WORCESTER POLYTECHNIC INSTITUTE
September 8, 2015

To: The WPI Faculty

From: M. W. Richman
Secretary of the Faculty

The first Faculty meeting of the 2015-2016 academic year will be held on **Tuesday**, **September 8, 2015** at 3:15 p.m. in **Olin Hall 107**, with refreshments at 3:00**.**

1.	Call to Order • Consideration of the Consent Agenda	M. Richman
2.	Welcome	M. Richman
3.	President's Remarks	L. Leshin
4.	Provost's Remarks	B. Bursten
5.	Introduction of New Faculty (each brief!)	B. Bursten Dept. Heads
6.	Old Business	
7.	New Business	
8.	Closing Announcements	
9.	Adjourn	

TABLE OF CONTENTS
Faculty Meeting Materials, September 8, 2015

		Page
1.	Consent Agenda Items:	
	Minutes of May 13, 2015 Meeting	3
	CAO Motion:	
	- to remove ES3005 from the undergraduate catalog	6
2.	Brief Biographies of New WPI Faculty Members	
	- Tenured and Tenure Track Faculty Members	7
	- Non-Tenure Track Faculty Members	12

WORCESTER POLYTECHNIC INSTITUTE
Faculty Meeting Minutes
May 13, 2015

Summary:

1. Call to Order
2. Announcements
3. President's Remarks
4. Provost's Remarks
5. Secretary of the Faculty's Remarks
6. Memorial Resolution for John Meader (ChE)
7. Committee Reports
8. Old Business
9. Adjournment

Detail:

1. Call to Order

The ninth meeting of the 2014-2015 academic year was called to order at 11:02am in Olin 107 by Secretary of the Faculty, **Prof. Sullivan** (ME). The consent agenda, including the minutes of the April 16, 2015 Faculty meeting were approved with one minor correction.

2. Announcements

Prof. Heinricher (Dean, Undergrad. Studies) encouraged those in attendance to participate in the baccalaureate ceremony to be held on May 15 and the commencement ceremony to be held on May 16. **Greg Snoddy** (Assoc. Dean of Students) stressed the importance of having faculty members notify him in advance if they intended to attend the commencement.

Prof. Vernescu (VPR) introduced two new members of the Office of Sponsored Programs: Michael McElman (Assistant Director, Subawards and Subcontracts); and Antje Harnisch (Director of Sponsored Programs).

3. President's Remarks

Pres. Leshin expressed her condolences for the passing of Dean Bill Grogan and observed the enormous impact that he had on WPI's educational direction. She paid special tribute to his role in both formulating and implementing the WPI Plan, and asked that those in attendance observe a moment of silence in Dean Grogan's honor.

Pres. Leshin thanked Prof. Sullivan for his service as Secretary of the Faculty over the past three years. In addition, **Pres. Leshin** expressed her personal gratitude to Provost Overström for helping her make a smooth transition to WPI over the past year. She also thanked the WPI Faculty for its enthusiasm for and dedication to WPI's mission.

4. Provost's Remarks

Provost Overström thanked all those in attendance for their support over the past five years. He commented on the extent to which WPI has changed over the past five years and the strength of WPI's current position. Provost Overström expressed special appreciation to the staff in the Provost's Office and asked those in attendance to recognize their efforts. Provost Overström expressed special pride in having served as over 100 new faculty colleagues were hired, and in having worked to embrace the non-tenure track faculty at WPI. Provost Overström acknowledged the efforts of the academic leadership

team during a period of such significant growth. He explained that he will be on a sabbatical next year working to elevate the relationship between WPI and the UMass Medical School.

5. Secretary of the Faculty's Remarks

Provost Overström read a citation of appreciation for Prof. Sullivan's dedicated service as Secretary of the Faculty over the past three years. **Prof. Demetry** (ME; Chair, COG) presented Prof. Sullivan with a gift of appreciation. **Prof Sullivan** (ME) thanked both Prof. Rissmiller (SSPS) for his service as parliamentarian, and Penny Rock for her work in maintaining the Faculty Governance Office. He expressed his pride in serving as Secretary of the Faculty.

6. Memorial Resolution

Prof. DiBiasio (ChE) read a memorial resolution to honor the passing of Prof. John Meader, who served with distinction on the WPI Faculty in the Department of Chemical Engineering. The resolution **passed** and a moment of silence was observed in Prof. Meader's honor.

7. Committee Reports

CAO

Prof. Lindeman (CS) for the Committee on Academic Operations, moved that the undergraduate student graduation list (previously distributed) be approved for May 16, 2015 graduation. **(See Addendum #1 attached to the file copy of these minutes.)** The motion **passed**.

CGSR:

Prof. Demetriou (ME), for the Committee on Graduate Studies and Research, moved that the graduate student graduation list (with one addition to the list previously distributed) be approved for May 16, 2015 graduation. **(See Addendum #2 attached to the file copy of these minutes.)** The motion **passed**.

CGSR

Prof. Demetriou (ME), on behalf of the Data Science Program and for the Committee on Graduate Studies and Research, moved to that a Ph.D. degree program in Data Science (described in detail in the distributed materials) be offered by the Data Science Program.

Prof. Rundensteiner (CS) explained that Data Science Program consists of eleven current faculty members and two new faculty members (to join next year) and is proposing the Ph.D. program as a natural extension of the M.S. program that is currently offered at WPI. She pointed out that in its first year (beginning August 2014) the M.S. program in Data Science attracted 30 students and expects to attract an equal number of students in its second year. All students pay full tuition and appear to have very strong employment prospects. In addition, CPE has attracted a cohort of 15 M.S. students in Data Science at UTC. Prof. Rundensteiner provided a detailed description of the credit requirements, the breadth and depth course requirements, the research requirements and the research committee make-up, and possible research tracks for the proposed Ph.D. program. Prof. Rundensteiner pointed out that there is a strong commitment from the WPI Administration to support the program with new faculty positions and added space for future labs. The goal, based on interest already expressed by prospective graduate students, is to implement the program starting fall 2015. **(See Addendum #3 attached to the file copy of these minutes.)**

In response to a question from **Prof. Salazar** (CE), Prof. Rundensteiner explained the proposed program would have a qualifying exam to test research aptitude as well as a strong set of technical courses (with strict grade-requirements) that would eliminate the need for a comprehensive Ph.D. exam.

Prof. Thompson (ChE) asked if students in the program participating in unpaid industrial internships would in the future be in any jeopardy given new Dept. of Labor regulations requiring that such students

be paid for their work. Prof. Rundensteiner explained that the program would follow whatever guidelines the University adopts for project/internship work done for academic credit.

The motion **passed.**

Prof. Demetriou (ME), on behalf of Blake Currier (Physics), Germano Iannacchione (Physics), and Pete Miraglia (ME), for the Committee on Graduate Studies and Research moved that the interdisciplinary M.S. degree in Nuclear Science and Engineering (described in the materials distributed) for Kara Devaney be approved.

The motion **passed.**

8. Old Business

Prof. Phillies (PH) announced his retirement. He observed that our students admit to not working hard and he urged the Faculty to address that problem. He emphasized the importance of using textbooks appropriate to our model of fewer in-class hours and more hours spent studying out-of-class. He stresses the importance of having academic leaders (including department Heads) who are senior faculty members, leaders in pedagogical thought, and active researchers. And, he urged us to change in advance, and to do so by comparing ourselves to other first line schools. Finally, he expressed his delight over his time at WPI and wished the Faculty well.

9. Adjournment

The meeting adjourned at 11:52am.

Respectfully submitted,
Mark Richman, Secretary of the Faculty

Addenda on file with these minutes:

1. **COG, Undergraduate Student Graduation List, May 2015**
2. **CGSR, Graduate Student Graduation List, May 2015**
3. **CGSR, Proposed Ph.D. Program in Data Science**

Date: September 8, 2015
To: WPI Faculty
From: Committee on Academic Operations
Prof. Lindeman, Chair
Re: Motion to remove ES3005 from the undergraduate catalog

Motion: On behalf of the Department of Fire Protection Engineering, the Committee on Academic Operation recommends and I move that ES 3005 be removed from the undergraduate catalog.

Description of course to be removed:
ES 3005. RADIATION HEAT TRANSFER APPLICATIONS.
Cat. I
Radiation Heat Transfer Applications will develop the student's knowledge of radiation heat transfer. Fundamentals of radiation will be covered. The primary focus of the course will be on applications of radiation heat transfer in the built
environment. Two key areas will be solving radiation problems related to building fires (infrared) and building environmental heating (solar). Recommended background: MA 2051.

Rationale:
The impact on students should be minimal as ES 3005 has not seen adequate enrolment to continue offering the course. ES 3005 is not listed as part of distribution requirements for any major other than Architectural Engineering. Under the Mechanical concentration in Architectural Engineering ES 3005 is one of four courses listed where the students must choose two courses. Currently there are a limited number of students in the Mechanical concentration. Most importantly, ES 3005 will be replaced by similar course ME 442x. ME 442x will address the same topic as ES 3005 but will be significantly reorganized to meet the needs of the Mechanical Engineering Thermal-Fluid Engineering concentration requirements for design. ME 442x will become an additional course for students to choose from similar to the current course ME 4429Thermofluid Application and Design.

Impact on Distribution Requirements and Other Courses**:**
See above related to Architectural Engineering distribution requirements. The Architectural Engineering program has been contacted. Only a limited number of students are in the Mechanical concentration. Architectural engineering agrees with dropping ES 3005 due to limited interest. The replacement course ME 442x could be incorporated into Architectural Engineering distribution options.

The course is typically offered A Term and the course is Cat. I. A replacement course will now be offered as ME 442x.

There are no changes to resource requirements and the implementation date for this action is the 2015-16 academic year.

Brief Biographies of New WPI Faculty
Fall 2015

Tenured and Tenure-Track Faculty Members

Provost
Department of Chemistry and Biochemistry

Dr. Bruce E. Bursten, Professor, Provost and Senior Vice President
S.B., Chemistry, University of Chicago, 1974
Ph.D., Chemistry, University of Wisconsin-Madison, 1978

After receiving his Ph.D., Bruce Bursten was an NSF Postdoctoral Fellow at Texas A&M University. He joined the faculty of The Ohio State University as an Assistant Professor, rose to the rank of Distinguished University Professor, and served as Department Chair. In 2005 he moved to the University of Tennessee, Knoxville as Dean of the College of Arts and Sciences, a position he held until the end of 2010. He was elected as President of the American Chemical Society for 2008. He moved to WPI in June, 2015 to serve as Provost and Senior Vice President, and Professor of Chemistry and Biochemistry. Bursten conducts research in inorganic chemistry, focusing on the correlation of theoretical and experimental electronic structural data with the bonding and reactivity patterns of metal-containing molecules. He is also coauthor of one of the leading textbooks in college general chemistry. His honors include the Camille and Henry Dreyfus Foundation Teacher-Scholar Award, Fellow of the Alfred P. Sloan Foundation, the OSU Alumni Award for Distinguished Teaching, the OSU Distinguished Scholar Award, and the OSU Faculty Award for Distinguished University Service, the Catalyst Award from the American Chemistry Council, and the Spiers Medal and Prize from the Royal Society of Chemistry in the UK. He has been elected a Fellow of the AAAS and of the ACS.

Dean of the Foisie School of Business

Michael J. Ginzberg, Professor and Dean
S.B., Management, M.I.T., 1969
M.B.A., Economic Analysis, Iona College, 1971
Ph.D., Management, M.I.T, 1975

Prior to joining W.P.I. in August 2015, Dr. Ginzberg served as Dean and Professor of Technology Management at American University's Kogod School of Business, Dean of the Sy Syms School of Business at Yeshiva University and Associate Provost of Yeshiva University, Dean and Chaplin Tyler Professor of Business at the University of Delaware's Alfred Lerner College of Business and Economics, and on the business faculties of Case Western Reserve University, New York University and Columbia University. He has taught at SDA Bocconi in Milan, Italy, the International Management Center in Budapest, Hungary and the Rotterdam School of Management, Erasmus Universiteit in the Netherlands.

Dr. Ginzberg's research has focused on the management and use of information technology in organizations and the management of technical professionals. His current interests concern creating business value through investments in technology, the management of risk and corporate governance. He has published over 45 articles and chapters and written or edited a half dozen books and monographs in the fields of management and information systems. He is a Fellow of the Association for Information Systems.

Dr. Ginzberg has held leadership positions in national and international professional and academic organizations, including the International Conference on Information Systems, the Association for Information Systems, the Society for Information Management, and the Middle Atlantic Association of Colleges of Business Administration. He has served on the Board of Trustees of the International Management Center, Budapest, Hungary, the Board of Directors of Beta Alpha Psi, the international honorary society for financial information professionals, and as Chairman of the Board of Trustees of the Sarajevo Graduate School of Business in Sarajevo, Bosnia & Herzegovina. He has held numerous board positions with not-for-profit organizations, governmental agencies, and privately held corporations. He currently serves on the advisory boards of Kulper & Company, Quantum Leap Innovations, Inc., and as an advisor to eHealth Ventures.

Chemical Engineering

Dr. Susan C. Roberts, Professor and Department Head
B.S., Chemical Engineering, concentration in Biomedical Engineering, WPI, Worcester, MA,, 1992
Ph.D., Chemical Engineering, minor in Biochemistry, Cornell University, Ithaca, NY, 1998

Dr. Susan Roberts joined WPI as Professor and Department Head of Chemical Engineering in August 2015. After receiving her PhD from Cornell University Dr. Roberts began her academic career as a faculty member in Chemical Engineering at the University of Massachusetts, Amherst. During her career she provided many years of campus-wide service. She was a founding member of the UMass STEM Diversity Institute, Director of the Institute for Cellular Engineering, and served as the Associate Dean of the Graduate School. Her research is in the areas of cellular and metabolic engineering, plant biotechnology, and cell encapsulation. Dr. Roberts has been the recipient of an NSF Career Award as well as numerous other NSF and NIH research and teaching awards.

Chemistry and Biochemistry

Dr. Suzanne F. Scarlata, Richard T. Whitcomb Professor
B.A., Chemistry, Temple University, 1979
Ph.D., Physical Chemistry, University of Illinois Urbana-Champaign, 1984

Dr. Scarlata joined WPI in August 2015 as the inaugural Richard T. Whitcomb Professor in Biochemistry. Dr. Scarlata is exploring with her research the biophysical basis of how cells respond to their external environment. She has made seminal contributions to the field of G-protein coupled receptors, published several important papers about the biophysics of biomembrane signaling events and contributed to our understanding of the biochemistry of neurodegenerative proteins and their impact on human health. Dr. Scarlata has organized several international meetings in her field, she serves on many scientific review panels, as well as scientific advisory and editorial boards, and most notably, she is the President-Elect of the Biophysical Society.

Civil and Environmental Engineering Department

Dr. Steven Van Dessel, Associate Professor of Architectural Engineering, AREN Directorship
Diploma of Architecture, Sint-Lukas Institute in Brussels, Belgium, 1990
Ph.D., Material Sciences and Engineering & Architecture, University of Florida, 2000

Steven Van Dessel is Associate Professor of Architectural Engineering in the Department Civil and Environmental Engineering at WPI. Steven completed his Ph.D. in Architecture / Materials Science and Engineering at the University of Florida and earned his professional degree in Architecture from the Sint-Lucas Institute in Brussels.

His research addresses sustainable building design and the development of new building technologies, with a special focus on the study of adaptive building envelop systems. One of the goals of this research is to develop new design strategies whereby building envelopes can be optimized in response to climatic conditions and user preferences, in order to conserve energy and optimize comfort. Example projects include a study on the scalability of greenhouse principles, and a study on a biomimetic heat pump system with potential use in glazing applications. The broader perspective of this work is to realize leaner and more sustainable building systems that minimize material consumption, optimize energy use, and reduce costs. Steven has also been the primary faculty advisor for two consecutive Solar Decathlon competitions, a US Department of Energy education and research initiative for the design and construction of net-zero-energy housing. Prior to joining WPI he was an Associate Professor at the Faculty of Engineering and Architecture at Ghent University in Belgium.

Computer Science

Dr. Lane Harrison, Assistant Professor
B.S., Computer Science, University of North Carolina at Charlotte, 2009
Ph.D., Computer Science, University of North Carolina at Charlotte, 2013

Dr. Lane Harrison joined WPI in July 2015. Lane's research uses our innate cognitive and perceptual abilities to drive the design of data visualizations, and explores how such principles can be used to create new types of user-

centered visualization systems. His research has been applied in cyber security and health-risk communications settings, and he will be serving as general chair for the 12th Visualization for Cyber Security (VizSec) Symposium, held in conjunction with the 2015 IEEE VIS Conference.

Before joining WPI, Lane spent two years as a postdoctoral research fellow in the Department of Computer Science at Tufts University. There his work included modeling people's perceptual precision using visualizations to rank their effectiveness, and quantifying the impact of cognitive factors such as emotion and spatial ability in visualization. At UNC-Charlotte Lane worked in the Charlotte Visualization Center supported by a DHS Visual Analytics Fellowship, awarded for his research in designing visualization tools for cyber security data.

Dr. Yanhua Li, Assistant Professor, Data Sciences
B.S., Electrical Engineering, Sichuan University, Chengdu, China, 2003
M.S., Electrical Engineering, Sichuan University, Chengdu, China, 2006
Ph.D., Electrical Engineering, Beijing University of Posts and Telecommunications, Beijing, China, 2009
Ph.D., Computer Science, University of Minnesota, Twin Cities, 2013

Dr. Yanhua Li joined WPI in August 2015. His broad research interests are in analyzing, understanding, and making sense of big data generated from various complex networks in many contexts, including urban network analysis, smart cities, large-scale network data sampling, measurement.
Before joining WPI, Dr. Li worked as a Post-Doctoral Researcher for eight months at University of Minnesota, Twin Cities, and worked as a researcher for one and a half years in HUAWEI Noah's Ark LAB at Hong Kong. Dr. Li also interned in Bell Labs, Microsoft Research, and HUAWEI research labs of America from 2011 to 2013. His work has been published in top conferences and journals, such as SIGMOD, ICDE, INFOCOM, ICDCS, WSDM, IMC, IEEE TSC, IEEE/ACM ToN, IEEE TPDS, etc. He served on program committee of INFOCOM, ICDCS, and SIGSPATIAL GIS, and he is the co-chair of SIMPLEX 2015.

Dr. Gabor Sarkozy, Professor
B.S., Mathematics, Eotvos Lorand University, Budapest, Hungary, 1990
M.S., Computer Science, Rutgers University, 1994
Ph.D., Computer Science, Rutgers University, 1994

Dr. Sarkozy first joined WPI in 1996. Before joining WPI he spent two years at the University of Pennsylvania. He is a senior research fellow and doctor of the Hungarian Academy of Sciences. He is the founder and director of the Budapest MQP Project Center at WPI. He received his Ph.D. in computer science from Rutgers University under the supervision of Abel laureate Endre Szemeredi. His area of specialization is Discrete Mathematics and Algorithms. His main current research project is understanding the structure of large graphs and applying this to clustering algorithms. He has published over 60 refereed journal articles including one with Paul Erdos and 21 with Endre Szemeredi. His research was supported by some funding agency in each of the last 10 years.

Electrical and Computer Engineering

Dr. Jie Fu, Assistant Professor, Robotics Engineering Program
B.S., Electrical Engineering and Automation, Beijing Institute of Technology, 2007
M.S., Control Theory and Control Engineering, Beijing Institute of Technology, 2009
Ph.D. Mechanical Engineering, University of Delaware, 2013

Dr. Fu will join the faculty in the ECE Department and the RBE Program in **January 2016**. After completing her PhD she accepted a position at the University of Pennsylvania as a Postdoctoral Researcher in the Department of Electrical and Systems Engineering. Her research is on formal methods, computational learning, and control applied to robotics and automation. With degrees in EE, Controls, and ME, plus a strong computational focus, she is a great fit for the Robotics Engineering Program at WPI.

Humanities and Arts

Dr. Alexandrina Agloro, Assistant Professor of Communication and Interactive Media & Game Development
A.B. Public and Private Sector Organizations, Brown University, 2005
M.A. Ethnic Studies, San Francisco State University, 2010
M.A. Communication, University of Southern California, 2013
Ph.D. Communication, USC, Annenberg School for Communication and Journalism, 2015

Dr. Agloro joins WPI from Brown University, where her dissertation project was the development of an alternate reality game, "The Resisters," and a dissertation titled "Game Recognize Game: Performative Archives and Alternate Reality Games." Using participatory design with local youth in Providence, Rhode Island, "The Resisters" incorporates the activism of local people of color while teaching the history of social movement through an online interface, social media, and real-world locations and artifacts. Alex will teach Interactive Media and Game Development, American studies, and communication in the IMGD program and Department of Humanities and Arts.

Mathematical Sciences

Dr. Randy Paffenroth, Associate Professor
B.S., Mathematics, Boston University, 1992
B.S., Computer Science, Boston University, 1992
Ph.D., Applied Mathematics, University of Maryland, 1999

Dr. Paffenroth has a Dual Appointment with the WPI Data Science Program. Dr. Paffenroth joins WPI from Numerica Corporation where he was employed as Program Director. Dr. Paffenroth's research expertise is in the area of large scale statistical machine learning, data mining, signal processing, compressed sensing, and the interaction between computational software and mathematics. My main areas of application include anomaly detection, cyber-defense, and network analysis.

Dr. Gu Wang, Assistant, Professor
B.S. in Applied Mathematics, Peking University, China, 2010
M.S. in Mathematical Finance, Boston University, 2010
Ph.D. in Mathematics, Boston University, 2013

Dr. Wang joins WPI from the University of Michigan at Ann Arbor where he was employed as Postdoctoral Assistant Professor. Dr. Wang's research expertise is in the area of Financial Mathematics, and Stochastic Analysis.

Mechanical Engineering

Dr. Nikhil Karanjgaokar, Assistant Professor
B.S., Tech. Mechanical Engineering, National Institute of Technology, Calicut, India, 2006
M.S., Mechanical Engineering, Carnegie Mellon University, Pittsburgh, 2007
Ph.D., Mechanical Engineering, University of Illinois at Urbana-Champaign, 2013

Dr. Karanjgaokar joined WPI in August 2015. During his doctoral dissertation at the University of Illinois, he developed micro-scale mechanical experimentation techniques to investigate the mechanical behavior of nanocrystalline thin film materials over wide range of strain rates and temperatures. Before joining WPI, he worked as a post-doctoral research associate at Graduate Aerospace Laboratories at California Institute of Technology for 2 years. His research program at Caltech focused on the development of a Granular Element Method (GEM) based force visualization technique for the study of 2D granular systems under impact loading. He examined the role of granular fabric on the wave motion and formation of force chains in granular media. He has co-authored a number of peer-reviewed publications in journals such as Acta Materialia, Scripta Materialia, Experimental Mechanics, Journal of Power Sources, and International Journal of Multiscale Computational Engineering. His current research interests include experimental mechanics at micro/nano-scale, temperature and rate dependent mechanics of nanostructured materials, dynamic response and flow of granular media, mechanics and damage of inhomogeneous materials and optical measurement techniques.

Dr. Brajendra Mishra, Kenneth G. Merriam Professor and Assoc. Director of the Metals Processing Institute
B.S., Tech. Metallurgical Engineering, Indian Institute of Technology, Kharagpur, India,1981
M.S., Materials Science, University of Minnesota, Minneapolis, MN, 1983
Ph.D., Materials Science, University of Minnesota, Minneapolis, MN, 1986

Dr. Mishra joined WPI in August 2015. He was previously a professor of Metallurgical & Materials Engineering in Physico-chemical Processing and Corrosion at the Colorado School of Mines. Dr. Mishra is the Co-Director of the

National Science Foundation's Industry/University Collaborative Research Center on Resource Recovery & Recycling. Dr. Mishra has authored over 500 technical publications in refereed journals and conference proceedings. He holds six patents and has authored/edited 19 books. He is a Fellow of ASM (2001). Mishra received the Distinguished Service Award from the Minerals Metals & Materials Society (2010) and the highest award of Honorary Membership form the Indian Institute of Metals (2008). Brajendra served as the 2006 President of The Mineral, Metals & Materials Society (TMS) of AIME and the 2011 President of American Institute of Mining, Metallurgical & Petroleum Engineers.

Social Science and Policy Studies

Dr. Erin R. Ottmar, Assistant Professor of Learning Sciences & Technologies
B.A., Psychology and Elementary Education, University of Richmond, 2005
Ph.D., Educational Psychology, Curry School of Education, University of Virginia, 2011

Dr. Ottmar joins the SSPS Dept. and the LS&T program after 3 years of post-doctoral training in the Department of Psychology at the University of Richmond and, most recently, 1 year as a Visiting Research Associate in the Dept. of Psychological and Brains Sciences at Indiana University. Her research focuses on the intersections of educational, cognitive, and developmental psychology and aims to better understand how cognitive and non-cognitive pathways improve mathematics teaching and learning. Over the past four years, she has co-developed and empiricially tested two dynamic educational technologies that embed perceptual learning and gesture into the learning of mathematical concepts. *From Here to There* is an engaging, puzzle-based, educational iPad application that allows students to explore patterns and properties of arithmetic and symbolic algebra by rearranging, splitting, and manipulating numbers and expressions to reach a specified goal. Based on this research, she is currently developing *Graspable Math*, an interactive web-based tool that allows students to manipulate and solve mathematical expressions and equations. She also uses classroom observations, longitudinal data, and multi-level modeling to examine how mathematics and social-emotional learning (SEL) interventions in schools can enhance students' opportunities to learn mathematics. Dr. Ottmar has coauthored 8 journal articles and 1 book chapter.

Non-Tenure Track Faculty Members

Biology and Biotechnology

Dr. Roy Hegedus, Research Assistant Professor
B.S., Chemical Engineering, Lehigh University, 1978
Ph.D., Chemical Engineering, University, Amherst, MA, 1985

Dr. Roy Hegedus joined WPI in April 2015. After receiving his Ph.D. at UMass Amherst, he worked for PPG Industries, and Abbot. Over the last two decades he has been at Abbot as a Senior Research Scientist in their Diagnostics Division and Fermentation Development Department, and most recently as a Senior Scientist with Abbvie Bioresearch Center here in Worcester in their Process Sciences Department and Protein Sciences Department, where he has been involved in protein and small molecule purification and scale-up processes. During his time at Abbot, he has won two divisional President's Awards for process and quality innovations, the latter of which led to a 60% throughput increase in the small molecule vancomycin with a retail value exceeding $1 billion.

Dr. Lou Roberts, Associate Teaching Professor
B.S., Biotechnology with Distinction, Worcester Polytechnic Institute, Worcester, 1992
Ph.D., Biochemistry, Molecular and Cell Biology (minor in Genetics), Cornell Univ., Ithaca, NY, 1999

Dr. Louis Roberts joined WPI in August 2015. After receiving his Ph.D. at Cornell, Dr. Roberts was a postdoctoral fellow at UMass Amherst and Baystate Medical Center, where he studied cellular signaling pathways and their links to tumor metastasis. He then joined UMass Amherst where he was an Instructor for ten years, and Senior Lecturer and Director of Laboratory Instruction in the Department Biochemistry and Molecular Biology since 2012. With broad expertise spanning yeast, plants, and mammalian systems, he has taught a range of courses in Biotechnology and Biochemistry, twice been nominated for institutional Teaching Awards, and through a Dreyfus Grant developed the first course at UMass designed to expose students to high-throughput methods and train them at the life sciences-engineering interface.

Civil and Environmental Engineering Department

Dr. Joseph E. Goodwill, Assistant Teaching Professor
B.S., Civil Engineering, Lafayette College, 2000
MS., Environmental Engineering, University of Massachusetts Amherst, 2006
Ph.D., Civil Engineering, University of Massachusetts Amherst, 2015

Dr. Goodwill joined WPI in August 2015. While at UMass, he was a research assistant in the Environmental and Water Resources Engineering program. His research interests include physical and chemical processes as applied to water treatment. Joe's early research included the development of oxide coated water filtration media for the removal of manganese—a contaminant of concern to drinking water systems. His dissertation focused on the evaluation of ferrate (iron in the +6 oxidation state) for drinking water treatment. His PhD research has been acknowledged with several awards including the Larson Aquatic Research Support (LARS) Grant given annually by the American Water Works Association. Before pursuing a PhD, Joe was a project engineer for Black & Veatch in their Philadelphia office. He is a licensed professional engineer (PE) and a Leadership in Energy and Environmental Design Accredited Professional (LEED-AP). Joe also has significant experience supporting water and sanitation development programs, working with non-profit organizations such as Water For People and the Bill & Melinda Gates Foundation.

Computer Science

Dr. Eugene Eberbach, Teaching Professor, Robotics Engineering Program
M.Sc. and Eng., Computer Science Engineering, Warsaw University of Technology, Warsaw, Poland, 1977
Ph.D., Applied Mathematics, Warsaw University of Technology, Warsaw, Poland, 1982
D.Sc. (Habilitation), Computer Science, AGH University of Science and Technology, Krakow, Poland, 2015

Professor Eberbach has been a faculty member in Computer Science and Robotics Engineering, Worcester Polytechnic Institute, Worcester, USA since August 2015. He held various academic and industrial positions in USA, Canada, United Kingdom and Poland, including Rensselaer Polytechnic Institute, University of Massachusetts Dartmouth, Acadia University (tenured full professor), Technical University of Nova Scotia/Dalhousie University, University of Memphis, University College London, Rzeszow University of Technology, WSK "PZL-Rzeszow" and Applied Research Lab, Pennsylvania State University. In late 1980s he worked on new non-von Neumann 5th Generation Computer Architectures at University College London. In 1990-2000s he worked on distributed autonomous underwater vehicles with support of ONR. In Canada and USA he introduced Calculus of Self-modifiable Algorithms and $-Calculus process algebra for automatic problem solving under bounded resources with support of NSERC and ONR. He proposed two super-Turing models of computation: $-Calculus and Evolutionary Turing Machines. His current work is in the areas of automatic problem solving, process algebras, resource bounded optimization, autonomous agents and mobile robotics. General topics of interest are new computing paradigms, languages and architectures, distributed and cloud computing, concurrency and interaction, bioinformatics, evolutionary computing and neural nets. Dr. Eberbach is the author of 180 publications in the above areas and he has been a recipient of 17 external research grants. More information about projects, publications, courses taught can be found at his Personal Web Site.

Dr. Suzanne Mello-Stark, Associate Teaching Professor, Cyber Security Program Manager
B.S., Computer Science, University of Rhode Island, 1985
M.B.A., Babson College, 1993
Grad. Certificate in Digital Forensics, Univ. of Rhode Island, Digital Forensics and Cyber Security Center, 2011
Ph.D., Computer Science, University of Rhode Island, 2011

Dr. Mello-Stark joined WPI in August 2015. She studies digital forensics, cryptography, security and networking implementations in current election technologies. While at the University of Rhode Island, she became an advisor to the Rhode Island Board of Elections. After completing her PhD, she worked as a Research Professor at the Center for Voting Technology Research (VoTeR Center) at the University of Connecticut (UConn). While at UConn, she was part of a research team that built an election audit station. Dr. Mello-Stark also has a broad range of experience in business development, hardware/software, and network and security management. She headed teams at Lucent Technologies, Ascend Communications, Stratus Computer, GTE and Raytheon. She is an active member of an NSF funded multi-university research team whose purpose is to promote student learning via participation in Humanitarian Free and Open Source (HFOSS) projects. She has co-authored eight papers, one of which is published in the IEEE 2015 International Symposium on Mining and Web (MAW 2015/AINA 2015). She served as the co-chair for the security/privacy track committee for the Grace Hopper Celebration (GHC) of Women in Computing Conference (2014) and currently serves on the GHC Open Source Committee (2015).

Dr. Wilson Wong, Assistant Teaching Professor
B.S., Computer Science and Engineering, Massachusetts Institute of Technology, 1989
M.B.A., Cornell University, Ithaca, NY, 1991
Ph.D. Business, Bentley University, Waltham, MA, 2013

Dr. Wilson Wong joined WPI in August 2015. His research interests include user resistance to computer systems implementations, systems trust, social network analysis, and computer capstone course innovations. His Ph.D. thesis examined the factors that contributed to health care providers' resistance to an RFID location tracking system aimed at improving Massachusetts General Hospital clinic workflows and quality of service. From 2001 to 2015 at Bentley University, he taught in the Computer Information Systems department a wide range of courses including software project management, systems analysis and design, computer architecture, programming, database development, web development, and business information systems. Prior to entering academia, he held executive information systems management positions including Chief Technologist, Director of Information Systems, and Director of Technical Operations at various corporations. He has co-authored ten conference presentations and three journal articles, one of which was published in the Information Systems Education Journal.

Data Sciences

Dr. Fatemeh Emdad, Associate Teaching Professor, Data Science
B.S., Statistics, Shiraz University, Shiraz, Iran, 1992
M.Sc., Statistics, Tehran Tarbiat Moallem University,Tehran University for Training Teachers, Tehran, Iran, 1995
M.Sc., Mathematics, Colorado State University, Fort Collins, CO, 2002
Ph.D., Applied Mathematics, Colorado State University, CO, 2007

Professor Emdad is an Associate Teaching Professor in the Data Science Program. She completed her Ph.D. in Applied Mathematics with a concentration in Applied Mathematics at Colorado State University. After completing her postdoctoral degree with the University of Texas Medical Branch and Shriners Hospital for Children Burn Unit, she taught at the University of Connecticut, as Assistant Professor in Residence and thereafter was a Visiting Assistant Professor in Babson College before joining WPI.

Prof. Emdad is the author of the book High Dimensional Data Analysis and more than 20 journal and conference articles. Throughout her experiences, she has been engaged in a variety of initiatives, most notably in applying data science, statistics, and mathematics towards the medical field and towards quantitative business modeling and business analytics.

Electrical and Computer Engineering

Dr. Shamsur Mazumder, Assistant Teaching Professor
BS.EE, Bangladesh University of Engineering and Technology (BUET), Dhaka, Bangladesh, 1968
M.Eng, EE, Carleton University, Ottawa, Ontario, Canada, 1973
Ph.D. EE, Carleton University, Ottawa, Ontario, Canada, 1977

Shamsur was ranked top of the graduating class and was awarded “Best Student Award” from the country President. He had joined BUET as Lecturer and taught Electrical Engineering courses in the areas of semiconductor physics and electronics. He was then awarded the most prestigious “Commonwealth Scholarship” to pursue graduate studies at Carleton University in Ottawa, Canada. While at Carleton University, he also worked as a teaching assistant supporting undergraduate electronics labs.

Following graduate studies, Dr. Mazumder worked at the EPFL (Ecole Polytechnique Federale de Lausanne, Switzerland) as Premier Assistant guiding and supervising undergraduate and graduate student’s projects. Dr. Mazumder has worked more than 33 years at Raytheon Company, in various roles with increasing responsibilities including technical, functional and program/project management and elevated to the most prestigious position as an Engineering Fellow. During tenure at Raytheon, Dr. Mazumder acquired subject matter expertise in various technology areas of radar, communication and electronic warfare systems. He also led technology interest group organizing various workshops and symposia exploring technology trends.

Dr. Mazumder is a Life Senior Member of IEEE and has been supporting with paper reviews and conference session chair functions. He has authored/co-authored numerous publication/presentations/technical notes etc. His recent work involved reconfigurable direct sample receiver module for digital radar and was presented at the 2013 IEEE Phased array Symposium. His current research interests include digital radar, electronically reconfigurable rf/microwave systems.

Dr. Robert S. Swarz, Professor of Practice
B.E., New York University, 1967
M.S., Rensselaer Polytechnic Institute, 1969
Ph.D., New York University, 1973
M.B.A., Boston University, 1973

Dr. Swarz joined WPI in January 2015, after having taught graduate courses in systems engineering and computer architecture as an adjunct at WPI for over 25 years.

Before joining WPI, he was co-director of The MITRE Corporation’s Systems Engineering Practice Office, which develops, captures, and shares practical advice and guidance about systems engineering for MITRE’s staff and

sponsors. Prior to this assignment, he was chief engineer in the Systems Engineering Directorate of MITRE's Air Force Center, where he focused on the development of enterprise-level systems engineering models and methods. Other professional experience includes system architecture and engineering roles at Prime Computer, Digital Equipment Corporation, and Pratt & Whitney Aircraft. He is Co-Chair of the Corporate Advisory Board and Assistant Technical Director for Processes for the International Council on Systems Engineering (INCOSE) and is active in the IEEE. He is the co-author of *Reliable Computer Systems: Design and Evaluation* and has authored many papers on system design and architecture.

Foisie School of Business

Dr. J.B. Kim, Assistant Teaching Professor
B.B.A., Seoul National University, Seoul, South Korea, 2003
M.B.A., Seoul National University, Seoul, South Korea, 2005
M.M.M., Pennsylvania State University, University Park, Pennsylvania, 2007
M.I.S., University of Arkansas, Fayetteville, Arkansas, 2008
Ph.D. Information Systems & Decision Sciences, Louisiana State University, Baton Rouge, Louisiana, 2015

Dr. Kim joined WPI in August 2015. His educational background is in Information Systems and Operations Management. His research interests include: use of serious games in business education/training, gamification in business, IT strategy in organizations, organizational technology adoption, and pragmatic use of qualitative/quantitative research methods. All these research interests are to achieve one ultimate goal; effective use of Information Systems and Technology to improve our society. He has been working on several research projects, a couple of which were published in the *Americas' Conference on Information Systems (AMCIS) Proceedings*. He has also co-authored a chapter of the book titled, *MBA for the Curious: Why Study an MBA?* Before he entered academia, he worked for the Samsung Economic Research Institute (SERI) and the Korea Information Society Development Institute (KISDI).

Dr. Elizabeth Long Lingo, Assistant Teaching Professor
B.B.A, Finance, University Honors program graduate, UMass, Amherst, Massachusetts, 1993
A.M., Sociology, Harvard University, Cambridge, Massachusetts, 2002
Ph.D., Org. Behavior and Sociology, Harvard Univ. and Harvard Business School, Cambridge, Massachusetts, 2005

Dr. Elizabeth Long Lingo will join WPI as a visiting teaching professor in August 2015. Elizabeth earned her PhD in Organizational Behavior and Sociology at Harvard Business School and Harvard University, where she was a fellow in Harvard's Program on Negotiation. Elizabeth's research has been published in top academic and managerial publications, and focuses on the relational brokerage work of leaders, entrepreneurs and creative producers working across disciplines and organizations to advance change and innovation. She also focuses on gender and leadership outcomes—examining how women innovators and entrepreneurs negotiate for legitimacy and control in their work. Elizabeth has married research with practice—reimagining organizations and campuses around entrepreneurship, innovation, and creative enterprise. She has led and helped launch arts and engineering collaborations, multi-disciplinary research ventures, campus-wide entrepreneurship initiatives, and social innovation labs. She designed and facilitated a Change Makers curriculum for the International Fulbright Scholars Lab-to-Market programs, and has worked with artists, entrepreneurs, and government leaders to launch creative city initiatives and summits. Elizabeth is also a founding faculty member of the strategic design MBA program for hybrid thinkers at Philadelphia University.

Jiho Yoon, Assistant Teaching Professor
B.S., Industrial Engineering, Myongji University, Korea, 2008
M.S., Industrial and Operations Engineering, University of Michigan, Ann Arbor, 2010
Ph.D., Supply Chain Management, Michigan State University, East Lansing, 2015

Dr. Yoon joined WPI in August 2015. He received his Ph.D. degree in Supply Chain Management from Michigan State University in 2015 and M.S. degree in Industrial & Operations Engineering from the University of Michigan in 2010. His current research interests focus on developing mathematical optimization models and determining design principles for supply chain network. Most of his work has focused on supply chain risk management (SCRM) &

Risk Mitigation Strategies and reliable & robust supply chain network design. He has co-authored three journal publications appeared in *Decision Sciences* and *Journal of Business Logistics*.

Humanities and Arts

Althea Danielski, Assistant Teaching Professor of English for Speakers of Other Languages
B.A., English, Wesleyan University, 1992
M.A., Teaching, concentration in TESOL, SIT Graduate Institute, Brattleboro, VT, 2004

Prof. Danielski joins WPI after 14 years teaching developmental reading and English as a Second Language in an urban community college, in adult basic education programs, and in various schools and cultural centers in West Africa. Having been "a stranger in a strange land" as a resident of Ecuador, Haiti, Senegal, Niger, and Benin, she is comfortable teaching international students and is dedicated to liberatory teaching and the creation of a supportive and caring learning community.

Huili Zheng, Visiting Assistant Professor
B.A., Chinese Language & Literature, Nanjing University, Nanjing, China, 1995
M.A., Traditional Chinese Literature, Nanjing University, Nanjing, China, 1998
M.A., East Asian Studies, University of Toronto, 2003
Ph.D., East Languages & Literature, University of California, 2010

Dr. Zheng teaches courses in Chinese language, literature, history and culture at WPI. Her current research focuses on the representation of foreign others in fictional narrative in late imperial China (from the sixteenth century to the nineteenth century). Although the primary material for her research is literature, she takes a multi-disciplinary approach to which includes history, cartography, anthropology, sociology, postcolonial theories and gender studies. Through the changing images of the foreign other, she aims to examine how China imagined its position in a world which was under radical changes at the time.

She sees teaching and research in a symbiotic relationship, and likes to design courses around the various aspects of her research interests. For instance, gender study is part of her research and she has been teaching the course Women in China which is quite popular with students. Teaching at WPI is rewarding. She likes to push her students a little bit and found the students here enjoy being challenged. What she likes about teaching at WPI particularly is that as a STEM school which emphasizes project-based learning, it keeps people like her, in the field of humanities and arts, balanced.

IGSD

Dr. Nicola Bulled, Assistant Teaching Professor
B.S., Biological Sciences, Colorado State University, Fort Collins, CO, 2002
M.P.H., International Health, Boston University, Boston, MA, 2005
M.A., Anthropology, University of Connecticut, Storrs, CT, 2010
Ph.D., Anthropology, University of Connecticut, Storrs, CT, 2012

Dr. Bulled joined WPI's Interdisciplinary and Global Studies Division in August 2015. Before joining WPI, she spent two years at the University of Virginia, Dr. Bulled engaged in collaborative research with the University of Venda and surrounding communities in South Africa to explore water access rights and the use of multiple health sectors by people living with HIV. She mentored student projects examining health behaviors related to water infrastructure including the use of ceramic water filters and routine hand washing. While teaching at Tufts University she was nominated as "most influential person" by a graduating senior student. She has research interests in examining human engagement with new health technologies at the intersections of science and technology studies and medical anthropology; a topic on which she has a forthcoming edited book volume. She has authored a book and several peer reviewed publications.

Dr. Stephen McCauley, Assistant Teaching Professor
B.S. Economics, Loyola University, Baltimore Maryland, 1996
M.A. Geography, University of Maryland, College Park Maryland, 2001

Ph.D. Geography, Clark University, Worcester Massachusetts, 2009

Dr. Stephen McCauley has been with IGSD for two years and now joins the program full time as an Assistant Teaching Professor. He completed a PhD in Geography at Clark University in 2009, and prior to joining WPI was a Visiting Fellow at the Research Institute for Humanity and Nature in Kyoto, Japan. His research focuses on community electricity and other grassroots innovation initiatives around sustainability. He is widely published in the environment and planning field, and he serves on the Board of Directors of the environmental justice non-profit, the Worcester Roots Project. Stephen will co-direct the Melbourne Project Centre at WPI.

Interactive Media & Game Development

Charles Lee Sheldon, Professor of Practice
BFA Direction for Theatre, Boston University
MFA Direction for Film, California Institute of the Arts

Lee Sheldon joined WPI in July 2015. Prior to this, Lee spent five years as an Associate Professor in the Games & Simulation Arts & Sciences (GSAS) program at Rensselaer Polytechnic Institute. Lee was co-director of the GSAS program for three years & created the first full Writing for Games program in the United States. While there, Lee wrote the bestselling book The Multiplayer Classroom: Designing Coursework as a Game (2011). Another of his books, Character Development & Storytelling for Games (Second Edition, 2013), is the standard text in the field.

Lee is a professional game writer and designer currently working on his 40th game. His recent Serious Games projects include The Lost Manuscript 2: The Summer Palace Cipher, a virtual reality game teaching Mandarin & Chinese culture, & These Far Hills, a video game teaching engineering & science for an NSF proposal. He wrote Crimson Dilemma, a business ethics video game, & designed Secrets: A Cyberculture Mystery Game, an online class designed as a game teaching culture & identity on the Internet in 2014.

His most recent entertainment game is the AAA Kinect title Disney Fantasia: Music Evolved for Harmonix, released in October 2014. Before his career in games Lee was a television writer-producer with over 200 produced shows ranging from Charlie's Angels to Star Trek: The Next Generation.

Mathematical Sciences

Dr. Maria Hempel, Assistant Teaching Professor
B.S., Mathematics, ETH Zürich, 2009
M.S., Mathematics, ETH Zürich, 2010
Ph.D., Mathematics, ETH Zürich, 2015

Dr. Hempel joins WPI from ETH Zürich where she was employed as Ph.D. student.
Dr. Hempel's research expertise is in the area of polyhedral surfaces, discrete geometry and geometry in the large.

Dr. Mallikarjunaiah Muddamallappa, Instructor
B.S., Bangalore University, 2000
M.Sc., Bangalore University, 2003
M.S., The University of Texas-Rio Grande Valley, 2009
Ph.D., Texas A&M University (December), 2015

Dr. Muddamallappa joins WPI from Texas A&M University where he was a graduate student. Dr. Muddamallappa's research expertise is in the area of applied and computational mathematics. Notable awards, distinctions, funding: Houston A&M mother's club outstanding teaching assistant award-2014
Best poster award, HESTEC, The University of Texas-Pan American-2009.

Dr. Hyungbin Park, Post-Doctoral Scholar
B.S., Seoul National University, Korea, 2007
M.S., Courant Institute, New York Univ., 2011
Ph.D., Courant Institute, New York Univ., 2015

Dr. Park joins WPI from Courant Institute, New York Univ. where he was employed as a Ph.D. student. Dr. Park's research expertise is in the area of mathematical finance and stochastic processes, primarily on problems that arise from asset and option pricing theory, optimal investment strategies, asset price bubbles and financial economics. Notable awards, distinctions, funding: Moses Greenfield Research Prize, Courant Institute, New York Univ. April 2015; McCracken Graduate Fellowship, Courant Institute, New York Univ. 2014-2015; Scholarship, Korea Foundation for Advanced Studies, 2008-2013

Mr. Barry Posterro, Assistant Teaching Professor
B.S., Mathematics, WPI, 1999
M.S., Applied Math, WPI, 2000
M.S., Financial Math, WPI, 2010

Mr. Posterro joins WPI from Delaware Life Insurance in Wellesley MA where he was employed as Director of Equity Risk and Hedging. Mr. Posterro will bring to WPI his expertise in financial markets, including option trading, volatility trading and actuarial science. He holds several industry designations including the ASA, from the Society of Actuaries; the CFA from the Chartered Financial Analyst Institute and the FRM from the Global Association of Risk Professionals.

Dr. Xuwei Yang, Instructor
B.S., Finance, University of International Business and Economics, Beijing, China, 2008
M.S., Finance, University of international Business and Economics, Beijing, China, 2008
M.A., Statistics, Columbia University, 2009
Ph.D., University of California, 2015

Dr. Yang joins WPI from University of California, Santa Barbara, where he was a Ph.D. student in statistics and applied probability with emphasis in financial mathematics. Dr. Yang's research expertise is in the area of applied probability and stochastic processes, optimal stochastic control, stochastic differential games, and financial mathematics.

Mechanical Engineering

Joe Stabile, Instructor
B.S. Engineering Physics, University of Arizona, 1976
M.S. Mechanical Engineering, University of Arizona, 1982
M.S. Electrical Engineering, University of Colorado, Colorado Springs, 1998

Joe enjoys new product development of electro-mechanical products from initial conception through volume production, including system modeling, CAD, computer assisted testing and finite element analysis. He has earned eight patents for his designs. Joe has worked in the computer storage industry for 25 years. He has designed hard disc drives, optical disc drives and magnetic tape drives. He also has designed pick and place robotic grippers and library systems for tape cartridge storage. Joe has spent the last 11 years designing audio systems for Bose. He was program manager for a high efficiency, compact bass system including a compact switched power audio amplifier. Most recently Joe has worked on the advanced development of small, high efficiency audio speakers.

Dr. Sarah Wodin-Schwartz, Assistant Teaching Professor
B.S., General Engineering, Smith College, Northampton, MA, 2007
M.S., Mechanical Engineering, University of California at Berkeley, 2010
Ph.D., Mechanical Engineering, University of California at Berkeley, 2013

Dr. Wodin-Schwartz joined WPI in August 2015. While at UC Berkeley, Dr. Wodin-Schwartz was a teaching assistant for both mechanical and electrical engineering courses including Introduction to Mechatronics for which she received the Outstanding Graduate Student Instructor Award. She is passionate about teaching core engineering skills in ways that engage students through problem solving driven by real-world application. Her research interests lie in the design and development of MEMS sensors and materials. Her Ph.D. research focused on the use of MEMS for down hole geothermal well monitoring. Before joining WPI, Dr. Wodin-Schwartz spent two years at the

technical consulting firm Exponent Inc. where she conducted failure analyses and design evaluations for projects ranging from consumer products to power plants. As a consultant she has advised over 50 different clients ranging from startups to Fortune 500 companies.

Physics

Dr. Rudra Prasad Kafle, Assistant Teaching Professor
B.Sc./M.Sc., Physics, Tribhuvan University, Kathmandu, Nepal, 1996
M.S., Physics, Worcester Polytechnic Institute (WPI), 2007
Ph.D., Physics, Worcester Polytechnic Institute, 2012

Dr. Rudra P. Kafle joined the Physics department at WPI as a graduate student in August 2005. While at WPI, Rudra was a teaching assistant and instructor for introductory and intermediate level courses, and won the Physics Teaching Assistant Award in 2009. He won the poster symposium awards in Graduate Research Achievement Day (GRAD) in 2008 and again in 2009 on his Ph.D. research. He has research interests on DNA mechanics/self-assembly/drug delivery (Biophysics) and on Bose-Einstein condensate (BEC)-based atomic interferometers and gyroscopes (Atomic Physics). He started his research at WPI with String Theory in the first year, and later switched to theoretical atomic physics for his PhD dissertation. His Ph.D. thesis analyzed BEC-based atom interferometers, and predicted a working region in parameter space for a free oscillation atom interferometers. Dr. Kafle also investigated BEC-based Berry-gauge tuned BEC gyroscopes while he was a summer intern in 2010 and again in 2011 in Center for Nonlinear Studies at Los Almamos National Laboratory. After his Ph.D. in May 2012, he joined the department of Biophysics at University of Michigan in Ann Arbor as a postdoctoral research fellow where he investigated DNA mechanics in vitro as well as in *E. coli* cells. While at University of Michigan, he taught a biophysics course-'*The Discovery of the DNA Double Helix and its Hidden Mysteries*' for a semester. After three years of his postdoctoral research fellowship at University of Michigan, he joined WPI during the Fall of 2015 as a Physics instructor/lecturer. He has co-authored two papers on his PhD research which are published in Physical Review A and a SPIE conference proceedings on current research in fluorescence correlation spectroscopy in DNA solution and in cells. Prior to his arrival to the United States, he taught science and mathematics in Little Angels' School, Kathmandu, Nepal for twelve years, and physics courses in Tribhuvan University for two years. He also worked as Science Faculty Head in Little Angels' School for seven years.

Social Science and Policy Studies

Dr. Kymberlee M. O'Brien, Assistant Teaching Professor of Health Psychology
B.A., Psychology, Antioch University, 1986
M.S., Education, Fitchburg State College, 2005
Ph.D., Social Psychology, Brandeis University, 2011

Dr. O-Brien joins the SSPS Dept. at WPI after 4 years as a Postdoctoral Fellow/Research Associate at the HORIZON Center and Child Development Unit in the Department of Psychology at UMASS, Boston. Her research focuses on social psychophysiological responses to stress, autonomic and neuroendocrine nervous systems monitoring, social class, discrimination, and health disparities, and the role of social emotions in shaping physiology. Her most recent work examines chronic stress as indexed by the biomarker hair cortisol among high risk populations in Boston, MA, with the goal of identifying specific interventions that may divert long-term health disparity outcomes. Dr. O'Brien's research has been supported by the American Psychological Association Visionary Fund, the National Institute on Minority Health and Health Disparities, the National Institutes of Health, and the American Psychological Association. Dr. O'Brien will help strengthen WPI's programs in psychology, pre-health, and global health.

Dr. Gbeton B. Somasse, Assistant Teaching Professor of Economics
B.A. Statistics, Univeristy of Abomey-Calavi, Benin, 1996
M.Sc. Economic Statistics, ENSEA, Abidjan, Cote d'Ivoire, 2001
M.A. Finance, University Cheikh Anta Diop, Dakar, Senegal, 2005
M.A. Economics, Clark University, 2011
Ph. D. Economics, Clark University, 2015

Dr. Somasse joins the SSPS Dept. at WPI after recently completing his Ph. D. in the Department of Economics at Clark University. He has also worked as a Senior Economist and Financial Analyst for the BCEAO Central Bank in Senegal and as a Poverty Reduction Expert for the U. N. Development Program. His research employs econometrics and spatial analysis to focus on development, labor, and environmental economics with applications to public policy. His thesis examined the effects of the adoption of a free primary education policy in the Republic of Benin on achievement, completion rates, and wealth and gender disparities. His current research focuses on understanding how individuals respond to public policies that aim at improving living standards and promoting economic growth. Dr. Somasse will help strengthen WPI's programs in economics.

Military Science

LTC Justin Putnam, Dept. Head for Army ROTC
B.S., Civil Engineering, Norwich University, 1998
M.S., Engineering Management, Missouri S&T, 2003

Lieutenant Colonel Putnam joined the WPI community on 3 August, 2015. He serves as the Professor of Military Science as well as the Military Science Department Head at WPI, Fitchburg State University and UMASS Lowell.

He was commissioned as an Engineer officer in 1998 from Norwich University. His assignments include Platoon Leader, Company Executive Officer, Company Commander, Small Group Leader (ECCC) Battalion S1, BMO and S3. Overseas assignments and deployments include Nicaragua, Republic of Korea, Iraq and Afghanistan. Most recently he served as a Division Plans and Operations Officer for the Transatlantic Division of the Corps of Engineers. His military education includes Engineer Basic and Advanced Courses, Combined Arms Services Staff School, Tactical Information Operations, Joint Firepower Course, Joint Engineer Operations Course, Instructor and Senior Instructor Certifications and Intermediate Level Education.

Undergraduate Studies

Dr. Curtis Abel, Professor of Practice
B.S., Chemical Engineering, Carnegie Mellon University, Pittsburgh, PA, 1985
Ph.D., Metallurgical Engineering & Materials Science, Carnegie Mellon University, Pittsburgh, PA, 1991
MBA, Brand Management and Marketing, Cornell University, 2000

Dr. Abel joined WPI in August 2015. Curtis brings a wealth of experience from industry and academia. He spent several years as a Research Engineer at Bethlehem Steel Corporation, where he received the Bethlehem Steel Corporate Achievement Award for recognition of outstanding leadership, accomplishments, and improving plant relations. As Vice President at Mastercard, he developed strategic alliances with multiple companies resulting in significant increases in revenue. Curtis helped launch a successful startup company focused on the innovative use of robotic technology in performing arts. In 2010, Curtis began his teaching career at Mercy College. He started entrepreneurial based programs and led an international educational program for students. He also started a college-wide social entrepreneurship program (ENACTUS) to empower students to use entrepreneurial action to develop innovative ventures and community projects to make a better and more sustainable world.