg, Germany. Radhika’s bachelor education is in Electronics and Communication Engineering from Shri Mata Vaishno Devi University, India. Her research interests can be summarized as ambient energy harvesting, micro/nanofabrication, thermal characterization techniques like ultra-fast thermoreflectance imaging for micro/nano-scale devices.

Matthew Reichert is a postdoctoral research associate in the Department of Electrical Engineering at Princeton University. He received a PhD in Optics and Photonics from CREOL, the College of Optics and Photonics, at the University of Central Florida in 2015, and a BS in Optical Engineering from Rose-Hulman Institute of Technology in 2010. His doctoral work in nonlinear optics included the first observation of nondegenerate two-photon gain and the investigation of two-photon semiconductor lasers. While at CREOL, he was awarded the Graduate Research Excellent Fellowship, the Dean’s Fellowship, and Outstanding Presentation for his thesis work. At Princeton University, he works in quantum optics on techniques for rapid and efficient measurement of high-dimensional entangled states of light and their application in imaging and metrology.

Luke Scime is a fourth-year PhD candidate in the Mechanical Engineering Department at Carnegie Mellon University in Pittsburgh, PA. He received his BS from the University of Florida in 2014. He is currently a member of the Additive Manufacturing Lab under Prof. Jack Beuth where his research focuses on metals Additive Manufacturing (AM) (3D printing). Luke's research interests lie at the intersection between understanding the influence of processing parameters on as-built part properties and implementing in-situ monitoring capability to improve AM process stability and validate part quality. When not in the lab he actively volunteers with FIRST Robotics, an organization dedicated to introducing young people to STEM, and enjoys wildlife photography.

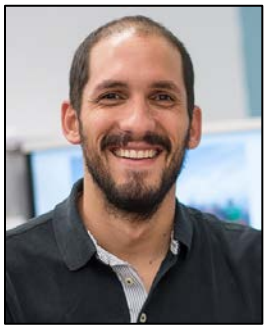
Mohammed S. Shafae is a PhD candidate in the Grado Department of Industrial and Systems Engineering at Virginia Tech and expected to graduate in May 2018. He received his BSc and MSc in Production Engineering from the Alexandria University in Egypt in 2009 and 2012, respectively. He received the David H. Burrows scholarship and Harold Schneikert scholarship from the ISE Department at Virginia Tech in 2015 and 2016. His research contributes to the area of data analytics in advanced manufacturing with emphasis on three distinct areas. The vision of his research is to realize true smart manufacturing systems on the grounds of industrial shop floors. In teaching, Mohammed has seven year track-record of teaching and mentoring undergraduates, graduates, and professionals from different disciplines at four different institutions.

Nassar Sharareh is a PhD Candidate in Systems Science and Industrial Engineering Department of Binghamton University with the concentration on System Dynamics simulation modeling, GIS mapping, and healthcare policy analysis. He has been involved with several system dynamics modeling transdisciplinary projects and has collaborated with a team of anthropologists, nurses, engineers, and primary care providers to develop models for public health issues such as Lyme disease, Ebola, and HPV infection. Also, he has integrated the system dynamics methodology with GIS mapping to study the Medicaid access to primary care. The main purpose of his dissertation is designing processes and systems for patient care in order to alleviate the burden of population-level health issues.

Krista Spiller has been a post-doctoral fellow in Dr. Virginia Lee's lab at the Center for Neurodegenerative Disease Research at Penn since February 2014. Prior to that, she received her PhD in Neurobiology and Behavior at Columbia University's Motor Neuron Center under the supervision of Christopher Henderson and her BA in Biology from Swarthmore College. Krista has an expertise in mouse models of ALS, with a specific focus on axonal dieback and neuromuscular defects. She currently employs circuit-level approaches to studying neurodegeneration. Since joining Penn, she has received grants from the Philadelphia Foundation, the Judith & Jean Pape Adams Charitable Foundation, and the ALS Association.

Antonia Statt is a postdoctoral fellow in the Chemical and Biological Engineering Department at Princeton University working with Prof. Athanassios Z. Panagiotopoulos's group. She received her PhD in physics from the Johannes Gutenberg University of Mainz in 2015. Her computational study under the supervision of Prof. Kurt Binder focused on homogeneous nucleation of colloidal crystals and won two awards for outstanding PhD work. Currently Antonia's research focus is on glass transition of polymers, particularly in thin films and aims to understand the influence of processing conditions during film formation using computer simulations. Her primary goals are furthering her research and developing education opportunities for students.

Courtland VanDam is a PhD Candidate in Computer Science at Michigan State University. Her research focuses on applications of disinformation detection on social media. She proposed a method for detecting hashtag hijacking on Twitter, and is now working on detecting compromised accounts. Courtland is very active in her community. She serves as the Computer Science department representative to the Council of Graduate Students, the graduate student governing body at MSU, and works with youth at her church.



Camilo Vieira Mejia is a Postdoctoral Researcher in the Computer Graphics Technology Department at Purdue University, West Lafayette. He holds a Bachelor's degree in systems engineering and a Master's degree in engineering from Universidad Eafit, in Medellin, Colombia. Camilo completed his doctorate at Purdue University, where he worked on computing education, and learning analytics for engineering education.

Linda Westrick grew up in Mechanicsville, VA. She went to high school at the Maggie Walker Governor's School in Richmond, and attended the Research Science Institute the summer of her junior year, which was her first introduction to math research. Linda graduated from MIT in 2009 with a BS in math and a minor in linguistics. In 2014, she got her PhD in math from UC Berkeley. Since then Linda has had postdocs at Victoria University of Wellington (2015-2016) and at the University of Connecticut (2014-2015 and 2016-present).

Monique Shaunta Wilburn became a proud member of Delta Sigma Theta Sorority, Inc., participated in the NASA cooperative-education program, and obtained a Bachelor of Science in Aerospace Engineering. In 2004, she began full-time employment at NASA Johnson Space Center. In 2011, she broadened her skillset by pursuing Chemical Engineering studies at University of Houston while simultaneously working full-time at NASA. In 2016, under the supervision of Dr. Bill Epling, Monique defended her thesis on low-temperature, bimetallic methane oxidation catalysts with an emphasis in deactivation mechanisms. She has an interest in teaching reaction engineering and transport courses and electives pertaining to chemical process safety and engineering ethics.

Dionna Williams is originally from Bridgeport, Connecticut, Dionna's early love for science and desire to understand human disease focused her aspirations towards biomedical research. A first-generation college student, Dionna graduated Cum Laude from Hofstra University before attending the Albert Einstein College of Medicine for her graduate studies. Currently in the third year of her postdoctoral fellowship at Johns Hopkins University, Dionna's research focuses on the effects of HIV and comorbid substance abuse on neurocognition, the ability of antiretroviral therapy to effectively limit HIV infection, and innate immune responses. She is passionate about encouraging students from underrepresented backgrounds in science and dedicated to increasing our understanding of the intersection between substance abuse and HIV neuroimmunology, which she plans on examining in her own independent research laboratory next year in a faculty position.

Samantha Wilner is currently a postdoctoral fellow in the Chemistry Department at the University of Pennsylvania in the laboratory of Dr. Tobias Baumgart. She is a part of the Penn Postdoctoral Opportunities in Research and Teaching (PennPORT) program. Before joining the PennPORT program, she received her PhD from Albert Einstein College of Medicine in the laboratory of Dr. Matthew Levy within the Biochemistry Department. Samantha's dissertation research focused on the use of RNA as a tool to modify lipid-based nanoparticles. Currently, she is investigating the interactions of nano- and micro- particles on lipid bilayer membranes, and she is characterizing thermally induced membrane transitions among different phase states of Janus dendrimersomes. Overall, Samantha is interested in understanding membrane interactions and how we can develop model systems to better study those interactions.

Vicky Yang is a PhD candidate in Applied Mathematics at Northwestern University. In her research, she uses mathematical tools to uncover the simplicity behind complex phenomena of human society. Some topics of her work include scaling laws in cities and dynamics of political elections. Her approach is to build simple, mechanistic models starting with indisputable concepts from physics (e.g. conservation laws); combined by firmly established social science findings (e.g. the Strength of Weak Ties). In addition to valuing rigor, Vicky wants her theories to be testable by real-world observations. She works closely with social scientists, physicists, and mathematicians. She thinks working interdisciplinary is an essential part of success in solving problems in an increasingly complex world and is passionate about efforts in bridging the gap between mathematicians and the social sciences.