WORCESTER POLYTECHNIC INSTITUTE
September 12, 2017

To: The WPI Faculty
From: M. Richman
               Secretary of the Faculty

The first Faculty meeting of the 2017-2018 academic year will be held on **Tuesday**, **September 12, 2017** at **3:15pm** in **Olin Hall 107**, with refreshments at 3:00pm**.**

1. Call to Order   M. Richman

    - Approval of the Agenda
    - Consideration of the Consent Agenda (including Minutes from 5-9-17)

2. Welcome   M. Richman

3. President's Report   L. Leshin

4. Provost's Report   B. Bursten

5. Deans' Reports:

    - Engineering   W. Soboyejo
    - Business School   M. Ginzberg

6. Reading of Memorial Resolution

    - Prof. William B. Miller (Mathematical Sciences)   M. Humi

7. Introduction of New Faculty Members (each brief and _understandable_!)   B. Bursten

    - Dept. Heads, Program Directors, New Faculty Members
    - "Communicating Your Expertise"   E. Brangan-Mell

8. New Business

9. Closing Announcements

10. Adjourn – to   *the quorum*   in Higgins House

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WORCESTER POLYTECHNIC INSTITUTE
Faculty Meeting Minutes
May 9, 2017

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4. Provost's Remarks
5. Committee Business: CAO; CGSR; COG/FRC; CGSR
6. Adjournment

Detail:
1. <u>Call to Order</u>
The ninth Faculty meeting of the 2016-2017 academic year was called to order at 11:00 am in OH 107 by **Prof. Richman** (ME). The meeting and the consent agendas (including the minutes from April 13, 2017) were approved.

2. <u>Opening Announcements</u>
Dean Snoddy explained the logistics for faculty members who plan to attend the ROTC commissioning ceremony and the Baccalaureate ceremony on May 10 as well as for those who will participate in the graduate student commencement on May 11 and the undergraduate commencement on May 13.

Prof Richman (ME) recognized Prof. Allen Hoffman (ME), who will be retiring at the conclusion of this academic year.

> I'd like to take a moment to recognize Prof. Allen Hoffman. He is a colleague so modest and understated, that I worry he'll slip out of this room into retirement and never fully appreciate the impact he's had on our campus, our way of academic life, and on me - personally.

> I do this from a deep sense of respect for his steady contributions to this place - a place that by now owes far more to him for its distinctive character than he owes to it for his!

> Prof. Hoffman became a full-time faculty member at WPI in 1970 - when the WPI Plan was in its earliest stages. (I was in the Little League at the time!) To him, the Plan always made just perfect sense. He didn't have to adapt to the ideas behind project-based education because those were his ideas to begin with. And he has been faithful to them ever since.

> I'm not here to recite to you the NSF, ASME, and WPI awards Prof. Hoffman has won during his career. You can read his C.V. for that. Instead, I'd like to focus on a few things about him that stick out to me.

> The first is that in all these years, I don't think that Prof. Hoffman and I have ever had lunch together. But that's entirely Al's fault, not mine. As many of you know, he is a devoted runner. I would have been happy anytime to grab a burger and fries at noon. But - no. He was always too busy putting in his miles.

> Here's something that may not be on his C.V.   Al ran his first marathon in 1970 in Boston, and his last in 2005 in Denver. And in between he's run 23 others.

> Several years ago, a sportswriter friend of mine mentioned in his Worcester Telegram column that my kids and I had cheered him on that year as he ran the Boston Marathon. When I came in - a few minutes late - to our M.E. department meeting the following week, Prof. Hoffman interrupted the proceedings. "Hey everybody," he said with a big smile, "how about a big round of applause for Mark - the guy who got his name in the paper for WATCHING a marathon!"

> I also think about meeting Prof. Hoffman when I first came to WPI in 1985. There were lots of people who were clearly devoted to our undergraduate brand of education. But then there was this one strange guy - Allen Hoffman - who not only lived by those ideals, but – amazingly to me - had a thriving research program, as well. He proved to one aspiring assistant professor that it could <u>all</u> be done here. As a role model, he broadened WPI's horizons – not only by what he did - but also by convincing others to come here to do the same.

> So when I see the success of our Biomedical Engineering Department, for example, I flash back to Prof. Hoffman's thriving biomechanics M.E. concentration from which it sprang. And when I observe the recent progress we've made in

diversifying our campus, I remember that 30 years ago, three-quarters of Prof. Hoffman's biomechanics majors were women - and that he was their mentor. And when I hear about the perfect balance between teaching, scholarship, and service to Faculty Governance, I realize that Prof. Hoffman was among the very first at WPI to understand the importance of all three.

Based on a simple calculation, I realize that somewhere around November of 1996 would have been perfect moment to have congratulated Prof. Hoffman on his first 26.2 years at WPI. I'm sorry I didn't think of it at the time. But now, after his 48-year ultra-marathon, we have the chance to more than make up for that oversight.

So, on behalf of the WPI Faculty, I want to express our gratitude to Prof. Allen Hoffman – who, not only laid the groundwork on which WPI stakes its current claims, but for all these years during which he has remained a voice of reason, a campus leader, and a model we can only hope to emulate.

3. President's Remarks

President Leshin thanked all those in attendance for their contributions to a successful academic year. She thanked the Admissions Office for their work in reading over 10,000 applications for the incoming freshman class, which will be approximately the same size as last year's. As part of a long standing and evolving tradition, Pres. Leshin will host a reception at her house for this year's women graduates, and she pointed out that women made up 34 percent of last year's graduating class and will make up over 40 percent of this year's incoming class. President Leshin reflected on the opportunities we have seized and the risks we have managed during her first three years at WPI, and thanked everyone for their dedication to our the students.

4. Provost's Remarks

Provost Bursten conveyed the sense he got at this year's Project Presentation Day of the difference between the students from when they first arrive at WPI and when they graduate. He credited the faculty for the growth of the students. The Provost thanked all those who have so far participated in the campus visits of the candidates for the Dean of Arts and Sciences, and thanked Prof. Weekes and V.P. Tichenor for their work as co-Chairs of the search. The Provost indicated that the Trustees at their May meeting will be considering all the changes made to the Faculty Handbook related to academic promotions. He announced that Prof. Ivon Arroyo (SSPS) has become the first member of the SSPS Department to win an NSF Career Award. The Provost congratulated Prof. Humi (MA) for 45 years of service to WPI and to Prof. Hoffman (ME) on his retirement after 48 years of service.

7. Committee Business

Committee on Academic Operations (CAO)

Prof. Iannacchione (PH), for the Committee on Academic Operations (CAO), moved that the undergraduate student graduation list (as previously distributed, and with one additional Ch.E. major) be approved for May 13, 2017 graduation pending final verification by the Registrar that all those on the list have in fact completed their degree requirements by then. The motion **passed**.

Committee on Graduate Studies and Research (CGSR)

Prof. Troy (BME), for the Committee on Graduate and Research Studies (CGSR), moved that the graduate student graduation list (as previously distributed) be approved for May 11, 2017 graduation pending final verification by the Registrar that all those on the list have in fact completed their degree requirements by then. The motion **passed**.

Prof. Richman thanked Registrar Miles and the entire staff in the Registrar's Office for their hard work in compiling these lists. **President Leshin** pointed out that this is the first year that over 1000 bachelors' degrees and almost 50 Ph.D.'s will be awarded.

Committee on Governance (COG) and the Faculty Review Committee (FRC)

Prof. Albano (CEE)**,** for the Committee on Governance (COG), and **Prof. Hoffman** (ME), for the Faculty Review Committee (FRC), moved to modify the current language describing the Duties and Responsibilities of the Faculty Review Committee (in Part One, Bylaw One, Section IX of the Faculty Handbook) and the Operational Guidelines for the Faculty Review Committee (in Part One, Appendix B of the Faculty Handbook) be modified as described in the materials distributed. Prof. Albano explained that the motion would expand the role of the Faculty Review

Committee (FRC) to include an appeal process for negative promotion decisions. The motivation for the motion was a recommendation from the Task Force on Academic Promotion. The appeal process would be available to tenured, tenure-track, and continuing non-tenure track faculty members, and would be restricted to cases in which the decision is alleged to have resulted from a violation of academic freedom, improper procedure, or discrimination. The grounds for discrimination have been updated to be consistent with current Human Resources practices. This motion was previously discussed at the April 13, 2017 Faculty meeting, and based on feedback received, the motion was revised to clarify the time period during which an appeal must be filed and to make clear that COAP members would not be eligible to serve on the FRC. (See **Addendum #1** attached to these minutes.) The motion **passed** without further discussion.

Prof. Hoffman (ME) in a moment of personal privilege thanked Prof. Richman for his kind words, and explained that in retirement he would most miss the faculty and staff members who he has gotten to know well over the years. To express his thoughts, Prof. Hoffman recited parts of Max Ehrmann's 1927 poem "Desiderata":

> Go placidly amid the noise and haste,
> and remember what peace there may be in silence.
> As far as possible without surrender
> be on good terms with all persons.
> Speak your truth quietly and clearly:
> and listen to others,…
>
> If you compare yourself with others,
> You may become vain and bitter;
> for always there will be greater and lesser persons than yourself.
> Enjoy your achievements as well as your plans.
>
> Keep interested in your own career, however humble;
> it is a real possession in the changing fortunes of time…
>
> Take kindly the counsel of the years,
> gracefully surrendering the things of youth….

Committee on Graduate Studies and Research (CGSR)

Prof. Troy (BME), for the Committee on Graduate Studies and Research (CGSR), explained that there were six proposed motions. The three that the meeting time allowed for discussion were to modify the policy for minimum GPA for graduate students, to add detail concerning financial aid to T.A.s and R.A.s, and to clarify the TOEFL requirements for international graduate T.A.s. (See **Addendum #2** attached to these minutes.)

Prof. Troy moved that the Graduate Catalog sections related to Academic Standards and Degree Requirements be modified, as described in the distributed materials. The current policy offers no early warning within the first 12 credits when a student's GPA falls below the 3.0 required for graduation, and it allows such students only to take courses on a pass/fail basis thereafter, which does not allow them to raise their GPAs above 3.0. The proposal would provide warning after each semester, and put in place a three-tier classification of academic warning, academic probation, and academic dismissal in successive semesters if their GPAs remained below 3.0.

Prof. Rangwala (FPE) was concerned about students who cannot take courses the following semester after a notification. **Prof. Troy** clarified that there would be no penalty for students who did not enroll in any given semester because they would not be re-evaluated until they re-enrolled.

Prof. Gatsonis (ME) pointed out that a passing grade is a C, which is equivalent to a 2.0 GPA, and wanted to know the basis for the 3.0 GPA requirement. **Prof. Troy** stated that the graduation requirement is a GPA of 3.0, and it didn't make sense to allow students with lower GPAs to continue. **Registrar Miles** explained that the 3.0 GPA is the widely accepted standard graduate school requirement and that it would not reflect well on WPI if our students graduated with lower GPAs.

Prof. Wills (CS) was concerned that a student's GPA could remain below 3.0 even while he or she did relatively well in subsequent courses. The proposed policy might not allow the student to proceed long enough to graduate in

good standing.   **Prof Troy** indicated that the student would have multiple opportunities to improve the GPA by taking additional courses and/or by re-taking courses to replace the lower grade.

Prof. Rundensteiner (CS) pointed out that a student might not intend to use courses that lowered the GPA below 3.0 toward the degree, but there would be no way for the registrar's office to remove them from the calculation of the cumulative GPA. **Prof. Troy** agreed.

Prof. Fehribach (MA) asked if academic departments could protect students by waiving the warning/probation/dismissal classifications in individual cases. **Registrar Miles** stated that these waivers would be allowed and could be based on knowledge that certain courses will not be used toward the degree.

Prof. Ault (ME) asked what the evidence was that indicated there was a problem with the current process. **Prof. Troy** pointed to the fact that the Registrar's office routinely receives repeated appeals for waivers from the departments. **Dean Camesano** explained that the proposal would address the current problem that students whose GPAs fall below 3.0 are restricted to taking courses on a pass/fail basis, which does not allow them to raise their GPAs and necessitates too many requests for waivers from the departments to the registrar's office. She also emphasized that currently students may not know until it is much too late that they are in academic difficulty, and she saw this motion as a way of informing the student and the advisor much earlier of the problem.

Prof. Gennert (CS) suggested that successful progress toward the degree might be better measured by each semester's GPA rather than by the cumulative (running average) GPA. That way, a student whose GPA was improving would not be penalized even if his or her cumulative GPA remained below 3.0 for a while

Prof. Weekes (MA) asked for the definition of the "program GPA." **Registrar Miles** explained that a program GPA is based only on the grades in the courses that are counted toward a specific degree. She hoped that this motion would help provide that information sooner than just prior to graduation.

Prof. Ryder (BBT) was concerned that the proposal would require two years before a student could be dismissed for poor academic performance. **Registrar Miles** pointed out that the proposal allowed that a student who earns a grade lower than C in three or more courses or whose GPA falls at or below 2.75 could be dismissed at any time.

Prof. Strong (FSB) was concerned that the proposal would not permit a student whose GPA fell below 3.0 to accept an internship for the following semester without first raising his or her GPA above 3.0. **Prof. Troy** deferred the question until discussion of CGSR's motion concerning graduate internships.

A motion to call the question was seconded and **passed**. The main motion **failed**.

Committee on Graduate Studies and Research (CGSR)
Prof. Troy (BME), for the Committee on Graduate Studies and Research (CGSR), moved that the financial information in the graduate catalog regarding teaching and research assistantships for graduate students be modified, as described in the materials distributed. The proposal would clarify the expected duration and amount of support offered to T.A.s and R.A.s. T.A.s would almost always be awarded for a full academic year including a stipend and 9 credits of tuition per semester. R.A.s would typically be for 9 or 12 months including a stipend and 9 credits of tuition per semester. Fellowships would be defined as full support for 12 months including 9 credits of tuition per semester. Exceptions to these guidelines could be made under certain special circumstances.

Prof. Fischer (ME) was concerned about having to provide nine-credits of tuition per semester when students need fewer than nine credits to complete their degree requirements. **Prof. Troy** indicated that students may be offered less than nine tuition credits if the number of credits is commensurate with their maintaining full-time status.

Prof. Rundensteiner (CS) was under the impression that our T.A. offers currently include ten credits of tuition per semester. **Dean Camesano** clarified that our current policy was for *at least* nine credits.

Prof. Heineman (CS) offered a friendly amendment to say that "Fellowships are *usually* defined as full financial support for 12 months." **Prof. Troy** accepted the friendly amendment.

Prof. Gericke (CBC) offered a friendly amendment to say that "Teaching Assistants are almost always for a full academic year of 9 months...*or 12 months*..." Prof. Troy did not accept the friendly amendment because the 9 month appointment would be interpreted as a minimum that could be exceeded.

Prof. Gatsonis (ME) felt that the 9 month and 12 month requirements for R.A.s was overly restrictive because they did not allow for partial funding or for instances when shorter research projects might be appropriate. **Dean Camesano** explained that that we still have the ability to give out graduate assistant positions, which pay hourly for a shorter project. By contrast, this motion is designed to make 9- or 12-month commitments to students who are accepted with funding throughout their thesis work, and is in part a response to graduate students who otherwise worry that their funding can be cut at any time.

Prof. Weekes (MA) asked if the minimum level of R.A. support was federally determined. **Ms. Harnisch** (OSP, Director of Sponsored Programs) stated that this was determined by University policy.

President Leshin asked if the proposal was a change in practice, or if it simply clarified our current practice. **Prof. Troy** indicated that for the most part the intention was not to change our policy, but rather to address instances in which it is currently not always followed.

Prof. Gaudette (BME) asked how many hours our T.A.s were expected to devote to their teaching responsibilities each week, and thought that such expectations should be explicitly stated in the graduate catalog. **Prof. Troy** explained that such clarification was beyond the scope of the current motion, which is restricted to the Financial Information section of the catalog. **Dean Camesano** pointed out that the time-expectations for T.A.s is already in the graduate catalog.

Prof. Cowlagi (ME) pointed out that the periods of research funding might not align with the academic calendar, and he did not want the current wording in the proposal to preclude the possibility of offering an R.A. position beginning in mid-semester if that was when the award was granted. He also thought that exceptions to the rules might be better handled by the department graduate committees or graduate coordinators rather than by the Dean of Graduate Studies. **Prof. Troy** felt that shifting T.A.s to R.A.s in mid-semester would be disruptive to the teaching assignments, so faculty members with grants that began in mid-semester would have to adjust to a lag before hiring R.A.s. **Dean Camesano** explained that the current proposal was not meant to restrict the flexibility to add an R.A., but rather to ensure that there would be an explicit 9- or 12-month commitment that could not be shortened.

Prof. Gericke (CBC) wanted to make sure that certain exceptions, such as split T.A./R.A. positions, did not have to be approved individually each time they arose. **Prof. Troy** agreed that there are some very commonly accepted exceptions, such as the split positions, that are in place without further approval required.

Prof. Fischer (ME) was still concerned that the language would prevent a faculty member from offering an otherwise unsupported student a small amount of R.A. funding when only that small amount was available. **Prof. Troy** understood the concerns raised by Prof. Fischer and others, and suggested that the proposal could be modified to cover only "Financial assistance to support *incoming* graduate students…"

A motion to table the motion was seconded and **passed**.

Committee on Graduate Studies and Research (CGSR)
Prof. Troy (BME), for the Committee on Graduate Studies and Research (CGSR), moved that the practices regarding TOEFL scores and Graduate T.A.s be modified in the Graduate Catalog as described in the materials distributed. The current language in the graduate catalog requires a minimum TOEFL score of 84 for admission with no further requirements on the sub-scores and with no more stringent requirements for T.A.s. The motion would require a minimum TOEFL score of 100 for T.A.s, with no subscore below 20. It would specify that all T.A.s will be given the SPEAK test upon arrival at WPI. If they score below the minimum (54), they will be given the opportunity to enroll in an ESL class, but students who do not meet the minimum score and do not enroll in ESL will not be allowed to continue as T.A.s. Prof. Troy pointed out that the minimum TOEFL score of 100 for T.A.s has been operationally in place for some time.

Prof. Rundensteiner (CS) wanted to provide more flexibility and suggested a friendly amendment to say that the "The minimum TOEFL (internet-based test) for Teaching Assistants is *typically* 100…" **Prof. Troy** accepted the amendment.

Prof. Heineman (CS) was still concerned that international students with TOEFL scores just below 100 would be discouraged from applying, even if the language were amended as agreed. **Prof. Troy** was sympathetic to that concern and hoped that as the discussion progressed a friendly amendment could be offered that would address the issue.

A motion to extend the meeting for ten minutes was made, seconded, and **passed**.

Prof. Gericke (CBC) observed that there were many roles for T.A.s, including lab preparation, that required less proficiency in English than other roles that involve more direct teaching responsibilities. So he suggested that each department should be permitted to decide whether and for what role the T.A. is best suited. **Prof. Troy** indicated that it would be difficult to make such a change to the proposal in the time remaining.

Prof. Gaudette (BME) was concerned about the serious objections to the motion. **Prof. Richman** explained that procedurally the discussion would proceed and eventually a vote on the amended motion would be taken, at which point individuals would have to make their own judgments.

Prof. Wills (CS) was afraid that the motion was too specific about the minimum score of 100, and that we would discourage otherwise qualified students from applying. **Dean Camesano** explained that that the average TOEFL score of our admitted T.A.s since 2012 was 103, so the proposed policy would not represent a big change to our current practice. She was in favor of a somewhat more flexible wording of the minimum score, but in order to avoid serious problems of communication between undergraduates and their T.A.s she wanted the language to at least be specific about the range we have in mind.

Prof. Gatsonis (ME) made a friendly amendment to change the "100" to "90" and to remove the word "typically" so the language would read as follows: "The minimum TOEFL (internet-based test) for Teaching Assistants is ~~100~~ *90*, with no subscore…" The friendly amendment was accepted.

President Leshin asked if all T.A.s, or only non-native English speaking T.A.s are given the SPEAK test. **Prof. Troy** explained that only students who are required to take the TOEFL are given the SPEAK test.

Prof. Weekes (MA) was concerned that the wording did not make clear that the minimum TOEFL score applied only to non-native English-speaking students. **Prof. Rao** (ME) was concerned that countries such as India could be considered as native English speaking. **Prof. Troy** pointed out that the graduate catalog already specifies that the language proficiency requirements apply only to students for whom English is not a first language.

The motion (amended with the minimum TOEFL score lowered from 100 to 90) **passed**.

9. Adjournment
The meeting adjourned at 12:40 pm.

Respectfully submitted,

Mark Richman
Secretary of the Faculty

Addendum on file with these minutes:
1. **Addendum #1 COG-FRC Motion to expand the role of the FRC to include an appeal process for negative promotion decisions – May 9 2017**
2. **Addendum #2 CGSR Motions to revise policies graduate student policies – May 9 2017**

Brief Biographies of New WPI Faculty Members
Fall 2017

Tenured and Tenure-Track Faculty Members

Peterson Family Dean of Arts and Sciences
Department of Biology and Biotechnology

Dr. Jean King, Professor
B.S. Biology, St. Francis College, Brooklyn 1979
M.S. Cell Biology, City University of New York 1982
Ph.D., Biology/Neurophysiology, New York University 1988

> Dr. King is an active neuroscientist and was Professor of Psychiatry, Radiology, and Neurology (with tenure) at UMass Medical School since 1994. She received her doctorate in neurophysiology from New York University, where her work focused on nicotinic influences during development. She then pursued her post-doctoral training in translational neuroscience at Emory, where her focus includes investigation of the effects of stress and hormone interactions on a variety of cognitive, emotional and social behaviors in human infants. Currently, Dr. King's work has expanded to include not only neurophysiology, neurochemistry and behavior, but related Magnetic Resonance Imaging (MRI) technical and methodological development as well. Her current research interests include the utilization of novel multi-modal neuroimaging techniques to explore the impact of stressors and addiction on neural networks, as well as neural mechanisms underlying co-morbidity in disorders like Attention Deficit Hyperactivity Disorder (ADHD) and Traumatic Brain Injury.

Department Head and Professor
Electrical and Computer Engineering

John McNeill, Professor
AB, Engineering Sciences, Dartmouth College, 1983
M.S., Electrical and Computer Engineering, University of Rochester, 1991
Ph.D., Electrical, Computer, and Systems Engineering, Boston University, 1994

> Professor McNeill has been an Electrical and Computer Engineering faculty member at WPI for the past 23 years. His research and project advising interests are focused on university-industry collaboration through the New England Center for Analog and Mixed Signal Design (NECAMSID) and emphasizes design of cutting-edge mixed (analog and digital) integrated circuits and systems. Prior to joining WPI, John spent nearly 10 years in the electronics industry. He just completed a year as a visiting researcher at UMMS working on a team developing a wearable wireless sensor for prevention of bedsores in convalescing patients in hospitals, as well as for those in home care and long-term care facilities or in wheel chairs.

Department Head and Professor
Social Science and Policy Studies

Emily M. Douglas, Professor
B.A., Psychology, Clark University, 1995
M.A., Public Policy, Univ. Mass. Boston, 1999
Ph.D., Public Policy, Univ. Mass. Boston, 2002

> Dr. Douglas' research focuses on child and family well-being, with a strong focus on policy and programmatic implications. Specifically, her expertise lies in fatal child maltreatment, men who

experience female-to-male partner violence and seek help, divorced families, and corporal punishment. She is especially interested in the use of research in policy-making.

Dr. Douglas recently completed a book entitled *Child Maltreatment Fatalities in the United States: Four Decades of Policy, Program, and Other Professional Responses*, released by Springer in August of 2016. She has previously served as a Congressional Fellow (in 2016-2017) and as a Presidential Fellow (in 2010-2011).

Director and Professor
Robotics Engineering Program

Dr. Jing Xiao, Professor (Computer Science)
B.S., Physics and Electrical Engineering, Beijing Normal University, 1982

M.S., Computer, Information & Control Engineering, University of Michigan, 1984

Ph.D., Computer, Information & Control Engineering, University of Michigan, 1990

Dr. Xiao comes to WPI from the University of North Carolina – Charlotte where she is a Professor of Computer Science. She is also the Site Director of the National Science Foundation Industry/University Cooperative Research Center on Robots and Sensors for the Human Well-being NSF I/UCRC ROSEHUB. She is the recipient of the 2015 Faculty Outstanding Research Award of the College of Computing and Informatics, University of North Carolina at Charlotte.

Among other roles, Dr. Xiao was a visiting researcher at the Scientific Research Laboratories of the Ford Motor Company; a Visiting Associate Professor at the Robotics Lab of Computer Science Department, Stanford University; the Program Director of the Robotics and Human Augmentation Program at the National Science Foundation; the Associate Dean for Research and Graduate Programs, College of Computing and Informatics, the University of North Carolina at Charlotte; and the Program Director of the Computing and Information Systems Ph.D. Program at UNC-Charlotte.

Dr. Xiao is an IEEE Fellow. She currently serves as the Vice President for Member Activities of the IEEE Robotics and Automation Society for her second term. She is a recipient of the 2016 IEEE Robotics and Automation Society Distinguished Service Award. She was an elected member of the Administrative Committee of IEEE Robotics and Automation Society (IEEE RAS AdCom) for a term of three years (2010--2012). From 1999-2001, she was also an elected member of the IEEE RAS AdCom.

Department of Biomedical Engineering

Catherine F. Whittington, Assistant Professor
B.S., Biomedical Engineering, Louisiana Tech University, 2006

Ph.D., Biomedical Engineering, Purdue University, 2012

Prof. Whittington will join WPI in January 2018. She has been a Postdoctoral Research Scientist at Eli Lilly and Company since 2013 as part of the Lilly Innovation Fellowship Award program where she works jointly between Cancer Cell Signaling at Eli Lilly and the Weldon School of Biomedical Engineering at Purdue University. Her current projects focus on increasing the predictive power and efficacy of preclinical tumor models by developing 3D matrix-based *in vitro* culture models for phenotypic-based assessments and integration into higher throughput drug discovery protocols. She plans to operate her research program at the interface of *in vitro* model development, engineering design, and technology translation. Prof. Whittington aims to: 1) develop tissue-engineered platforms for tissue restoration and reintegration and disease modeling and 2) balance physiological relevance and throughput capabilities of *in vitro* models to increase functionality and improve predictability of therapeutic outcomes for regenerative medicine and drug discovery.

Foisie Business School

Nima Kordzadeh, Assistant Professor

B.S., Computer Engineering, Sharif University of Technology, Tehran, Iran, 2006

MBA, Sharif University of Technology, Tehran, Iran, 2009

Ph.D., Business Administration, University of Texas at San Antonio, 2014

> Dr. Kordzadeh joined the faculty of the Foisie Business School at WPI in July 2017. He received his Ph.D. in Business Administration with an emphasis on Information Technology from the University of Texas at San Antonio. His research interests include health informatics, social media, information privacy, and business intelligence and analytics. His research has been presented at national and international conferences including Hawaii International Conference on System Sciences and Americas Conference on Information Systems and published in such peer-reviewed journals as Journal of the Association for Information Systems, Communications of the Association for Information Systems, and Health and Technology among others. He is currently on the board of the Southern Association for Information Systems, where he serves as Vice President and Conference Chair.
> Prior to joining WPI, Dr. Kordzadeh was an Assistant Professor of Informatics in the College of Business at Idaho State University. While there he led the design and launch of new undergraduate and graduate degree programs in Health Informatics and taught a range of classes including Database Design and Implementation, Statistical Methods for Data Analytics, and Health Data Analytics.

Department of Chemical Engineering

Elizabeth J. Stewart, Assistant Professor

B.S., Chemical Engineering, Worcester Polytechnic Institute, 2008

M.S., Chemical Engineering, University of Michigan, 2010

Ph.D., Chemical Engineering, University of Michigan, 2015

> Prof. Stewart joins WPI in January 2018 from her position as a Postdoctoral Associate in the Department of Materials Science and Engineering at Massachusetts Institute of Technology. Her research has used a soft matter approach to study the biophysics of bacterial biofilm infections and the biomechanics of cancer metastasis. She intends to develop a research program that utilizes a biophysical understanding of cells, biopolymers, and their microenvironments to address problems related to biofilm infection prevention and control. Her interdisciplinary work will draw on her experience in colloidal and polymer science, microbiology, quantitative microscopy, and microfluidics.

Department of Civil and Environmental Engineering

Shichao Liu, Assistant Professor

B. Eng., Building Environment and Energy Engineering, Tianjin University, China, 2007

M. Eng., Building Environment and Mechanical Systems, Tianjin University, China, 2009

Ph.D., Civil Engineering, The University of Texas at Austin, 2014

> Prof. Liu will join WPI in January 2018 from University of California, Berkeley, where he has worked as a postdoctoral researcher at the Center for the Built Environment (CBE) since 2015. His research focuses on built and urban environment, occupant-building-environment interaction, and integrated design for sustainable and healthy buildings. Prof. Liu envisions his research promoting built sustainability and occupant well-being through the interface among building science, information science, public health, and psychology.

Jeanine Plummer, Associate Professor

B.S., Civil and Environmental Engineering, Cornell University, 1993

M.S., Environmental Engineering, University of Massachusetts Amherst, 1995

Ph.D., Civil Engineering, University of Massachusetts Amherst, 1999

>Professor Plummer returns to WPI after spending a year as Principal Engineer for Water Quality and Treatment Solutions, Inc., Los Angeles, CA. Her research interests focus on water quality, drinking water treatment, and public health. Prior to her past year as a consultant, Jeanine was a WPI faculty member from 1999 – 2016. She led the development of the undergraduate degree program in Environmental Engineering, served as the director of that program from 2006 – 2015, and served as Associate Department Head of Civil Engineering for 3 years. She held the Schwaber Professorship from 2009 – 2016, and her research has been funded by NSF, the Water Research Foundation, and others. She was awarded the Professor of the Year for Massachusetts by CASE and the Carnegie Foundation in 2008, and the McGraw-Hill / AEESP Award for Outstanding Teaching in Environmental Engineering and Science in 2010. She is currently a member of the Technical and Educational Council of the American Water Works Association.

Department of Computer Science

Loris Fichera, Assistant Professor

B.S., Computer Engineering, University of Catania, Catania, Italy, 2008

M.S., Computer Engineering, University of Catania, Catania, Italy, 2011

Ph.D., Robotics, Cognition and Interaction Tech., Italian Inst. of Tech.-Univ. of Genoa, Italy, 2015

>Dr. Fichera's interests are in the application of engineering and computer science to enhance all aspects of medicine and help doctors save lives. His doctoral dissertation was in the area of robot-assisted laser microsurgery, and leveraged statistical learning techniques to model and control the creation of surgical laser incisions, with the ultimate goal of enabling superior surgical precision. His postdoctoral research focused on image-guided ear procedures, and involved the development of a needle-sized articulated endoscope that enables visualization of the inner cavities of the ear passing through the nose.
>
>Prior to joining WPI, Dr. Fichera worked as a Postdoctoral Researcher at Vanderbilt University and Vanderbilt University Medical Center. As of July 2017, he has authored a total of nine journal articles and twelve conference papers, including a Best Conference Paper finalist at the 2015 International Conference on Robotics and Automation (ICRA). In 2016, he was awarded the Young Investigator Award by the International Society for Computer Aided Surgery (ISCAS). Dr Fichera's dissertation was nominated as an outstanding PhD Thesis by the faculty of the Italian Institute of Technology and subsequently published in the Springer PhD Theses series.

Tian Guo, Assistant Professor

B.S., Software Engineering, Nanjing University, Nanjing, China, 2010

M.S., Computer Science, University of Massachusetts Amherst, Amherst, MA, 2013

Ph.D., Computer Science, University of Massachusetts Amherst, Amherst, MA, 2016

>Dr. Guo is broadly interested in distributed systems, cloud computing, and cloud-enabled IoT devices. In particular, her current research focuses on developing model-driven approaches to optimize performance for cloud-based applications.
>
>Before joining WPI, Tian worked on systems to handle workload dynamics introduced by new cloud applications and emerging cloud platforms. She was awarded the Graduate School Dissertation Writing Scholarship at UMass Amherst. She started at WPI as an Assistant Research Professor in 2016 and also spent time working at AT&T Research and NEC Labs.

Kyumin Lee, Assistant Professor

B.S. in Computer Science and Electronic Engineering, Kyonggi University, South Korea, 2005.

M.S. in Computer Engineering from Sungkyunkwan University, South Korea, 2007.

Ph.D. in Computer Science from Texas A&M University, 2013.

> Dr. Lee's research interests are in data science and data mining, cybersecurity, and social computing over large-scale networked information systems like the Web, social media and crowd-based systems. His research focus has both a positive and a negative dimension. On the one hand, Dr. Lee focuses on threats to these systems and designs methods to mitigate negative behaviors; on the other hand, he looks for positive opportunities to mine and analyze the systems for developing next generation algorithms and architectures that can empower decision makers.
>
> Dr. Lee's three research thrusts include a. Cybersecurity in Web, social and Crowdsourcing systems; b. Big Data Analytics and Mining; and c. Information Dissemination in Social Systems.
>
> Lee is a recipient of NSF CAREER Award and Google Faculty Research Award.

Gillian Smith, Assistant Professor

B.S. Computer Science, University of Virginia, 2006

M.S. Computer Science, University of California, Santa Cruz, 2009

Ph.D. Computer Science, University of California, Santa Cruz, 2012

> Dr. Smith's research interests are in computational creativity, game design, computer science education, and the intersection of traditional crafts and computation. Her interdisciplinary work merges technical research in AI and HCI with creative practice in textiles and games. She is an award-winning game designer as co-creator of Threadsteading (in collaboration with Disney Research Pittsburgh), a game played on a consumer embroidery machine, as well as co-creator of eBee (with collaborators at Northeastern), a quilt-based board game that teaches basic principles of electricity. With collaborators at Northeastern and TERC, she has two NSF grants to perform research in teaching computational thinking for middle school-age students via game design.
>
> Prior to joining WPI, Dr. Smith was on the faculty at Northeastern University, jointly appointed between the College of Computer and Information Science and the Department of Art+Design. She earned her PhD in Computer Science in 2012 from UC Santa Cruz, where she was a student in the Center for Games and Playable Media.

Department of Fire Protection Engineering

Albert Simeoni, Professor

B.S., Physics and Applications, University of Corsica, Corte, France, 1994

M.S., Mechanical Engineering, University of Aix-Marseille, Marseille, France, 1996

Ph.D., Mechanical Engineering, University of Corsica, Corte, France, 2000

> Prof. Simeoni is coming back to WPI and the FPE department. In the recent years, he was the Director of Wildland Fires and Simulation at Jensen Hughes, where he managed the wildland fire services and the complex simulation as part of the R&D group; and he served as Senior Manager at Exponent where he developed and supported projects related to design in fire safety and failure analysis. Prior to that he served as a Full Professor and Research Chair of Fire Safety Engineering at the University of Edinburgh in the UK where he developed research and teaching programs in Fire Safety.
>
> His area of expertise is in computational modeling, laboratory experiments and field experiments in fires with a strong emphasis on wildland fires. His current research focuses in the development of computational models to predict wildland fire spread and wildland fire impact at the Wildland-Urban Interface and their validation at laboratory and field scale.

Department of Mathematical Sciences

Andrea Arnold, Assistant Professor
B.S. Mathematics, Duquesne University, 2009
Ph.D. Applied Mathematics, Case Western Reserve University, 2014

> Dr. Arnold's research in applied mathematics is in the field of Bayesian inverse problems and uncertainty quantification. In particular, she is interested in the design and analysis of efficient and robust nonlinear filtering algorithms for state and parameter estimation within a Bayesian inference framework. Her current work focuses on applying nonlinear filtering methodology to analyze real-world data from the life sciences, including cardiovascular dynamics, the spread of infectious diseases, and optimal design and control for HIV drug therapy.
>
> Dr. Arnold recently completed a postdoctoral fellowship with the Research Training Group in Mathematical Biology at North Carolina State University.

Min Wu, Assistant Professor
B.S., Information and Computational Sciences, Nanjing University, China, 2007
Ph.D., Mathematics, University of California, Irvine, 2012

> Dr. Min Wu will be joining WPI in A term of 2017. After spending almost two years at École Normale Supérieure, Paris in France (2013-2015) as a postdoctoral researcher, she came back to the US and joined the Department of Engineering Sciences and Applied Mathematics at Northwestern University, as a visiting assistant professor (2015-2017). Her research areas include mathematical and computational modeling of tumor growth, force inferences in living tissue, and morphogenetic flow.

Department of Mechanical Engineering

Yu Zhong, Associate Professor
B.S., Metal and Heat Treatment, Sichuan University of Science and Technology, China, 1997
M.S., Materials Science and Engineering, Sichuan University, China, 2000
Ph.D., Materials Science and Engineering, Pennsylvania State University, 2005

> Dr. Yu Zhong joins WPI as an Associate Professor. After a short-term working as a Research Associate, he joined Saint-Gobain High Performance Research Center in Northborough, MA. He spent his 8-year career there working as internal technical consultant focusing on the application of thermodynamics and kinetics to various materials R&D projects. In 2013, he moved to Florida International University (FIU) as an Assistant Professor. He received the TMS FMD Young Leaders Professional Development Award in 2016 and ONR summer faculty fellowship in 2015, 2016, and 2017. Dr. Zhong has more than 33 peer-reviewed journal papers published/accepted, 2 book chapters, and 2 patents. His research is currently supported by Department of Energy and American Chemical Society.

Department of Physics

Kun-Ta Wu, Assistant Professor
B.S., Physics, National Taiwan University, 2003
M.S., Physics, National Taiwan University, 2005
Ph.D., Physics, New York University, 2014

> Before joining WPI, Dr. Wu was a postdoctoral associate in Brandeis University (2014-2017). During his postdoc, he studied dynamics of cytoskeleton network driven by molecular motors. In his PhD (2007-2014), he focused on self-assembly of DNA-coated colloids. Dr. Wu was a visiting scientist in Brown University (2015-2017). In this appointment, he worked on soft photolithography, E-beam deposition, and deep reactive ion etching (DRIE). Dr. Wu was a physics lecturer in Brandeis University (2017). He taught advanced physics laboratory.

Continuing Non-Tenure Track Faculty Members, Visiting Faculty Members, and Others with Teaching Responsibilities

Foisie Business School

Hoda Atef Yekta, Visiting Instructor

B.S., Industrial Engineering, Tehran Polytechnic University, Tehran, Iran, 2006

M.S., Industrial Engineering, Sharif University of Technology, Tehran, Iran, 2008

> Hoda Atef Yekta joined the faculty of the Foisie Business School at WPI in August 2017 as visiting instructor. She is a Ph.D. Candidate at the University of Connecticut. She is interested in developing optimization models and algorithms to make the world a better place.
>
> Her research includes the design of optimization-based mechanisms to allocate scarce classroom capacity to students, a common practice for highly-ranked business schools, and the use of optimization in assigning workers to teams. Other areas of active research include the study of peer-to-peer lending markets through data-mining, as well as other applications of mathematical modeling in Operations Management, Data Analytics, and Business Decision Analysis.
>
> She has taught various courses including Operations Management at the UConn School of Business, and Inventory Management and Statistical Quality Control for Industrial Engineering students before coming to the United States. In 2016, she received the Graduate Teaching Award of the Operations and Information Management Department at the University of Connecticut.

Department of Chemical Engineering

Laila Abu-Lail, Assistant Teaching Professor

B.S., Civil Engineering, Jordan University of Science & Technology, Jordan, 2003

M.S., Environmental Engineering, Worcester Polytechnic Institute, Worcester, 2006

Ph.D., Civil Engineering, Worcester Polytechnic Institute, Worcester, 2011

> Dr. Abu-Lail had a postdoctoral fellowship with Dr. Terri Camesano, to investigate the effect of cranberry juice components (CJC) on the adhesion strength between bacteria and uroepithelial cells. Her current research interests include fate and transport of emerging contaminants in water, and bacterial adhesion.
>
> During the past few years at WPI, Dr. Abu-Lail taught several courses in Chemical Engineering and Civil and Environmental Engineering at the undergraduate and the graduate level.

Department of Chemistry and Biochemistry

Dr. Elizabeth Bafaro, Assistant Research Professor,

B.Sc., Biochemistry, University of Guelph, Guelph, 1999.

Ph.D., Biological Sciences and Chemical Engineering, University of Alberta, Alberta, 2005.

> Dr. Bafaro joined WPI as a postdoctoral researcher in 2013 where her research utilizes biochemical, biophysical and structural biology tools to study a membrane transport protein required for zinc homeostasis. Her interest in membrane proteins has been a theme throughout her graduate and previous postdoctoral work, which focused on the genetic, biochemical and structural characterization of membrane proteins involved in bacterial antibiotic resistance and fatty acid transport. She was the recipient of the NIH Ruth L. Kirschstein National Research Service Award during her postdoctoral fellowship at the University of Massachusetts Medical School.

Ivan P. Mardilovich, Assistant Teaching Professor

B.S. and M.S., Chemistry and Education, Belarusian State University, 1975;

Ph.D., Physical Chemistry, People's Friendship University of Russia, 1982;

Academy of Science of Senior Research Scientist in Physical Chemistry, Moscow, 1991.

> Dr. Mardilovich's has been a member of the WPI community for the past 17 years. His research was directed at developing ecofriendly energy solutions, specifically in the production of hydrogen by engineering unique palladium alloy membranes and membrane reactors. He will be involved in delivering CBC's General Chemistry labs.

Department of Civil and Environmental Engineering

Mohamad Farzinmoghadam, Assistant Teaching Professor

B.S., Architecture and Planning, Shahid Beheshti University, Tehran, Iran, 2005

M.S., Architecture Technology, Tarbiat Modares University, Tehran, Iran, 2009

M.Arch, Architecture, University of Massachusetts, Amherst, 2016

Ph.D., Regional Planning, University of Massachusetts, Amherst, 2016

> Dr. Farzin.Moghadam joins the Department of Civil and Environmental Engineering. His primary research interests focus on sustainable building technologies, urban metabolism simulation, and analytical design. In collaboration with UMass Building Tech. Lab, he developed an analytical modeling framework, Integrated Urban Metabolism Analysis Tool (IUMAT), for quantifying overall sustainability in an urban-scape. Serving on the UMass Green Building and Master Plan Sustainability Committees, he co-authored several documents, including the UMass Master Plan Sustainability Chapter, which investigated the possibilities and challenges involved in implementing sustainable design strategies.

Hussam S. Saleem, Assistant Teaching Professor

B.Sc., Civil Engineering, University of Jordan, Jordan 2008

M.S. Structural Engineering, Washington State University, WA, USA 2011

Ph.D., Structural Engineering, Iowa State University, Iowa, USA 2015

> Prior to joining WPI, Dr. Saleem was a structural engineer at Michael Baker International. He has worked on several projects involving design of new bridges and bridge rehabilitations and repairs. He was also involved in performing monitoring and condition assessment of existing bridges to verify their capacity and structural integrity. Dr. Saleem research interests are in the Structural Health Monitoring (SHM) area, focusing on bridges and large scale systems. He worked on the development of a state of the art SHM system of sensors, data acquisition system, and damage detection algorithms to monitor large surfaces. His multidisciplinary work spans civil, electrical, and material engineering as well as computer science, aiming to develop real-time SHM systems to monitor our civil infrastructure.

Department of Computer Science

Joshua Cuneo, Instructor

B.S. Computer Science, Georgia Institute of Technology, 2008

M.S. Digital Media, Georgia Institute of Technology, 2010

> Joshua Cuneo comes to WPI after having been an Instructor of Information Technology at Georgia Gwinnett College (GGC) in Lawrenceville, GA. For the past ten years he taught introductory computer science, computer graphics, programming, and digital media and served as a mentor at the undergraduate and graduate levels. He is a recipient of the Top Claw Award, a peer-nominated award for faculty and staff "who go above and beyond to make exceptional contributions in supporting the educational mission of GGC." His areas of interest include the use of computing in civic activism and social justice, international studies, sustainability, scientific research, space exploration, and artistic expression.

Dr. Hugh Lauer, Teaching Professor

B.S., Mathematical Sciences, Antioch College, 1965

M.S., Mathematical Sciences, Carnegie-Mellon University, 1967

Ph.D., Computer Science, Carnegie-Mellon University, 1973

> Dr. Lauer has been an Adjunct Teaching Professor in Computer Science at Worcester Polytechnic Institute since 2006. Before joining WPI, Dr. Lauer was Founder and Chief Technical Officer of the Real-Time Visualization business unit, a spin-out of the Mitsubishi Electric Research Labs (MERL) in Cambridge, Massachusetts. He created VolumePro, the world's first commercial solution for interactive 3D volume rendering and imaging of medical and seismic scans on PC-class systems; and he led the development of two generations of VolumePro chips, boards, and software. Following the sale of the VolumePro business to Tera-Recon, Inc., he became Senior Vice President of Processor Engineering at TeraRecon. Previously, he was a founding member both of MERL and of the Eastman Kodak Boston Technology Center. He has held positions in system development at a number of companies including Xerox in Palo Alto, CA, and Apollo Computer in Chelmsford, MA. He also was a Lecturer in Operating Systems at University of Newcastle upon Tyne, UK.

Rodica Neamtu, Associate Teaching Professor

B.S. and M.S., Computer Science, University of Craiova, Romania, 1991

Ph.D., Computer Science, Worcester Polytechnic Institute, Worcester, Massachusetts, 2017.

> Dr. Neamtu is a data-mining researcher who investigates how to develop and leverage groundbreaking techniques to explore time series datasets at the confluence of theoretical computer science and application domains like medicine, economics and education. She has a keen interest in tackling fundamental computing problems, deeply interested in the theoretical underpinnings of the methods, including complexity and completeness, while also targeting the practical Big Data issues from index structures to query processing strategies.
>
> She has more than fifteen years of teaching experience in various academic institutions including Emmanuel College, Wentworth Institute of Technology and University of Craiova. She is committed to use her love and talent for teaching and research to empower others through education to make a difference in the world. Dr. Neamtu has a long history of involving underrepresented groups in research via service courses and mentoring programs.

Chun-Kit (Ben) Ngan, Assistant Teaching Professor (CS and Data Science)

B.Eng. in Electronic Engineering, Hong Kong University of Science and Technology, 1998

MBA in Management Information Systems from California State University, Chico, 2006

Ph.D. in Information Technology from George Mason University, 2013

> Dr. Ben C.K. Ngan was an Assistant Professor in the Division of Engineering and Information Science at the Pennsylvania State University-Great Valley. Dr. Ngan worked as a Scientist at Syneren Technologies Corporation and was an Adjunct Faculty at GMU. His teaching interests include database management systems, data mining, machine learning, predictive analytics, decision support system, data structures, computational algorithms, and software application programming.
>
> Dr. Ngan's research interests are decision guidance and support systems (DGSS), including decision optimization models, computational algorithms, machine learning, data analytics, and DGSS applications, to guide domain-specific decision makers to make better decisions and provide them with actionable recommendations. He has published more than 15 articles in various books, journals, and conferences. He received the Best Paper Award and the Best Student Paper Award at the 2013 and 2011 International Conference on Enterprise Information Systems, respectively. He was the recipient of the 2013–2014 Seed Money Grant and 2015–2016 Early Career Award for Research and Scholarship Excellence at PSU-GV.

Douglas Selent, Assistant Teaching Professor

B.S. Computer Science, Merrimack College, North Andover, MA, 2009

M.S. Computer Science, Rivier University, Nashua, NH, 2011

Ph.D. Computer Science, Worcester Polytechnic Institute, Worcester, MA, 2017

> Doug Selent has worked in the area of Learning Sciences building systems to help improve student learning and analyze experiments more effectively. He has created a system called PeerASSIST, which crowdsources and redistributes student work in a controlled and optimal manner to peers in need of assistance. He has also contributed to the Assessment of Learning Infrastructure (ALI) project, which provides a platform to automatically analyze and report on experiment results to researchers. In addition to building these systems, Doug has taught several courses at Rivier University over the past three years including Algorithms, Java Programming, Information Technology, and Object-Oriented Design.

Department of Electrical and Computer Engineering

Köksal Muş, Assistant Teaching Professor

B.Sc., Mathematics, Yildiz Technical University, Istanbul, Turkey, 2004

M.Sc., Cryptography, Institute of Applied Mathematics, Middle East Technical University, Ankara, Turkey, 2009

Ph.D., Cryptography, Institute of Applied Mathematics, Middle East Technical University, Ankara, Turkey, 2016

> Dr. Muş will be joining WPI as an Assistant Teaching professor in Electrical and Computer Engineering, following his position as an Assistant Professor in the Computer Science Department at Istanbul University. His current research interests include Applied Cryptography, Verifiable I-voting Systems, PublicKey Cryptography, and Randomness Tests.

Department of Humanities and Arts

Craig Danielson, Assistant Teaching Professor

B.A. History, State University of New York at Geneseo, 1995

M.A. Pastoral Counseling, Boston College, 2001

M.A. Religious Studies, University of Virginia, 2008

Ph.D. Religious Studies, University of Virginia, 2009

> Dr. Danielson's dissertation focuses on Hindu nationalism and Hindu nationalist organizations functioning as an alternate polity at the state level. The project also analyzes how Western political models have blind spots that lead to under-reporting of human rights violations.
>
> After his Ph.D., Craig worked as a South Asia analyst for the Open Source Center for six years.
>
> Craig will be teaching courses in Religion, Philosophy, and Global Studies in the Department of Arts and Humanities.

Wen-Hua Du, Assistant Teaching Professor

B.A. Philosophy, Soochow University, Taiwan, 1997

M.A. Teaching Chinese as a Second Language, National Taiwan Normal University, 2000

Ph.D. Curriculum and Instruction, University of Wisconsin-Milwaukee, 2008

> Dr. Du obtained her M.A. degree in Teaching Chinese as a Second Language and her Ph.D. in Curriculum and Instruction. Prior to joining WPI, she worked as Senior Lecturer and Coordinator of the Chinese Program at the Pennsylvania State University and Visiting Assistant Professor at the University of Wisconsin-Madison. She has taught a wide range of Chinese language and content-based language courses. Her expertise is language teaching, curriculum design and program management. Research

interest includes culture teaching and learning, language learning strategies, and pedagogy of Chinese as a Foreign Language (CFL) and Chinese as a Heritage Language (CHL).

Dr. Du will be teaching various Chinese language courses and serves as the Associate Director of the China Hub at WPI.

James S. Eddy, Assistant Teaching Professor (Drama/Theatre)

B.A. Antioch College, 1976

M.F.A. Theater, Trinity University at the Dallas Theater Center, 1980

Jim's MFA thesis project studied the ways that a designer can contribute to the relationship between the actor and the environmental and visual contexts of a production setting. His guiding interest is in how to use the developing forms of technology to serve the artistic goals of a production as expressed by the playwright, director and designer.

Jim also spent many years working in architectural restoration, furniture conservation, and as a studio woodworker.

Parker D. Everett, Assistant Teaching Professor

B.A. History, Wesleyan University, 2001

B.A. English, Wesleyan University, 2001

M.A. Modern European History, University of Chicago, 2004

Ph.D. Modern European History, University of Chicago, 2012

Dr. Everett joins WPI from The University of Chicago, where his dissertation focused on municipal administration and city planning in Berlin from 1900-1933. His book manuscript, "City as Organism, City as Machine: Greater Berlin and the Transformation of Urban Space, 1871 – 1933" is under contract to The University of Toronto Press and his work has been accepted by *New German Critique*.

His research interests include modern European history, urban history, anti-Semitism, the intellectual history of urban studies, Berlin and Chicago, urban theory, colonialism, labor history, and the history of the left and critical theory.

He is a founder and the assistant editor of *Critical Historical Studies*, an academic journal published by The University of Chicago Press.

He will be teaching global studies as well as European, environmental, urban and African history in the Department of Humanities and Arts at WPI. Prior to joining WPI, he taught at The University of Chicago; Purdue University, Calumet; Saint Xavier University and The School of the Art Institute of Chicago.

Kevin Lewis, Professor of Practice, (Technical and Professional Writing)

B.S., Natural Science, Worcester State College, 1992

Master of Tech. and Prof. Writing, Northeastern University, 1998

Kevin's primary focus is technical and professional writing—specifically software and product documentation—however, he also teaches general writing courses that are less technical in nature. He is particularly interested in how users of computer applications and consumer products work with supporting documentation and how technical writers can improve documentation practices and delivery methods to provide users with information quickly, efficiently, and accurately. His published work has been predominantly practitioner-based and designed to teach authors of online documentation the tools and techniques of their trade.

He brings to the classroom over 20 years of professional writing experience, and thinks in terms of how he can help make students strong writers when they head out to the workplace. As a teacher, he believes in learning by doing. His approach is to combine lectures on concepts with practical assignments that involve individuals and groups analyzing examples and working on related exercises and projects. His job as teacher is to link students' exercises to academic concepts and professional experiences. He is also interested in helping aspiring technical writers understand, plan for, and work toward a career in documentation, including building résumés and portfolios that will make prospective employers take a second look.

Kevin's other writing interests include screenwriting, of which he is still a growing and, hopefully, promising student. He has written a couple of screenplays and begun countless others, and can only hope to one day see one of them play out on screen.

Joshua W. Rohde, Assistant Teaching Professor
B.S. Civil Engineering, University of Minnesota, 2011
B.M. Cello Performance, University of Minnesota, 2011
M.S.M. Choral Conducting, Boston University, 2013
M.A. Choral Conducting, University of Birmingham (UK), 2014
D.M.A. Choral Conducting, Boston University, 2017

Dr. Joshua W. Rohde is the Director of Choral Activities at Worcester Polytechnic Institute. He teaches courses in music and conducts all four of the university's choral ensembles – Men's Glee Club, Women's Alden Voices, Festival Chorus, and the Chamber Choir.

Dr. Rohde recently completed a Doctor of Musical Arts degree from Boston University in Choral Conducting, where he wrote a dissertation on living Scottish composer Sir James MacMillan. He is also the music director for the Quincy Choral Society, manages the Harvard Choruses' New Music Initiative, and frequently performs as the principal cellist for the Marsh Chapel Collegium Orchestra.

Interdisciplinary Global Studies Division

Katherine Foo, Assistant Teaching Professor
B.A., Poverty Studies, Williams College, 2002
Master of Landscape Architecture and M.S., Sustainable Systems, University of Michigan, 2008
Ph.D., Geography, Clark University, 2015

Katherine Foo recently completed a two-year Postdoctoral Fellowship at the Pennsylvania State University in the Department of Geography, where she taught classes in urban geography, urban ecology, and environmental justice, and directed the human geography PLACE lab. She has been a Sustainability Science Fellow with the USDA Forest Service and a Radcliffe/Rappaport Doctoral Public Policy Fellow at the Harvard Kennedy School. Her experience with engaged place-based learning and projects includes both international (Thailand, Cambodia, Bolivia, Guatemala) and domestic (Boston, Worcester, New York City) localities.

Courtney B. Kurlanska, Assistant Teaching Professor
B.A., Anthropology, Journalism Program, Brandeis University, 1999
M.S., Urban Studies, University of New Orleans, 2005
Ph.D., Anthropology, State University of New York, 2012

Courtney Kurlanska is an economic anthropologist specializing in community development initiatives in Latin America. Heavily influenced by her experience as a Peace Corps volunteer in Nicaragua and funded by the National Science Foundation, her dissertation research was on the role of microcredit and microfinance in the livelihood strategies of rural Nicaraguan agriculturalists. Her current work examines the growing influence of neoliberalism in international development. In 2016, Dr. Kurlanska was recognized as Leadership Fellow by the American Anthropological Association. Dr. Kurlanska has taught at several colleges and universities including Rochester Institute of Technology, Appalachian State University, University of Akron and the University of New Hampshire.

Nicholas Williams, Assistant Teaching Professor
B.A., Anthropology, Environmental Studies Certificate, University of Wisconsin-Madison, 2006
M.A., Sociocultural Anthropology, University of California-Santa Barbara, 2010
Ph.D., Sociocultural Anthropology, University of California-Santa Barbara, 2015

Nicholas Williams is a sociocultural anthropologist interested in the ways in which political, economic, and ecological changes from the macro- to the micro-scales influence human-environmental relationships, with a particular interest in food systems. He was previously a postdoctoral research fellow in the Environmental Studies Program at the University of Colorado Boulder. Dr. Williams's research, which is primarily carried out through interdisciplinary collaborations, combines qualitative and quantitative methods to answer theoretical questions and help to inform actionable policy. His work is currently based both in Nicaragua and Sri Lanka.

Department of Mathematical Sciences

Bheemaiah Veena Shankara Narayana Rao, Assistant Teaching Professor
B.Sc., Mathematics, Physics and Chemistry, Bangalore University, India, 2001
M.Sc., Mathematics, Bangalore University, India, 2003
M.S., Mathematics, The University of Texas-Rio Grande Valley, Texas, USA, 2009
Ph.D., Mathematics, Texas A&M University, Texas, USA, 2016
> Dr. Rao's research interests are mathematical modeling, ecology and numerical solution of partial differential equations. Dr. Rao's current research focuses on developing and analyzing mathematical models arise from population dynamics. In her PhD dissertation, she has formulated a coupled system of reaction-diffusion and hyperbolic partial differential equations to study the population of brown shrimp in Gulf of Mexico.

Department of Mechanical Engineering

Mehul A. Bhatia, Assistant Teaching Professor
B.E., Mechanical Engineering, Sardar Patel University, 2007
M.S., Mechanical Engineering, New Jersey Institute of Technology, 2008
Ph.D., Mechanical Engineering, Arizona State University, 2014
> Dr. M. A. Bhatia is joining WPI Mechanical Engineering Department following his time as a Postdoctoral Researcher at Arizona State University where he was working on thermal and mechanical stability of nanocrystalline Cu-Ta material which was published in nature journal. His research interest is understanding the effect of defects on structure-property relationships in advanced materials such as magnesium and titanium alloys related to the aerospace, automotive and nuclear industries at different length scales. In 2011, Dr. Bhatia received TMS Light Metals Magnesium, 'Best Fundamental Research Paper Award' for his work on predicting deformation and failure behavior in magnesium alloys using a multiscale modeling approach.

Ahmet Sabuncu, Assistant Teaching Professor
B. Eng., Mechanical Engineering, Yildiz Technical University, Istanbul, Turkey, 2005
M.S., Aerospace Engineering, Istanbul Technical University, 2007
Ph.D., Aerospace Engineering, Old Dominion University, 2011
> Prof. Sabuncu teaching interests are in the area of thermo-fluid sciences. He has also instructed senior design and biomedical engineering related courses. His research expertise is on the use of microfluidics and micro and nano sensors for biomedical applications such as single cell manipulation and cancer diagnosis. The techniques he uses include bioimpedance spectroscopy, dielectrophoresis, microfabrication, micro particle image velocimetry, finite element and Monte Carlo simulations.

Jun Yang, Assistant teaching Professor
B.Eng., Hebei University of Technology (HUT), Tianjin, China, 2005
M.S., Dalian University of Technology (DUT), Dalian, China, 2008
Ph.D., Worcester Polytechnic Institute (WPI), Worcester, U.S.A. 2013

Prof. Jun Yang Joins WPI following her position as a postdoctoral associate at Massachusetts Institute of Technology (MIT), where she works on the mesoscale modeling of cell biomechanics and rheology with particle based method at Nanomechanics Laboratory. Her experience on multiscale modeling is in smoothed dissipative particle dynamics (SDPD) method, smoothed particle hydrodynamics (SPH), dissipative particle dynamics (DPD), mechanobiology of sickle cell anemia, theoretical and computational modeling for evaluating biomechanical and biophysical properties of healthy and diseased cells.

<u>Mei Yang, Assistant Research Professor</u>

B.S., Materials Science & Engineering, Sichuan University, Chengdu, China, 1999

M.S., Materials Science & Engineering, Sichuan University, Chengdu, China, 2002

M.S., Materials Science & Engineering, The Pennsylvania State University, University Park, PA, 2006

Ph.D., Materials Science & Engineering, Worcester Polytechnic Institute, Worcester, MA, 2012

Dr. Mei Yang joined WPI as assistant research professor and associate technical director of CHTE following her position as a Sr. R&D engineer in H.C. Starck, where she was in charge of the alloy development for various niobium, tantalum, and molybdenum alloys. Her expertise is integrated materials and processes development for both metals and ceramics by combining modeling and experimental investigation. Her current research is focus on advanced heat treatment techniques.

<u>Appendix</u>
Consent Agenda Items

Date: September 12, 2017
To: WPI Faculty
From: Committee on Academic Operations (Prof. Heineman, Chair)
Re: Motion to remove the recommended background for OBC 3354 (*Organizational Behavior and Change*)

Motion: On behalf of the Foisie Business School, the Committee on Academic Operations recommends, and I move that the recommended background for OBC 3354 *Organizational Behavior and Change* be changed as described below.

Proposed Course Description (with deletions ~~struckthrough~~ and additions in **bold underline**)**:**
OBC 3354 *Organizational Behavior and Change* (Cat. I)
This course focuses on the basic knowledge and processes required of managers to understand behavior in organizations and to apply this knowledge to organizational change. Topics include communication and trust, power and leadership, group and intergroup processes, conflict and conflict management, and work and organizational design. Students apply their knowledge of organizational behavior to the analysis, implementation, and leadership of organizational change. Lectures, video presentations, case studies, group discussions and mini-projects are employed to introduce and illustrate the basic elements of organizational behavior and change. Recommended background: ~~BUS1010 or consent of the professor.~~ **None**

Rationale: The material in this course is introductory coursework in Organizational Behavior and Change (OBC) and as such requires no prior background in Business or OBC. Therefore there is no recommended background for this course.

Impacts on students: There will be no impact on other courses, programs, or distribution requirements in the Foisie Business School or in other departments. The course will remain a Cat. I course.

Resource Needs: No additional resources required.

Implementation Date: To be implemented in academic year 2017-18.

Date: September 12, 2017
To: WPI Faculty
From: Committee on Academic Operations (Prof. Heineman, Chair)
Re: Motion to remove OBC 4366 and add OBC 4367 (*Leadership, Ethics, and Social Responsibility*)

Motion: On behalf of the Foisie Business School, the Committee on Academic Operations recommends, and I move that OBC 4366 (*Leadership, Ethics, and Social Entrepreneurship*) be removed and that OBC 4367 (*Leadership, Ethics, and Social Responsibility*), as described below, be added.

Description of course to be removed:
OBC 4366 *Leadership, Ethics, and Social Entrepreneurship* (Cat. I)
This upper level course considers the essence of leadership from the perspective of leadership theory, self-inquiry, ethics, and social entrepreneurship. Social entrepreneurship pertains to the creation of social value through innovative solutions to complex, challenging social problems. This course will invite students to think about themselves as ethical leaders who can lead innovation in the context of limited resources and high to moderate risk. Lecture, video presentations, case studies, guest speakers, field work, and mini-projects are used to engage students in these course topics. Recommended background: BUS1010 or consent of the professor.

Proposed description of course to be added:
OBC 4367 *Leadership, Ethics, and Social Responsibility* (Cat. I)
This upper-level course invites students to consider the importance of ethics, corporate governance, and corporate social responsibility for leading global enterprises effectively. Students will be asked to reflect on their own leadership styles and to engage the complex, ethical dimensions of leadership in modern organizations. The course will engage students using lecture, video presentations, case studies, guest speakers, fieldwork, and mini-projects. Recommended background: None.

(Students may not receive credit for both OBC 4366 and OBC 4367.)

Anticipated Instructor: Prof. Michael Elmes

Rationale: OBC 4366 *Leadership, Ethics, and Social Entrepreneurship* (Cat. I) will be replaced by the new proposed OBC 4367 *Leadership, Ethics, and Social Responsibility* (Cat. I). The topic of social entrepreneurship is covered more broadly in ETR 2900 *Social Entrepreneurship,* which is a course that was added in fall 2016.

OBC 4367 *Leadership, Ethics, and Social Responsibility* will cover many of the topics previously included in OBC 4366 *Leadership, Ethics, and Social Entrepreneurship* but will also address the topic of corporate social responsibility.   Corporate social responsibility has rich and important literature that is relevant to leadership and ethics, and that will be useful to our students. The

material in this course is introductory coursework in Organizational Behavior and Change (OBC) and as such requires no prior background in Business or OBC.

Changes to catalog: OBC 4366 will be replaced by proposed course OBC 4367 wherever that course designation appears in the Undergraduate Course Catalog: As a Business Major elective; in the Management Engineering Major concentrations; in the Social Entrepreneurship Minor; and as an elective for the Professional Writing Major.

Impact on distribution requirements: There will be no impact on other courses, programs, or distribution requirements in the Foisie Business School or in other departments. Students will have the option of taking OBC 4367 wherever OBC 4366 was previously an option. (See "Changes to catalog" above for specific places in the Undergraduate Course Catalog where OBC 4366 appears.)

Term/Cat.: OBC 4367 will be a Cat. I course, as was OBC 4366, and will be offered in the same term – D – of the academic year.

Resource Needs: No additional resources required since Prof. Michael Elmes, who taught OBC 4366, will teach OBC 4367.

Implementation Date: To be implemented in D term of academic year 2017-18.

Date: September 12, 2017
To: WPI Faculty
From: Committee on Academic Operations (Prof. Heineman, Chair)
Re: Motion to add an experimental course MIS 470X (*Business Intelligence*)

Motion: On behalf of the Foisie Business School, the Committee on Academic Operations recommends, and I move that the experimental course MIS 470X (*Business Intelligence*), as described below, be offered in D-term of 2017–18 and 2018-19.

Proposed Course Description:
MIS 470X *Business Intelligence* (Cat.I)
Today's business computing infrastructures are producing the large volumes of data organizations need to make better plans and decisions. This course provides an introduction to the technologies and techniques for organizing and analyzing data about business operations in a way that creates business value, and prepares students to be knowledgeable producers and consumers of business intelligence. During the course, students will study a variety of business decisions that can be improved by analyzing large volumes of data about customers, sales, operations, and business performance. Students will employ commercially available business intelligence software to organize, summarize, visualize, and analyze data sets and make recommendations based on the results. The course explores the technical challenges of organizing data for analysis and the managerial challenges of creating and deploying business intelligence expertise in organizations. The course includes business cases, in-class discussion, and hands-on analyses of business data. It is designed for any student interested in analyzing data to support business decision-making, including students whose primary focus is IT, Marketing, Operations, Business Management, Data Science, or Computer Science. Recommended background: Previous knowledge in data management (e.g., MIS 3720 *Business Data Management* or CS equivalent)

Faculty Contact: Prof. Eleanor Loiacono

Anticipated Instructor: Prof. Nima Kordzadeh

Rationale: We propose to add MIS 470X *Business Intelligence* because business intelligence has become a critical mainstay of businesses today. "Business intelligence is always something you need to be aware of and on top of, because if you aren't aware of what your company focus is and how it should be improved, you are going to lose out to those who do" (Shamim, 2017). In fact, data-related careers top many lists of best jobs of 2017 (https://www.glassdoor.com/List/Best-Jobs-in-America-LST_KQ0,20.htm). Students going into business today need to understand the tools and processes for analyzing and understanding large amounts of data.

The intended audience for the course includes students of all majors interested in analyzing data to support business decision-making, including students whose primary focus is IT, Marketing, Operations, Business Management, Data Science, or Computer Science.

Resource Requirements:
   a) Currently available resources: Prof. Nima Kordzadeh, who will teach this course, will be a new faculty member in the Foisie Business School as of July 2017.
   b) No additional library support required.
   c) Traditional classroom with AV support and a capacity of 25.

Assessment: MIS 470X will be assessed using WPI's standard course evaluation form, with emphasis on questions 1, 2, 9, and 26b. The instructor will also provide feedback and reflections on the course effectiveness.

Impact on Distribution Requirements and Other Courses: Students of all majors will be able to use MIS 470X as a Free Elective and it will be an option wherever there is a choice of any course from the Foisie Business School. If successful, MIS 470X could be included as one of the Business course options for the new Data Science minor, which is likely to grow in demand.

Preferred terms: D '18 and D '19

Expected enrollment: 15 – 25

Reference: Shamim, Amna (2017) "How Worried Should You Be About Your Business in 2017" *Entrepreneur*, (https://www.entrepreneur.com/article/288443).

Date: September 12, 2017
To: WPI Faculty
From: Committee on Academic Operations (Prof. Heineman, Chair)
Re: Motion to add CS 453X (Machine Learning)

Motion: On behalf of the Department of Computer Science, the Committee on Academic Operations recommends and I move that the experimental course CS 453X (Machine Learning), as described below, be offered in D-term of 2017-18 and 2018-19.

Proposed Course Description:

CS453X *Machine Learning*

In this course, students will explore both theoretical and practical aspects of machine learning, including algorithms for regression, classification, dimensionality reduction, clustering, and density estimation. Specific topics may include: neural networks and deep learning, Bayesian networks and probabilistic graphical models, principal component analysis, k-means clustering, decision trees and random forests, support vector machines and kernel methods. Recommended background: Knowledge of Linear Algebra (such as MA 2071), Probability (MA 2621 or MA 2631), and Algorithms (CS 2223).

Faculty Contact: Prof. Jacob Whitehill
Anticipated Instructors: Prof. Jacob Whitehill, Prof. Carolina Ruiz, Prof. Joseph Beck, or
                             Prof. Xiangnan Kong

Rationale: The purposes of this course are: (1) Help students to understand the mathematical and computational foundations of machine learning algorithms. With a clear understanding of how they work, these algorithms cease to be "black boxes" and instead become useful computational tools that can be sensibly manipulated, redesigned, and combined for specific application domains. (2) Give students some practical experience in applying machine learning problems to interesting, non-trivial problem domains.

The intended audience if the course becomes permanent is potentially all CS students as well as some RBE and DS students

Resource Needs:
- Assistant Professor Jacob Whitehill — he taught a special topics graduate course (CS 525 191 N, Spring 2017) on "Deep Neural Networks", which is a subfield of machine learning. Associate Professor Carolina Ruiz — she has taught the closely-related graduate "Machine Learning" (CS 539) and "Knowledge Discovery and Data Mining" (CS 548) courses for many years. Assistant Professor Xiangnan Kong has taught "Introduction to Data Mining" (DS501). Associate Professor Beck has taught Artificial Intelligence (CS 4341). These are the three instructors likely to teach this course.
- Classroom large enough to hold 50 students, including a lectern with standard power and projector connections.
- Student access to the ACE computing cluster, including GPU machines.

- Students will use Python (numpy/scipy) and TensorFlow. These are all open-source and freely available.

Assessment: The course will be assessed based on student course evaluations (including the outcomes of questions 1, 2, 9, and 26) and instructors' feedback and reflections on whether the course met the course's learning objectives. We will also ask students (on student evaluations) to provide information on their prior experience with machine learning, and correlate these data with their grades as well as self-reported estimates of learning. Since more and more incoming WPI students arrive on campus with significant practical (and, less commonly, theoretical) knowledge of machine learning, this information will help to ensure that the course meets the needs of a wide variety of students.

Preferred term: D-18 and D-19

Expected enrollment: 50

Date: September 12, 2017
To: WPI Faculty
From: Committee on Graduate Studies and Research (Prof. Troy, Chair)
Re: Motion to add PH 571 Biophysics Journal Club

Motion: On behalf of the Physics Department, the Committee on Graduate Studies and Research recommends and I move that that PH 571 Biophysics Journal Club, as described below, be added.

Proposed Course Description:
PH 571 Biophysics Journal Club (1 credit)
Students interested in biophysics read journal articles, prepare presentations and give short talks, engage in critical discussion, and provide feedback to fellow students. The objectives of the course are for students to learn about current topics in the broad area biophysics and biotechnology and to improve their professional skills.
Recommended background: A bachelor's degree in science, technology, engineering, or mathematics.

Anticipated Instructors: Prof. Erkan Tüzel. Prof. Qi Wen can also teach this course.

Rationale: Most graduate students need practice with their professional skills. This course gives the students practice and feedback while learning about current interdisciplinary topics in biological physics. The course has been offered 10 times as PH 597J. The data from the course evaluations are:

Offering	#	Q1 [5.00]	Q2 [5.00]	Q9 [5.00]	Q26 [hrs]
S12	6	4.40	4.80	4.20	8
F13	4	5.00	5.00	4.80	8
S13	5	4.60	4.80	4.20	1-5 hrs.
F14	6	4.80	4.50	3.80	1-5 hrs.
S14	6	4.80	4.70	4.20	1-5 hrs.
F15	6	4.80	4.80	4.30	>1-5 hrs.
S15	4	5.00	4.80	4.50	1-5 hrs.
F16	8	4.90	4.90	4.40	1-5 hrs.
S16	9	5.00	5.00	4.90	1-5 hrs.
F17	10	4.90	4.90	4.70	1-5 hrs.

Resource Needs: Instructors have already been identified. The class meets for one hour each week in either the Physics Department's conference room or at Gateway Park alternating between semesters. The anticipated offering schedule is annually in both the fall and spring semesters.

Impact on Distribution Requirements and Other Courses: None; this course emphasizes professional skills and current topics.

Implementation Date: 2017-18 academic year, Fall and Spring semesters