

WORCESTER POLYTECHNIC INSTITUTE
September 5, 2019

To: The WPI Faculty

From: Tanja Dominko, Secretary of the Faculty

The first Faculty meeting of the 2019-2020 academic year will be held on **Thursday, September 5th, 2019 at 3:15 am in Olin Hall 107.**

- | | |
|--|-------------|
| 1. Call to Order | T. Dominko |
| • Approval of the Agenda | |
| • Approval of the Consent Agenda and the Minutes from 5-2-2019 | |
| 2. Welcome | T. Dominko |
| 3. President's Remarks | L. Leshin |
| 4. Provost's Remarks | W. Soboyejo |
| 5. Committee Business | |
| • Committee on Academic Operations- CAO | |
| - Motion to approve the September 2019 undergraduate student graduation list | D. Strong |
| • Committee on Graduate Studies and Research - CGSR | |
| - Motion to approve the September 2019 graduate student graduation list | G. Fischer |
| • Committee on Governance | |
| - Motion to suspend the rules | G. Gaudette |
| 6. Introduction of New Faculty | W. Soboyejo |
| 7. New Business | |
| 8. Old Business | |
| 9. Closing Announcements | |
| 10. Adjournment and Reception at President Leshin's residence | |

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WORCESTER POLYTECHNIC INSTITUTE
Faculty Meeting Minutes
May 2, 2019

Summary:

1. Call to Order
2. Announcements
3. TTT NTT report
4. Committee Business:
 - a. Bylaws and Governance Working Group: Report and recommendations
 - b. CAO: Undergraduate list
 - c. CGSR: Graduate list
 - d. COG: Global school proposal
 - e. CAP/UOAC
5. New Business
6. Adjournment

Detail:

1. Call to Order

The ninth and final Faculty meeting of the 2018-2019 academic year was called to order in Olin Hall 107 by **Prof. Dominko (BBT)**. She reminded everyone that the meeting is being recorded for the purpose of accuracy of meeting minutes. The amended agenda (including two slight modifications: a TTT/NTT credit delivery report was added; and two announcements at the end of the meeting) and consent agenda (including the minutes from the April 11, 2019 Faculty meeting) were approved.

2. Announcements

Prof. Dominko announced the completion of the Standing Committee elections. She thanked all who participated and were willing to serve. Faculty members elected to the standing committees:

Committee on Academic Operations

Raghvendra Cowlagi, ME

Lyubov Titova, PH

Committee on Academic Policy

Adrienne Hall-Phillips, FBS

Suzanne Weekes, MA

Committee on Advising and Student Life

Scott Barton, HUA

Padraig O Cathain, MA

Committee on Graduate Studies & Research

Michael Demetriou, ME

Dmitry Korin, CS

Harold Walker, CEE

Campus Hearing Board

Huong Higgins, FBS

Khalid Saeed, SSPS

Gillian Smith, CS

Committee on Administrative and Financial Policy

Joseph Fehribach, MA

Faculty Review Committee

Pratap Rao, ME

David Spanagel, HUA

Undergraduate Outcomes Assessment Committee

John Bergendahl, CEE

Prof. Richman (ME) presented an abbreviated version of the TTT/NTT credit delivery report, comparing data from Fall 2015 to Spring 2018. (See **Attachment #1** attached to these minutes.)

3. Committee Business

Prof. Dominko explained that every voting Faculty member should have received, on their way into the meeting this morning, a set of two ballots (for secret ballot).

Bylaws and Governance Working Group

Prof. Richman (ME), for the Faculty members of the Bylaws and Governance Working Group, moved to endorse the report of the WPI Bylaws and Governance Working Group (See **Addendum #2** attached to these minutes) including recommendations for amending the pending bylaws of the Corporation, which are summarized in the report, and also itemized in a red line copy of the amended bylaws, which are included in the materials.

He thanked the Working Group members and stated that it was a pleasure working with them all, and that it was a positive experience for everyone involved. The Group's charge was to develop written recommendations that addressed the Faculty concerns with the pending bylaws and to propose amendments for those bylaws. He stated that one of the main goals was to ensure more effective future collaborations.

The consensus report has been distributed and presented at the April 2019 Faculty meeting. The Board will vote on the recommendation at the May 10th meeting.

Prof. Richman described how the primary concerns in the proposed bylaws have been addressed:

- Language that gave the Board the authority to override the Faculty Handbook was removed;
- Language that the Board's interpretation of ambiguities would be controlling was removed;
- Language giving the President and Provost roles as ex-officio members of the Faculty Governance Committees was removed.
- Language giving the Provost responsibilities in creating, reviewing and approving academic policy was removed.
- Language establishing The Global School was modified stating that the action needed Faculty and Board endorsement.
- Language describing the Faculty was modified to reflect that definitions, roles and responsibilities are referenced in the Faculty Handbook.
- Language describing Provost and Deans' roles has been modified.
- Language describing the President's roles and responsibilities has been modified

The report included the following recommendations: mechanisms for improved collaboration and communication (including the formation of a joint coordinating council); additional AAUP language (following AAUP guidelines, describing the President's authority); process for any future changes of the bylaws that would assure communication with Faculty; reconsideration of appointing Faculty members to the board; general statement for long-term commitments and greater inclusion of NTT Faculty; changes to Deans' roles in appointing and evaluating department heads; clarification of the mechanism required for the board to approve certain sections of the Faculty Handbook (Faculty Constitution and University-wide policies); re-examination of the Faculty review process for Administrators; support for time and training for Faculty Governance leaders;

commitments to regularly assess the state of governance (Faculty, Board and Shared). A secret ballot was held. The vote tally was: 105 Yes; 1 No.

The Motion passed.

CAO

Prof. Mattson (CBC), for the Committee on Academic Operations, moved to approve the May 2019 undergraduate student graduation list for May 11, 2019 graduation. (See **Addendum #2** attached to the file copy of these minutes).

The motion passed.

CGSR

Prof. Rao (BBT), for the Committee on Graduate Studies and Research, moved to approve the May 2019 graduate student graduation list for May 9, 2019 graduation. Prof. deWinter pointed out a student who should be taken off the list from IMGD. Prof. Troy pointed out a student who should be taken off the list in Engineering. (See **Addendum #3** attached to the file copy of these minutes).

The motion passed.

COG

Prof. Boudreau (HUA), for the Committee on Governance, moved to endorse the WPI Administration's Global School proposal. (See **Addendum #4** attached to the file copy of these minutes). She reviewed briefly the history of the process that has led to the development of the current proposal. After the President and Provost's initiative, the proposal was developed by the GIDIAG: the Global Impact Division Implementation Advisory Group, which sent their findings to the Committee on Governance. COG asked for several clarifications and after further feedback from the Provost, various community stakeholders, Faculty, and Staff, COG is recommending the final proposal to the Faculty. Prof. Boudreau emphasized the importance of a diligent review and revisions that have been included in the current proposal offered to the Faculty for endorsement. She stated that revisions addressed comments and concerns identified during the April meeting. Prof. Boudreau spoke about the extensive efforts of the Provost in preparation of this proposal. She stated that if, this proposal passes today, and she hopes it does, it is because of all the work, several iterations, and listening to the stakeholders. She explained that the Provost would provide additional details, and highlighted major changes since the last version was discussed:

- Executive Summary has been added
- References to specific new graduate programs have been deleted
- Specific graduate programs have been replaced by a statement of **process**: "based on faculty interest, additional graduate programs will be developed by faculty task forces in the areas of development/policy, community engagement and social justice."
- Review of programs for inclusion "will be a joint effort between the Provost, and relevant Deans, Department Heads, and Program Directors."
- Explicit reference to the expertise of existing faculty has been added, including the NTT faculty who have built the programs constituting the "backbone" of WPI's project centers and global partnerships: "New graduate programs will leverage the expertise of the faculty in the Global School and faculty in Arts and Science, Business, Engineering, and GPS/IGSD."
- Area studies and Grand Challenges were deliberately coupled: "We present a proposal...that will **amplify** the impact of global research, education, and outreach at WPI."

Provost Soboyejo spoke about how special WPI is, and that it is globally recognized as the school in the US that best combines teaching and research, and is recognized as place with the best study abroad program in the

US. He stated that the very special and unique qualities of WPI curricula have been captured in this proposal: graduating students who are ready to work, engagement of all community of stakeholders in our parliamentary system, and our special ways of communicating with the world. He spoke about the importance of interdisciplinarity is in solving global problems. The Provost talked about expanding the concept of a HUB to include deep understanding of the geography, history, culture, context...and to blend all with our STEM mission. He stated that the Global school enables us to weave all these areas together in ways to elevate the impact of what we do through research, through the leveraging of global programs with global partners, in ways that will spread the impact of WPI's unique "special sauce". This is truly the way to take the next step into the future of WPI.

Prof. Douglas (SSPS) explained that at last month's meeting, she expressed concerns she had with the proposal relating to Social Science and Policy Studies. She stated that, since that time, the Provost has spent time with her, that she appreciated that time, to better understand what was in her department, and that this is an opportunity; not to replace what the department does, but to build on what it does. She stated that largely, the department members feel that their concerns had been addressed and that they look forward to participating in this opportunity.

Prof. Jiusto (IGSD) spoke about being quite critical of the process over the past two years, and is very pleased with what the Provost had to say today. He applauded the Provost's efforts to listen hard and create a vision of not just consensus of what good things can happen with this global space, but also how to get there. Also doing it in a way consistent with WPI's way of doing and creating great things. He thought it important to move forward and create something collaboratively great.

Prof. Boudreau stated that the structure of the communications about this program will not end with the vote today. She stated that a task force would be created to work throughout the summer months.

Prof. Elmes (FBS, Project Center Director) stated that he too had questions and concerns, though he feels that something happened this week where the "special sauce" was recognized and that this project is building on what WPI does really well and that the people involved already are at the core of what goes forward, which is a huge change from the last time. He stated that leadership for this new school will be critically important and essential to its success. He supports this project.

Prof. Gaudette (BME) agreed that this is a great opportunity, just worries that what he sees here, we won't capitalize on that opportunity and that the school will create a silo. There are so many colleges who are excited to do things globally, and with so many joint appointments in the global school, who WON'T have a joint appointment in the Global school? Instead of a school, Prof. Gaudette suggested an Institute. He stated that every Faculty member at WPI should be part of this vision.

Prof. deWinter (HUA IMGD) understands Prof. Gaudette's concerns, however is very excited about this school. Directing a Project Center, she stated the need for a Dean to raise money and provide support, not just for the project center, but for the project center as part of the integrated research and curricular program. She stated that she is very hopeful that that is what the new leadership will bring.

Prof. Boudreau stated that it was up to the Faculty to make sure the school doesn't get isolated in a silo, and that through this vote, we will rely on the Dean to make sure the School is inclusive.

Prof. Gatsonis (ME) asked what is in the current IGSD structure that doesn't allow us to realize global impact with projects, since IGSD has a Dean and an infrastructure. Provost Soboyejo talked about not being sure the world has heard of our global programs. He stated that a Global School is the right strategy, with no barriers for a strategic role with intellectual depth. He stated that the School brings us into the framework to go beyond what we have in IGSD now, and that the core Faculty that we have now can leverage who we are and take us to the next level and create Global Education.

Prof. Sakulich (CEE) stated that he was part of the exploratory project two years ago, and is very optimistic about the project now, particularly about the collaboration between the Administration and the Faculty. He stated that we need to be very explicit that it is also the staff that was very much a part of this project.

A secret ballot was held. The vote tally was: 60 Yes; 40 No, 2 Abstain.

The motion passed.

CAP/UOAC

Professor Olinger (ME), for the Committee on Academic Policy and **Professor deWinter** (HUA), for the Undergraduate Outcomes Assessment Committee moved to replace WPI Undergraduate Learning Outcome #8.

Prof. Dominko asked for a motion for an extension to the meeting. A motion was made, the meeting was extended for 15 minutes.

Prof. Smith (CS) suggested using the word “exhibit” instead of “developing”.

Dean McNeill (Eng.) prefers the word “developing”, in the spirit of ABET’s continuous improvement, and moving students forward.

Prof. Rudolph (HUA) stated that she was on the original committee, which chose “developing” in the idea of global and multicultural competency is not something achieved in time at WPI, rather a life-long process. The hope is for students to be in the process of developing and continue to develop those skills.

Prof. Billiar (BME) talked about the words “and” and “or” from an ABET perspective. He suggested “such as”, which Prof. deWinter stated was indeed in the motion.

Prof. Samson (HUA) suggested that the wording stay as is.

Prof. Gaudette (BME) asked about the portion of the motion where it talks about engaging with local and global communities, and if that had to be demonstrated. Prof. deWinter explained that the thought was that you don’t have to be in another country to be engaging in global communities.

Prof. Hansen (HUA) called the question. Seconded. The Question has been called.

The motion passed.

7. New Business/Announcements

Prof. Dominko thanked Michael Dorsey, Director of Research Communications who was retiring:

“We the WPI Faculty offer our sincere appreciation for 33 years of your partnership, for your patience and understanding, for sharing stories of our accomplishments from the classroom, from the lab, and from around the world with the world, and most of all for your kind spirit. Thank you, Mike! With our best wishes, your WPI Faculty.”

Dean Snoddy reminded everyone of Commencement and the various ceremonies.

8. Adjournment

Meeting was adjourned at 12:30am by **Prof. Dominko**.

Respectfully submitted,

Tanja Dominko
Secretary of the Faculty

Addenda on file with these minutes:

1. Addendum #1 TTT/NTT Credit Delivery Report – May 2, 2019
2. Addendum #2 CAO, May 11, 2019 Undergraduate Student Graduation List – May 2, 2019
3. Addendum #3 CGSR, May 9, 2019 Graduate Student Graduation List – May 2, 2019
4. Addendum #4 COG, WPI Global School, A Proposal – May 2, 2019

Appendix: Consent Agenda Motions

No motions are presented for approval at this time.

Date: September 5, 2019

To: WPI Faculty

From: Committee on Academic Operations (Prof. Strong, Chair)

Re: Motion to approve the September 2019 undergraduate student graduation list

Motion: The Office of the Registrar reports that the following candidates have, as of September 1, 2019, completed all of the requirements for the degree designated in the department or program indicated and are eligible to receive that degree. Therefore, as Chair of the Committee on Academic Operations, I move that these students be approved for September 1, 2019 graduation.

Bachelor of Science

Biology and Biotechnology:

Elizabeth Alexandria Walkes
Yueqing Wang

Chemical Engineering:

Rachel Elizabeth Smith

Computer Science:

Alexander A. Antaya
Minor: Robotics Engineering
David Otari Deisadze
Double Major
Jacob Morgan Freise
Double Major
Adam Sullivan Goldsmith
Chang Liu
Jack N. Palmstrom
Paul-Henry M. Schoenhagen

Electrical and Computer Engineering:

Nicole Candanedo
Lauren Rachel Getz
Reilly C. Peters

Management Engineering:

David Otari Deisadze
Double Major
Nathaniel Elliot Lambert
Concentration in Mechanical Engineering

Management Information Systems:

Pawan M. Dodani

Manufacturing Engineering:

Paul Edward Jones
Minor: Entrepreneurship

Mechanical Engineering:

Daniel Francis Barra
William Harris Bass
Aidan Troy Freeburg
Steven Dean Gallagher
Cesar Guerrero
Anthony Morocco
Edward Louis Noyes
Risbel Rivas
Nathan L. Rose
Kyle Howard Tyler
Zachary James Whitmore

Physics:

Hayden Antonio Savage

Robotics Engineering:

Kyle Patrick Seymour
Minor: Mechanical Engineering
Zhihao Xie

System Dynamics:

Jacob Morgan Freise
Double Major

Date: September 5, 2019

To: WPI Faculty

From: Committee on Graduate Studies and Research (Prof. Fischer)

Re: Motion to approve the September 2019 graduate student graduation list

Motion: The Office of the Registrar reports that the following candidates have, as of September 1, 2019, completed all of the requirements for the degree designated in the department or program indicated and are eligible to receive that degree. Therefore, as Chair of the Committee on Graduate Studies and Research, I move that these students be approved for September 1, 2019 graduation.

Doctor of Philosophy

Aerospace Engineering:

Sharada Bhavanam

Ananthalakshmy Krishna Moorthy

Biology and Biotechnology:

Toni Marie Delorey

Biomedical Engineering:

Will H. Linthicum

Kimberly Ornell

Dalia M. Shendi

Chuangqi Wang

Business Administration:

Ales Jug

Chemical Engineering:

Tone Pappas D'Amico

Lida Farsi

Electrical and Computer Engineering:

Jianping Gong

Sulin Li

Interdisciplinary:

Todd Edward Alexander

Manufacturing Engineering:

Torbjorn Stansen Bergstrom

Mechanical Engineering:

Seyed Massoud Loeian

Physics:

James Leonard Kingsley

Sayed Iman Mousavi

Pattipong Wisanpitayakorn

Master of Business Administration

Breanna Glee Boyden Robbins

Yujie Gao

Kyle Peter Johnson

Cynthia Lynn Karantzoulidis

Charles Michael Krupa

Hassan Malik

Brandon A. Okray

Thomas Anthony Walker

Master of Engineering

Biomedical Engineering:

Elizabeth Margaretha van Zyl

Electrical and Computer Engineering:

Yi Kit Wong

Power Systems Engineering:

Emily Anne Simonelli

Rosa Sojan

Shu Wan

Simon Yeung

Date: September 5, 2019
To: WPI Faculty
From: Committee on Governance (G. Gaudette, Chair)
Re: Motion to suspend the rules

Motion: Committee on Governance recommends and I move that the Guidelines for Searches to fill Academic Administrative Positions (Faculty Handbook – Part Two, section I.ii) be suspended for the search for the first Dean of the Global School, such that, when the search committee is formed, it be constituted with balanced representation of TTT and NTT faculty members. All full-time TTT and NTT faculty members would be eligible to - vote for the elected members of the search committee and serve on the search committee.

Background:

At the May 2, 2019 faculty meeting, the faculty voted to endorse the WPI Administration’s plans to establish a Global School. The proposal included the need to hire a new Dean of Global School and the guidance on constituting the search committee is as follows:

Faculty Handbook (Faculty Handbook – Part Two, section I.ii)

When an academic administrative position is to be filled from either inside or outside of WPI, a search committee of nine members is formed consisting of three elected faculty, one faculty member appointed by the Committee on Governance, one faculty member appointed by the Provost, two members appointed by the President, and two students appointed jointly by the President and by COG. The President, the Provost, and COG will collaborate on all appointments to ensure balance of the committee’s membership and to select the Chair of the search committee. If the search is for the Provost, the President will make three appointments.

If the responsibilities of the position cross all departments, then all faculty participate in the process to choose the three elected members of the search committee. In this case, there is no restriction on the departmental affiliations of the faculty members who may be appointed. If, on the other hand, the responsibilities of the position do not cross all departments and programs, then the elected members of the committee will be chosen by those faculty and from among those departments that fall under the responsibilities of the position. In this case, at least one of the appointed faculty members must be from outside the academic departments that fall under the responsibilities of the position.

Rationale:

1. The vision of the Global School is that it “will dramatically increase WPI’s ability to address critical global challenges through knowledge generation, collaborations across the entire campus and the wider academy, and with communities and organizations around the world. To constitute a search committee that will indeed be represent campus-wide views and reflect campus-wide participation in the school, all faculty members should be eligible for election and appointment to the search committee regardless of their School/Department affiliation.
2. Currently, the majority of the faculty members directly affiliated with the Global School belong to the ranks within NTT faculty. Whereas the reference to “faculty members” in Part Two, section I.ii (above) refers to TTT faculty members, in order to constitute a search committee in this case that will incorporate NTT faculty perspectives, we recommend inclusion of full time NTT faculty on the search committee.

Implementation:

The Committee on Governance (COG) will be conducting a two-stage election for three faculty members of the search committee for Dean of Global School. Pursuant to the vote of the faculty on September 5, 2019 approving the Motion to suspend the rules, all full time TTT and NTT faculty can vote, be placed on the ballot

and be elected to serve on the Search Committee for the Dean of Global School. The ballot will be distributed in September 2019.

The first ballot will be for the first (nominating) stage of the process. Each faculty member will be asked to nominate up to SIX members of the TTT and NTT faculty members.

In the second stage, the top six vote-getters who are willing to serve will appear on a second (election) ballot. Three of the six will be elected to the search committee by the instant run-off (i.e. preference voting) method.

When finalized, the full search committee will consist of three elected faculty members, one faculty member appointed by COG, one faculty member appointed by the Provost, two members (one must be an academic member) appointed by the President, and two students appointed jointly by the President and COG. The President, the Provost, and COG will collaborate on all their appointments to ensure balanced representation of TTT and NTT faculty members and to select the Chair of the search committee.

**Brief Biographies of New WPI Faculty Members
Fall 2019**

SCHOOL OF ARTS AND SCIENCES

Department of Biology and Biotechnology

Natalie Farny, Assistant Professor

B.S., Biology and Philosophy, Boston College, 2000

Ph.D., Cell and Developmental Biology, Harvard University, 2009

After completing her Ph.D. in Cell and Developmental Biology at Harvard University with Prof. Pam Silver, Prof. Farny performed her postdoctoral research at UMass Medical School with Prof. Joel Richter. Her postdoctoral work was supported by a fellowship from the FRAXA Research Foundation and focused on translational regulation in the autism spectrum disorder, Fragile X syndrome. Her continuing research interests focus on the links between translational regulation, cellular stress mechanisms, synthetic biology and autism spectrum disorders. She has published 17 articles in journals including articles in Nature Medicine, Cell, Genes and Development. Prof. Farny has been with WPI as an Assistant and Associate Teaching Professor and joins us in her new role this Fall.

Inna Nechipurenko, Assistant Professor

B.S., Biology, B.S., Business Administration, Bloomsburg University of Pennsylvania, 2005

Ph.D., Neuroscience, Case Western Reserve University, 2012

After completing her Ph.D. in Neuroscience at Case Western, Prof. Nechipurenko performed her postdoctoral research at Brandeis University with Prof. Piali Sengupta. Her postdoctoral work characterized a role for the protein signaling and scaffolding protein Girdin in ciliogenesis. Her continuing research interests focus on elucidating signaling mechanisms of primary cilia assembly and function in neurons in *C. elegans*. Her postdoctoral research has contributed to NIH R35 and R37 awards and her publications include articles in Developmental Cell, eLife, and Development. Prof. Nechipurenko will join WPI in January 2020.

Department of Chemistry and Biochemistry

Patricia Musacchio, Assistant Professor

B.S., Chemistry, The University of Texas Austin, 2012

M.A., Chemistry, Princeton University, 2014

Ph.D., Chemistry, Princeton University, 2017

During her doctoral research efforts, Prof. Musacchio developed a visible light-mediated, user-friendly cross-electrophile coupling for organic chemists that negates the need for moisture-sensitive reagents and prior preparation of traditional nucleophile partners like Grignards, boronic acids, organozinc and organotin. A vast substrate scope for this photoredoxreaction has led to the widespread implementation of this technology in several medicinal chemistry programs including Merck & Co., Inc., Genentech, Bristol-Meyers-Squibb, Johnson & Johnson, Pfizer, Bayer, and others. During her postdoctoral studies, she was part of the initial team that started the Novartis-Berkeley Center for Proteomics and Chemistry Technologies (NB-CPACT) where she developed a new bioconjugation strategy for targeting rare amino acids to understand their role in cell function with a specific focus on tryptophan and methionine. Over the course of her career, she has developed strengths in organic synthesis and chemical biology, with a specialization in understanding pharmaceutical interests and

efforts in both of these fields. She will utilize her knowledge and training to develop new technologies that will assist in the synthesis of drug molecules and chemotherapeutics, as well as to train the next generation of scientists and progressive thinkers. Emphasis in her research group will be on finding common ground between synthetic chemistry and chemical biology via radical-mediated pathways and methodologies to address largescale challenges in the pharmaceutical field.

Department of Computer Science

Daniel Reichman, Assistant Professor

B.A., Computer Science, The Open University, 2002

B.A., Mathematics, The Hebrew University, 2002

M.Sc., Computer Science, The Weizmann Institute, 2004

Ph.D., Business Administration, Tel Aviv University, 2010

Ph.D., Computer Science, Weizmann Institute of Science, 2014

Prof. Reichman was most recently a Postdoctoral fellow in the Computer Science Department at Princeton University, hosted by Tom Griffiths and also working with Jon Cohen at the Princeton Neuroscience Institute. His research explores core aspects related to computation, information and statistics as well as mathematical questions arising from artificial intelligence and theoretical computer science (TCS). Two main two themes of his research are the effect of noise when encountering hard computational problems and the application of discrete tools using methods from discrete probability, statistical learning theory, graph theory and combinatorics in problems in statistics, pattern recognition and algorithm design. He focuses on applications of theoretical insights to practical problems as well as leveraging theory to devise better algorithms for problems of practical significance whose merit can be demonstrated empirically.

Ali Yousefi, Assistant Professor

B.S. Electrical Engineering, Iran University of Science and Technology, Iran, 1998

M.S. Electrical Engineering, Sharif University of Technology, Iran, 2000

Ph.D. Electrical Engineering, University of Southern California, CA, USA, 2014

Following graduate and postdoctoral training in electrical engineering, statistics, and neuroscience, Prof. Yousefi joins the Department of Computer Science at WPI. His research focuses on developing methodological solutions to problems concerning neuroscience data analysis. He has recently held positions at Massachusetts General Hospital, Harvard University and Boston University.

Michael Engling, Assistant Teaching Professor

B.S., Mathematics and Chemistry, University of Tampa, 1986

M.S., Mathematics, Lehigh University, 1989

M.S., Computer Science, Stevens Institute of Technology, 2014

Ph.D., Computer Science, Stevens Institute of Technology, 2017

Prof. Engling was most recently the Associate Director for Graduate Programs in Computer Science at Stevens Institute of Technology in Hoboken, New Jersey. While there, he also served as supervisor of Curricular Practical Training and lectured on Algorithms, Computational Complexity, Discrete Structures, and the Theory of Computation, among other topics. Previously, he taught Mathematics at Hillsborough Community College in Tampa, Florida. Prof. Engling's research interests include Computer Science Education, Security and Privacy, Cryptography, and Combinatorial Games.

Greg Lewin, Assistant Teaching Professor (Robotics Engineering Program)

B.A., Biology, Carleton College, 1990

M.S., Mechanical & Aerospace Engineering, University of Virginia, 1999

Ph.D., Mechanical & Aerospace Engineering, University of Virginia, 2003

Prof. Lewin teaches courses in the Robotics Engineering Program, where he focuses on system integration, sensor and data processing, and system design. Prior to joining WPI, Prof. Lewin was an Assistant Professor at the University of Virginia, where he directed the Technology Leaders Program, an interdisciplinary engineering program focusing on the design of cyber-physical systems. He has performed research and development on sensor systems, turbomachinery, energy systems, and robots in both academic and industrial settings.

Jonathan Weinstock, Assistant Teaching Professor

B.S., Pennsylvania State University, 1977

M.A., Computer Science, Temple University, 1983

Ph.D., Computer Science, Temple University, 1997

Prof. Weinstock is a practical and highly analytical problem solver, having worked in corporate R&D for 35 years at Bell Labs/Bellcore/Telcordia/Ericsson, Netapp, Motorola and Cisco Systems, and in academia as an Assistant Professor and as Adjunct Faculty. He has experience in Fault Tolerant and Highly Available Systems design/implementation, Scalable Systems design/implementation, Information Storage Management, Operational and Business Analytics, Database Systems, Communications Protocol design/implementation, Network Service design/implementation, Computer and Communications Networks, Software Engineering Process Management/Design, and Network Management Systems. His research interests include anomaly detection in large scale distributed systems as well as in Computer Science Education, especially as it applies to teaching mathematics.

Keith Zizza, Instructor (Interactive Media and Game Design Program)

A.S., Computer Science, Northern Essex, 1993

Mr. Zizza is an industry expert in game audio. He has worked in the field for 24 years on over 60 commercially released video games, including the classic, award-winning City Building Series of games from Sierra On-Line (Pharaoh, Cleopatra, Caesar, Zeus, and Poseidon). He has also been an integral part of such game projects as Marvel Puzzle Quest, MGM Grand Casino, Sim City Societies, The Oregon Trail, Children of the Nile, Tetris Burst, Scrabble, Discovery's Deadliest Catch, and Hot Wheels Mindracers, among others. He has also worked as a consultant on several serious game projects with Osmo Interactive, Muzzy Lane Software, and the Christa McAuliffe Planetarium. Mr. Zizza's specialties are 3-D game audio engine integration and project management, creating effective music, sound effects, and dialogue content, implementing best practices for interactive audio design, technology, and integration on the PC, Web, mobile, and various console platforms. He is a member of the Interactive Audio Special Interest Group for Education and the International Game Developers Association, and a Gold member of the Game Audio Network Guild. He has also taught and designed game audio curriculum for WPI, The Center for Digital Imaging Arts at Boston University, Becker College, and Berklee College of Music.

Department of Humanities and Arts

Holger Droessler, Assistant Professor of History

B.A., M.A., American Cultural History, LMU Munich, 2008

Ph.D., History of American Civilization, Harvard University, 2015

Prof. Droessler is a historian of 19th- and 20th-century U.S. history, with a special focus on imperialism, capitalism, and the Pacific Ocean. His book manuscript, *Coconut Colonialism: Samoa and the Making of the Global South*, argues that the globalization of Samoa at the turn of the 20th century was driven by a diverse group of people working on and off the islands. He has published on a variety of topics, including labor history, Pacific history, environmental history, and global hip-hop. His teaching ranges from modern U.S. history in global perspective to the history of capitalism and environmental history.

Kathryn M. Moncrief, Paris Fletcher Distinguished Professor of Humanities and Department Head

Ph.D., English, University of Iowa, 2000

M.A., English/Theatre Arts and Dance, University of Nebraska, 1991

B.A., English, Psychology, Doane College, 1989

Prof. Moncrief was most recently Professor and Chair of English at Washington College, in Chestertown, MD where she taught courses in Shakespeare, Milton, and early modern literature and culture and received the Washington College Alumni Association Award for Distinguished Teaching. Her research focuses on Shakespeare in performance. She is co-editor of *Shakespeare Expressed: Page, Stage and Classroom in Early Modern Drama; Performing Pedagogy in Early Modern England: Gender, Instruction and Performance; and Performing Maternity in Early Modern England*. She is the author of numerous articles in essay collections and journals, including *Literary Cultures and the Child, Shaping Shakespeare for Performance, Metaliterary in Practice, Gender and Early Modern Constructions of Childhood, and Renaissance Quarterly*. She works in the theatre as a dramaturg and actor. Recent dramaturgy includes: *Twelfth Night, The Book of Will, and Joseph and the Amazing Technicolor Dreamcoat* (Utah Shakespeare Festival), *She Stoops to Conquer, Henry IV, Part 1 and Henry IV, Part 2, Wild Oats and Othello* (Chesapeake Shakespeare Theatre), and *Love's Labour's Lost* (Colorado Shakespeare Festival, Prague Shakespeare). She is also the author of *Competitive Figure Skating for Girls* and is a certified yoga instructor.

Yunus Doğan Telliel, Assistant Professor of Anthropology and Rhetoric

B.A., Cultural Studies, Sabanci University, Istanbul, Turkey, 2004

M.Phil., Anthropology, The City University of New York (CUNY), 2012

Ph.D., Anthropology, The City University of New York (CUNY), The Graduate Center, 2017

Prof. Telliel is an assistant professor of Anthropology and Rhetoric. He is currently finishing a monograph, titled "What is the Language of Islam?", based on NSF-funded ethnographic research on young Muslims' engagement with religious texts and modern science. In his new research, he turns ethnographic lenses towards technologists and examines the ethical implications of their work as designers and maintainers of socio-technical systems. As an extension of this interest, he is participating in several transdisciplinary research initiatives at WPI that bring together engineers, social scientists, and humanists.

Patrick H. Crowe, Instructor/Lecturer

B.S., Mechanical Engineering and Humanities and Arts: Drama Theatre, WPI, 2011

Mr. Crowe joins us from a mechanical engineering career where he specialized in industrialized indoor farming,

sprinkler and food processing equipment design and nuclear power plant fire protection. While maintaining his engineering career, he remained active in the theatre community and is an active alumni member of Alpha Psi Omega, the National Theatre Honor Society. While he's experienced in all aspects of technical theatre, he has a passion for scenic design and construction. In his role at WPI, he will supervise all technical components of the theatre program, while also maintaining and improving the theatre spaces on campus. In addition, he will be teaching the Theatre Workshop course and managing the team of student employees for the program.

Shana Lessing, Instructor/Lecturer

B.A., Liberal Arts, Sarah Lawrence College, 2002

M.A., Religion, Columbia University, 2007

Ph.D., Anthropology, City University of New York-Graduate Center, Fall 2019 (expected)

Shana Lessing is an Instructor/Lecturer in the Department of Humanities and Arts. With a background in medical anthropology, her teaching and research interests include culture and medicine, the politics of mental health and illness, global health and health equity, bioethics, and gender and sexuality. Her current research, supported by the National Science Foundation and the Wenner-Gren Foundation, focuses on the ethics of mental healthcare in the United States Military. She is also developing a new project on current debates around transgender sexual and reproductive health.

Department of Mathematical Sciences

Oren Mangoubi, Assistant Professor (Mathematics/Data Science)

B.S., Mathematics, and Engineering Sciences-Electrical, Yale University, 2011

Ph.D., Applied Mathematics, MIT, 2016

Mangoubi was most recently a postdoctoral researcher in Computer Science at EPFL and is joining WPI as an assistant professor in Mathematical Sciences and Data Science. He completed his Ph.D. at MIT in Applied Mathematics in 2016 and his undergraduate studies at Yale in Mathematics and Electrical Engineering in 2011. His research interests include the design and analysis of Markov chain Monte Carlo sampling algorithms and of probabilistic optimization algorithms. Prof. Mangoubi is also interested in the application of these algorithms to problems in Machine Learning, Data Science, Theoretical Computer Science, and Statistics.

Sam Walcott, Associate Professor and Sinclair Professor of Mathematical Sciences

B.A., Biology, Cornell University, 2001

Ph.D., Theoretical and Applied Mechanics, Cornell University, 2006

Prof. Walcott is a mathematical biologist, interested in using physical principles at the molecular scale to solve macroscopic problems in biology — e.g. how do a molecule's mechanical properties influence the behavior of a cell? How do single molecule measurements relate to muscle function? For the past eight years, he has been part of the mathematics faculty at UC Davis, as an Assistant Professor (2011-2015) and then as an Associate Professor (2015-2019). While there, he worked to integrate math and biology in the undergraduate curriculum.

Fangfang Wang, Associate Professor

B.S., Pure Mathematics, Nankai University, China, 2004

M.S., Statistics, University of North Carolina, Chapel Hill, NC, 2006

Ph.D., Statistics, University of North Carolina, Chapel Hill, NC, 2009

Prof. Wang's research concerns primarily statistical modeling of temporal and spatiotemporal data with

applications in economics, finance, and other related fields. Specifically, she works in the areas of time-series analysis, high-dimensional factor analysis, spatial statistics, financial econometrics, and risk management. Her work has appeared in leading academic journals in statistics and econometrics. In particular, Prof. Wang has published several time-series and econometrics studies related to volatility measurement and forecasting.

Mihnea (Mike) Stefan Andrei, Postdoctoral Scholar

B.S., Actuarial Mathematics, Worcester Polytechnic Institute, 2014

M.S., Financial Mathematics, Worcester Polytechnic Institute, 2014

Ph.D., Statistics and Applied Probability, University of California, Santa Barbara, 2019

Prof. Andrei's research interests have been Multivariate Bayesian Statistics and High-Dimensional Covariance Matrix Estimation with applications mostly in finance. He is currently pursuing not only the application of High-Dimensional Tensors in Bayesian Statistics, but also the application of Bayesian Statistics to enhancing the quality of MRI scans and to Astronomy (especially for the Drake equation). The focus of his Ph.D. thesis was on applying Bayesian Statistics to the Black-Litterman model, which combines historical data with investor's personal views and gives optimal portfolio weights.

Gonzalo Contador Revetria, Postdoctoral Scholar

B.S., Industrial Engineering, Universidad de Chile, 2012

B.S., Mathematics, Universidad de Chile, 2012

M.S., Mathematics, University of Wisconsin-Madison, 2018

Ph.D., Statistics, University of Wisconsin-Madison, 2019

Prof. Contador's research interests lay in the field of Mathematical Statistics and Stochastic Processes. His doctoral thesis develops a framework for inference based on offspring data spanning from a branching process and studies its asymptotic properties, showing that under minimal conditions, the data behaves asymptotically as independent and identically distributed. He also developed methods to estimate quadratic variation components for Ito processes with discontinuities during his doctoral research. At Worcester Polytechnic Institute, he will be mentored by Professors Jian Zou and Zheyang Wu.

Siamak Ghorbani Faal, Postdoctoral Scholar

B.S., Mechanical Engineering, Mechatronics, Sharif University of Technology, Iran, 2009

M.S. Mechatronics, Sharif University of Technology, Iran, 2012

Ph.D. Robotics Engineering, Worcester Polytechnic Institute, Worcester, MA, USA, 2018

Prof. Faal has a background in nonlinear control theory and application, path and motion planning algorithms, and embedded system design. Currently, in collaboration with Professor Marcus Sarkis at WPI, he is working on developing efficient and stable Finite Element solvers for Cahn-Hilliard equation with logarithmic nonlinear term. In parallel, he is conducting research on numerically efficient control algorithms that allow utilization of environmental energy sources in trajectory planning and control of small unmanned aerial vehicles. Prof. Faal was previously an adjunct teaching professor with the department of Mathematical Sciences.

Xavier Ramos Olivé, Postdoctoral Scholar

B.S., Mathematics, Polytechnic University of Catalonia, 2013

B.S., Physics, University of Barcelona, 2014

Ph.D., Mathematics, University of California, Riverside, 2019

Prof. Ramos' research interests are in the field of Geometric Analysis. In his thesis he focused on the heat

equation and eigenvalue problems on curved spaces and studied how curvature influences their solutions. He has published one paper and has a co-authored one in press. He has taught Multivariable Calculus and Precalculus at UC Riverside, where he was also part of a team that produced tutorial videos in mathematics using the learning glass technology. While at UC Riverside, he started MathConnections, a graduate student conference in Southern California that, after three consecutive years being hosted at UCR, will become a rotating conference, moving to UC San Diego in 2020.

William C. Sanguinet, Senior Instructor/Lecturer

B.S., Physics, WPI, Worcester, MA, 2010
B.S., Mathematical Sciences, WPI, Worcester, MA, 2010
M.S., Applied Mathematics, WPI, Worcester, MA, 2013
Ph.D., Mathematical Sciences, WPI, Worcester, MA, 2017

Prof. Sanguinet's research interests are varied and include applied mathematics, mathematical modeling, numerical analysis, and scientific computation. He has published research in several areas and presented this research at various national and international conferences. His research has focused on various materials science and physics applications, specifically, in his Ph.D. thesis, he developed a deeper understanding of wave propagation through functionally graded dynamic materials utilizing both analytical and computational methods.

Herman Servatius, Senior Instructor/Lecturer

B.S., Physics, B.S. Mathematics, M.S. Mathematics,
M.S., Computer Science, Ph.D. Mathematics, Syracuse University

Prof. Servatius' research interests are Algebraic Analysis of Symmetry, Discrete and Computational Geometry, and Combinatorial and Geometric Constraint Systems. Prof. Servatius was previously an Adjunct Instructor/Lecturer for the departments of Mathematical Sciences and Computer Science. He will teach for both departments this upcoming academic year.

Chaozhen Wei, Postdoctoral Scholar

B.S. Mathematics, Sichuan University, China, 2012
Ph.D. Mathematics, University at Buffalo, State University of New York, 2017

Prof. Wei's research interests are in applied and computational mathematics with applications in physics, material science and biology. During his Ph.D. at SUNY at Buffalo, he mainly worked on the topic of epitaxial growth and morphological evolution of thin film and won the College of Arts and Sciences Dissertation Fellowship for his dissertation. Before joining WPI, he worked as an IAS Postdoctoral Fellow at HKUST, with research focus on modeling and simulation on grain boundary dynamics. At WPI, he will devote on developing new models and computational methods for biological tissue growth.

Duncan Wright, Postdoctoral Scholar

B.A., Mathematics, University of Northern Iowa, 2012
M.A., Mathematics, University of Northern Iowa, 2014
Ph.D., Mathematics, University of South Carolina, 2019

Prof. Wright's research interests include probability theory, mathematical physics, and quantum information theory. In his thesis, he worked on investigating properties of quantum generalizations of random walks, including dynamical entropy which can be used to quantify uncertainty. He currently has two publications in

press and one in the submission process. As a Ph.D. student at UofSC, Duncan was instructor of record for many courses ranging from Finite Mathematics to Ordinary Differential Equations. He was also an active member in the AWM student chapter at UofSC.

Department of Physics

Seyed (Reza) A. Zekavat, Professor (Physics/Data Science)

B.S., Electrical and Computer Engineering, Shiraz University, Shiraz

M.S., Electrical and Computer Engineering, Sharif University of Technology, Tehran

Ph.D., Electrical and Computer Engineering, Colorado State University

Prof. Zekavat research interests are in wireless sensor technologies, positioning systems and radar theory, and data analysis methods such as blind signal separation, feature extraction, and neural networking. He is active on the technical program committees for several IEEE international conferences, serving as a committee chair or member. He has served on the editorial board of many journals including IET Communications, IET Wireless Sensor System, Springer International Journal on Wireless Networks, and GSTF Journal on Mobile Comm. Prof. Zekavat has also served as the adviser for a large number of Ph.D. and master's students. He has been on the Executive Committee of multiple IEEE conferences, is on the steering committee of IEEE WiSEE conference, and is the founder and chair of Space Solar Power workshop.

Hridaya Shah, Assistant Teaching Professor

B.Eng., Electronics & Communication, Hemchandracharya North Gujarat University, 2003

M.S., Physics, University of Massachusetts Lowell, 2015

Ph.D., Physics, University of Massachusetts Lowell, 2017

Hridaya Shah is an assistant teaching professor of physics. He comes to WPI from the University of Massachusetts, Lowell, where he was a research associate in the physics department and an adjunct faculty, teaching calculus-based courses on Newtonian mechanics as well as electricity and magnetism to engineering majors. While working on his graduate degrees, he also was a teaching assistant and tutor at UMass Lowell. He has published in the peer-reviewed journal "The Astrophysical Journal".

As a physicist, he has expertise in the thermodynamic equilibrium conditions of highly magnetic White Dwarf stars. He's currently incorporating the effects of the theory of general relativity into his findings. His other research interests lie in the field of quantum chemistry, or applying quantum mechanics to chemical systems. Using molecular dynamics and density functional theory, he is researching to find geometrically optimized conformations of certain molecules and predicting their properties for use in real-world applications.

Department of Social Science and Policy Studies

Crystal H. Brown, Assistant Teaching Professor

M.S., Political Science, University of Oregon, 2016

Ph.D., Political Science, University of Oregon, 2019 (expected)

Ms. Brown will receive her Ph.D. in Political Science with a focus in the subfields of Comparative Politics and International Relations from the University of Oregon (August 2019). Her areas of interest include comparative public policy, immigration, human rights, refugees, race/ethnicity, and international security studies. Ms. Brown is dedicated to showing students the important role politics play in technological development and migration. To research issues of migration, Ms. Brown was a Fulbright Schuman Scholar August 2017- July 2018 in

Denmark and in Sweden. She gained her interest in international issues from serving in the United States Peace Corp 2006-2009 in Bulgaria.

Janice Kookan, Ph.D., Assistant Research Professor

M.S., Mathematics for Educators, University of Illinois at Chicago, 1998

Ph.D., Educational Psychology, University of Connecticut, 2015

Prof. Kookan's research interests are quite varied. She is a methodologist interested in new ways to use modeling methods to explore nuanced research questions. But she is also a mathematician, and so substantively interested in how people learn mathematics, especially related to motivation to persist when struggling with mathematics. Her thinking has been deeply influenced by training in measurement. For her dissertation, she investigated change in student classroom behavior over time as measured by single item scales using multilevel longitudinal structural equation models, specifically growth mixture models, combining a methodological and substantive focus. Prof. Kookan was a Strategic Data Fellow after graduation, working with a local urban school district to help them use their data to provide answers and solutions which will help improve student outcomes. She has taught at the high school, community college, and university level, has supervised high school mathematics student teachers, and is a research consultant.

SCHOOL OF ENGINEERING

Department of Biomedical Engineering

Adam Lammert, Assistant Professor

A.B. in Cognitive Science from Vassar College in Poughkeepsie, NY, 2004

M.S. in Computer Science from North Carolina State University, 2006

Ph.D. in Computer Science from the University of Southern California, 2014

Prior to Prof. Lammert joining the faculty at WPI, he spent four years as a Technical Staff Scientist in the Bioengineering Systems & Technologies Group at the Massachusetts Institute of Technology Lincoln Laboratory, and one year as Visiting Assistant Professor in the Computer Science Department at Swarthmore College. He holds an Adjunct Assistant Professor appointment at Massachusetts General Hospital Institute of Health Professions. From 2006 to 2008, he was Lab Manager of Speech and Hearing Research at the Veterans Affairs Northern California Health Care System in Martinez, CA. His research is focused on behavioral analytics for neurocognitive assessment, developing novel methods that enable machines to find meaningful patterns in human behavior, and gain awareness of human neurocognitive states. Work in this area involves the development of devices and signal processing for quantification of human behavior, as well as computational models of cognitive and sensorimotor mechanisms." He has published over 45 peer-reviewed papers, several of which have been awarded special status. His research is focused on behavioral analytics for neurocognitive assessment, developing novel methods that enable machines to find meaningful patterns in human behavior, and gain awareness of human neurocognitive states.

Department of Civil and Environmental Engineering

Carrick Eggleston, Professor and Department Head

A.B., Earth Sciences, Dartmouth College, 1983

Ph.D., Applied Earth Sciences, Stanford University, 1991

Carrick M. Eggleston is a 1983 graduate of Dartmouth College. After working in the oilfields of West Texas briefly, he obtained a Ph.D. from Stanford in Applied Earth Sciences in 1991. He was a postdoctoral research scientist at ETH Zurich from 1991 to 1994, in the organization now known as the Swiss Federal Institute for Aquatic Science and Technology with roots in the science and engineering of water treatment. After a postdoc post at Lawrence Livermore National Laboratory, he joined the faculty of the Department of Geology and Geophysics at the University of Wyoming in 1995. He became head of that department in 2016. With his spouse Sarah Strauss who is joining WPI's Global School, they built an off-grid house 2009-2011, have spent sabbatical leaves and fellowships in Switzerland, Germany, Ecuador, India, and China, and have led student study abroad trips, including courses in Scotland and India. Eggleston is an NSF CAREER award winner and a Fulbright awardee (2012-2013). He holds a patent on the hydrothermal atomic force microscope. He is presently working on the photochemical origins of perchlorates discovered on Mars, with a view mainly to understanding a whole range of light-driven environmental transformations that can take place here on Earth as well. He is now focusing on global energy transition, our carbon footprint, and the pathways by which we must deal with the global energy-water-food-climate problems our students today must deal with in the coming decades.

Department of Electrical and Computer Engineering

Patrick Robert Schaumont, Professor

B.S., Electronics Engineering, Ghent University, Belgium, 1988
M.S., Computer Science, Ghent University, Belgium, 1990
Ph.D., Philosophy & Electrical Engineering, 2004

Patrick Schaumont is a Professor in Computer Engineering at Virginia Tech. His research interests are in design and design methods of secure, efficient and real-time embedded computing systems. He received his Ph.D. degree in Electrical Engineering from UCLA in 2004, his MS degree in Computer Science from Ghent University in 1990. From 1992 to 2000 he was a staff researcher at IMEC, Belgium. He joined Virginia Tech in 2005. From 2012 to 2014 he served as Director of the Center of Embedded Systems for Critical Applications (CESCA) at Virginia Tech. In 2014 he was a visiting researcher at the National Institute of Information and Telecommunications Technology (NICT) in Japan. In 2018 he was a visiting researcher at Laboratoire d'Informatique de Paris 6 in Paris, France. He was named Outstanding New Assistant Professor in 2012 and was appointed Dean's Faculty Fellow in 2013. He served as program co-chair for several conferences in cryptographic and secure engineering, including CHES, HOST, and FDTC. He received the National Foundation CAREER Award in 2007.

Ziming Zhang, Assistant Professor

B.S., Computer Science & Technology, Northeastern University, 2001
M.S., Computer Science, Simon Fraser University, 2010
Ph.D., Computer Science, Oxford Brookes University, 2018

Ziming Zhang is currently a Research Scientist at Mitsubishi Electric Research Laboratories (MERL) since 2016. Before joining MERL he was a Research Assistant Professor at Boston University from 2015-2016. He completed his Ph.D. from Oxford Brookes University, U.K., under the supervision of Professor Philp Torr (now a professor at University of Oxford). His research interests lie in computer vision and machine learning, including object recognition and detection, person re-identification, zero-shot learning, optimization, deep learning, etc. His works have appeared in TPAMI, CVPR, ICCV, ECCV and NIPS. He serves as a reviewer/PC member in the top-tier conferences including CVPR, ICML, NIPS, AAAI, AISTats, IJCAI and ICLR. He won the R&D100 Award, 2018.

Prof. Sundari Ramabhotla, Assistant Teaching Professor

B.S., Electrical & Electronics Engineering, JNTU, India, 2007
M.S., Electrical Engineering, California State University, Long Beach, 2010
Ph.D., Electrical Engineering, Texas Tech University, 2015

After completing her Ph.D. Prof. Ramabhotla began her career as a postdoctoral research associate at Texas Tech University with the National Wind Institute. The research performed was in the area of modeling and controlling of energy sources in microgrid using the PSCAD/EMTDC. In 2018 she joined the faculty at the Vaughn College of Aeronautics & Technology in the Department of Engineering & Technology. Her work there continued in the area of power systems, microgrids and renewable energy. Prof. Ramabhotla became a life member of the Society of Women Engineers at the SWE17 conference for excellence and active participation in SWE. She is very active in the power area as a peer reviewer of over 48 journals and conferences. This fall she will be joining the Department of Electrical & Computer Engineering as an assistant teaching professor.

Department of Fire Protection Engineering

James L. Urban, Assistant Professor

B.S., Mechanical & Aerospace Engineering, Case Western Reserve University, 2012

M.S., Mechanical Engineering, University of California, Berkeley, 2014

Ph.D., Mechanical Engineering, University of California, Berkeley, 2017

Prof. Urban received his Ph.D. degree in Mechanical Engineering from the University of California, Berkeley in 2017. His thesis and research examined on how hot metal sparks from sources such as clashing powerlines, welding, and abrasive metal cutting can ignite flammable material. From 2017 to 2019 he held dual appointments as a postdoctoral researcher and lecturer in the department of Mechanical Engineering. During this time, he did research related to wildland fire, specifically relating to firebrand/ember spotting and measuring burning characteristics of wildland fuels and conducting research in support of developing new flammability screening procedures for materials to be used in spacecraft cabin environments. Prof. Urban has authored over 10 peer-reviewed publications cited by close to 100 articles. Prof. Urban's areas of active research include: developing sensors and detectors for wildland and wildland-urban interface fires, coupling reduced physics sub-models to CFD software to accelerate wildfire simulations, performing complementary simulations and experiments to better understand ignition and burning of wildland and manufactured materials, and developing and applying flow visualization and computer vision techniques to combustion and fire research.

Department of Mechanical Engineering

Xiangrui Zeng, Assistant Professor

B.S., Automotive Engineering, Tsinghua University, 2009

M.S., Power Engineering and Engineering Thermophysics, Tsinghua University, 2012

Ph.D., Mechanical Engineering, The Ohio State University, 2016

Prof. Zeng has been working as an analytics scientist in Smart Mobility Analytics at Ford Motor Company, Dearborn, Michigan since 2016. His research interests cover various topics in analysis, modeling, estimation, control, and optimization of dynamical systems, especially automotive and intelligent transportation systems. Prof. Zeng has published more than 15 peer-reviewed journal and conference papers on automotive control, driver behavior modeling, mobility data analytics, and optimal control theory.

Yihao Zheng, Assistant Professor

B.S.E. Mechanical Engineering, Shandong University, Jinan, China 2012

M.S.E. Mechanical Engineering, University of Michigan, Ann Arbor, MI 2014

Ph.D. Mechanical Engineering, University of Michigan, Ann Arbor, MI 2016

Yihao Zheng was a Research Investigator in the Department of Mechanical Engineering at the University of Michigan, Ann Arbor (UM). He also had a joint appointment in the Department of Internal Medicine, Division of Nephrology, at the UM Medical School. He was also a Research Assistant in the VA Ann Arbor Healthcare System. His core research area is biomedical manufacturing. He applies manufacturing science and technology to tackle unmet clinical needs and enhance healthcare. He characterizes biological material properties, models manufacturing processes, and develops medical devices and clinical manufacturing systems. He has collaborated with UM Cardiovascular Center, Neurosurgery, Orthopedic Surgery, Plastic Surgery, Nephrology, and Otolaryngology, VA Ann Arbor Health System, and medical device companies including Boston Scientific and Cardiovascular Systems Inc. His research has been funded by NSF, NIH, VA, Coulter Translational Research

Partnership, UM McKay award, and medical device companies. He has published 15 journal articles and filed four patents.

Prof. Zachary Taillefer, Assistant Teaching Professor

B.S., Aerospace Engineering, WPI, 2011

M.S., Mechanical Engineering, WPI, 2012

Ph.D., Aerospace Engineering, WPI, 2017

After completing his Ph.D. Prof. Taillefer joined Busek Co. Inc. in Natick Mass, one of the leading US suppliers of electric propulsion for spacecraft. At Busek, Prof. Taillefer performed sponsored research and rose to the rank of Senior Scientist in the Hall Thruster Group. Prof. Taillefer will be joining the Aerospace Engineering Program and will be teaching undergraduate and graduate courses in aerodynamics and propulsion, advise projects, participate in curriculum development, and advise students. Prof. Taillefer will also continue his research endeavors in electric propulsion.

FOISIE BUSINESS SCHOOL

Kenny Ching, Assistant Professor

B.S., Biomedical Engineering, The Johns Hopkins University, 2003

M.S., Technology and Policy, Massachusetts Institute of Technology, 2004

Ph.D., Management, Massachusetts Institute of Technology, 2015

Kenny joins WPI from University College London (UCL) where he was an Assistant Professor in Strategy and Entrepreneurship. A business school trained economist, his research is primarily focused on understanding the economic drivers of innovation and entrepreneurship, with core interests in big data analytics and industrial change & innovation policy. His research has been published in *Industrial and Corporate Change* and *National Bureau of Economic Research*, and has been featured in *Forbes*, *the BBC* and *Hays Journal*. Kenny is an award-winning educator, having won several teaching awards at UCL. He also has experience working with startups and companies through his advisory practice. Prior to his academic career, Kenny spent several years working in both private and public sectors in Asia and the US. His most recent professional position was that of a venture capitalist, where he managed a US\$15m early-stage fund based in Singapore. Kenny is a terrible player of the computer game *Defense of the Ancients* and makes an annual pilgrimage to *The International* tournament. He also enjoys playing tennis (badly) and any other racket sport because he hates going to the gym.

James Ryan, Associate Teaching Professor

B.S.B.A., Industrial Management, Auburn University, 1981

M.M.I.S., Management Information Systems, Auburn University, 2001

Ph.D., Management of Innovation and Information Technology, Auburn University, 2006

Jim joins WPI after 18 years in academia, where most recently he was an Associate Professor of Information Systems and Quantitative Methods. A business school trained research scientist, his research has streams in strategic information systems planning, applied information technology in business applications, and information technology applications in healthcare. A large portion of his published research in healthcare concerns process improvements and observed effects within the perioperative process of a large academic medical center. His research has been published in the *International Journal of Healthcare Information Systems and Informatics*, *International Journal of Human Resources, Health and Technology*, *International Journal of Higher Education*, as well as proceedings from the Americas Conference on Information Systems, the Hawaii International Conference on System Sciences, and the International Conference on Health Information Technology Advancement.

Jim is an award-winning researcher, having won several publisher and peer research excellence awards. His varied teaching experience covers undergraduate and graduate information technology and management courses across multiple channel delivery to diverse student demographics in the United States, Europe, and Asia. His service to his profession includes leadership roles in the Society for Information Management and the Association of Information Systems SIGHealth Special Interest Group. Prior to his academic career, Jim spent 24 years working in both private and public sectors. His professional experience ranges from industrial management, quality assurance, and corporate productivity improvement to database administration, decision support, and business intelligence.

Jim enjoys traveling and experiencing the many different cultures within our global community.

Robert Sarnie, Professor of Practice in Financial Sciences

B.S., Management Science, Bridgewater State College, 1988

M.B.A., Frank Sawyer School of Management, Suffolk University, 1996

Rob joins WPI from Fidelity Investments, where he spent 23 years in the finance industry, holding multiple executive leadership positions including VP of Strategy and Planning, VP Human Resource Systems, and VP Finance, Procurement, and Accounting Systems. Rob also previously held positions in both the public and private sectors for companies in the manufacturing and nonprofit industries.

At Fidelity, Rob exercised his passion for coaching and mentoring by leading multiple mentoring programs and dynamically presenting motivating talks and panel discussions across multiple forums and regions. Rob was elected by senior management to be the Corporate Technology Group business unit's LEAP champion, which involved serving on the Fidelity enterprise wide LEAP steering committee. LEAP is Fidelity's state of the art talent recruitment, retention, and development program designed to equip recent graduates to become best-in-class technologists.

Rob is an IAABO basketball referee and a devoted Boston sports fan. He has had the good fortune to attend a Red Sox World Series, a Celtics Championship, and six Patriots Super Bowls! Rob also enjoys going to the gym to lift weights and playing pick-up hoops. When he is not focused on sports, he enjoys travelling to Disney World with his wife and grown children.

Prof. Omid Shahvari, Visiting Assistant Professor

B.S., Industrial Engineering, South Tehran, 2004

M.S., Industrial Engineering, Mazandaran University of Science and Technology, 2009

Ph.D., Industrial and Manufacturing Engineering, Oregon State University, 2017

Prof. Shahvari joined the faculty of the Foisie Business School at WPI in August 2019. Prior to joining WPI, he was a Visiting Assistant Professor in the department of Industrial and Systems Engineering (ISE) at Mississippi State University (Msstate). He previously was a Postdoctoral Associate in the ISE department at Mississippi State.

His research is primarily focused on operations research, with core interests in optimization problems such as scheduling, logistics, transportation, supply chain, and operation management in a variety of applications including production planning, resource and facility scheduling, health care management, scheduling in transportation, renewable energy management, electronic vehicle charging management, collaborative energy sharing management, load congestion management, post-disaster inspection, sustainable design in supply chain, and many more. His publications have appeared in journals such as IISE Transactions, Applied Energy, Computers & Operations Research, International Journal of Production Economics, and several conference proceedings. One of his paper, published in IISE Transactions, has been featured in the Research section of the June, 2019 issue of the IISE's Industrial and Systems Engineer magazine. In addition, he received the Best Paper Award, based on both paper content and presentation, for a paper presented at the 2009 International Conference on Value Chain Sustainability (ICOVACS 2009). Prof. Shahvari is an active member of the Institute of Industrial and Systems Engineers (IISE) and the Institute for Operations Research and the Management Sciences (INFORMS).

THE GLOBAL SCHOOL

Interdisciplinary and Global Studies Division (IGSD)

Sarah Stanlick, Assistant Professor

B.A., International Affairs, Lafayette College, 2004

M.A., Coexistence and Conflict Studies, Brandeis University, 2008

Ph.D., Learning Sciences and Technology, Lehigh University, 2015

Prof. Sarah Stanlick is joining the faculty of the Interdisciplinary and Global Studies Division at Worcester Polytechnic Institute. She was the founding director of Lehigh University's Center for Community Engagement and faculty member in Sociology and Anthropology. She previously taught at Centenary College of New Jersey and was a researcher at Harvard's Kennedy School, assisting the US Ambassador to the United Nations, Samantha Power. She belongs to organizations like the Society for the Study of Social Problems (SSSP) and the International Association for Research on Service Learning and Community Engagement (IARSLCE), as well as co-chairing the Imagining America Assessing the Practices of Public Scholarship (APPS) research team. She has published in journals such as *The Michigan Journal of Community Service Learning*, *The Social Studies*, and the *Journal of Global Citizenship and Equity Education*. Her current interests include global citizenship, health and human rights, transformative learning, and the internet's impact on empowerment and capacity to build community.

Sarah Strauss, Professor

A.B., Religion, Dartmouth College, 1984

M.P.H., Community Health, San Jose State University, 1987

Ph.D., Cultural Anthropology, University of Pennsylvania, 1997

Prof. Sarah Strauss has been Professor of Anthropology at the University of Wyoming in Laramie, where she taught from 1995-2019, and has also been Visiting Professor at the Department of Geosciences of the University of Fribourg, Switzerland (2005-6); Visiting Scientist at the National Center for Atmospheric Research (NCAR) in Boulder, Colorado (2008-9); Fulbright-Nehru Visiting Professor at Pondicherry University, India (2013), and an Interdisciplinary Fellow at the Rachel Carson Center for Environment and Society in Munich, Germany (2016-17). Her research focuses on the intersection of environmental and health issues, values, and practices, especially those related to water, climate change and energy transitions. Sarah has conducted ethnographic fieldwork in India, Switzerland, and the USA; her books include *Weather, Climate, Culture* (2003, edited with Ben Orlove), *Positioning Yoga* (2004), and *Cultures of Energy* (2013, edited with Stephanie Rupp and Thomas Love). She is currently working on a new book, *The Yoga of Change: Tales of Energy, Climate, and Culture in the Anthropocene*.

Seth Tuler, Associate Professor

B.A., Mathematics, University of Chicago, 1984

M.S., Technology and Policy, Massachusetts Institute of Technology, 1987

Ph.D., Environmental Science and Policy Program, Clark University, 1996

Prof. Seth Tuler has been teaching in the Interdisciplinary and Global Studies Division since 2002 as an adjunct or teaching professor, which has included advising over 80 projects in Boston, Worcester, Thailand, Australia, Ecuador, India, Costa Rica, and the UK. On occasion he has also taught in the Environmental Studies Program. Seth's research interests have been concerned with public participation, risk communication, risk governance, and developing tools to characterize human impacts and vulnerabilities to risk events in a wide range of

technology and risk policy arenas. He has been awarded over \$2.7 million in grants and has an extensive publication record of 41 peer-reviewed journals, book chapters, and peer-reviewed technical reports. Because of his expertise on social risk issues related to nuclear waste he served on the National Academy of Science's Committee on Transportation of Spent Nuclear Fuel and High-Level Radioactive Waste and was asked to co-author two technical reports for President Obama's Blue Ribbon Commission on America's Nuclear Future. More recently he has served on the National Academies of Sciences, Engineering, and Medicine's Committee on Alternatives for the Demilitarization of Conventional Munitions; National Academies of Sciences, Engineering, and Medicine's Standing Committee on Chemical Demilitarization; and National Research Council Committee on Review of Criteria for Successful Treatment of Hydrolysate at PCAPP and BGCAPP.

John-Michael Davis, Assistant Teaching Professor

B.A., Psychology, Wilfrid Laurier University, 2009

M.Sc., Integrated Water Resources Management, McGill University, 2012

M.A., Environmental Studies, Ben Gurion University, 2013

Ph.D., Geography, Memorial University of Newfoundland, 2017

Prof. John-Michael Davis holds a diverse academic background with degrees in psychology, water management, environmental studies, and human geography – which rightly embodies the interdisciplinary approach to research that is cultivated in the IGSD. His work follows a common theme that values community-driven and action-oriented research to address complex development challenges related to sustainable livelihoods, informal economies, waste management, environmental contamination, community representation, and NGO legitimacy. Involving communities and local stakeholders within all phases of the research process is fundamental in his work. This builds momentum to empower communities to achieve greater social and environmental justice during and beyond research projects. Over the past eight years, John-Michael has investigated and improved the economic and environmental conditions of North-to-South e-waste trade and the emergence of informal e-waste economies across the global South – with extensive fieldwork in the Israeli-Palestinian e-waste system. His award-winning research has been widely published in academic journals, featured in national and international media outlets, and directly influenced policy decisions.

Joseph A. Doiron, Assistant Teaching Professor

B.A. in International Affairs, Xavier University

M.A. in German Studies, Tufts University

Ed.D. in Leadership and Policy Studies, Boston University

Prof. Doiron is an education innovation researcher and practitioner with experience and expertise in the US, Middle East, Africa, Asia, and Australia. His most recent work focuses on the research, design, and evaluation of innovative education programs, processes, and products for the US and international markets that seek to help students, teachers, and institutions better achieve their goals. These lines of inquiry and practice include higher education futures, redesigning teacher preparation programs, creating new pedagogical professional development tools and resources, among others. As a practitioner, Prof. Doiron has worked as a management consultant providing market research and strategic advisory services to universities, education organizations, startups, and established companies in various markets around the globe. In addition to this work, he completed a Fulbright in Albania, Glenn Fellowship at Boston University, and a Fulton Postdoctoral Fellowship at Arizona State University in education innovation. He is a near-native or advanced speaker of several languages including Albanian, French, German, and Spanish, and has basic or intermediate proficiency in several languages including Arabic, Afrikaans, and Turkish.