

WORCESTER POLYTECHNIC INSTITUTE

October 7, 2021

To: The WPI Faculty
From: Mark Richman
Secretary of the Faculty

The third Faculty meeting of the 2021-2022 academic year will be held on **Thursday, October 7, 2021** at 3:15pm. The meeting is **tentatively** scheduled to meet in **OH 107**, with refreshments available at 3pm. A final decision about whether to meet in person or by Zoom will be made by Tuesday, Oct. 5.

1. Call to Order M. Richman
 - Approval of the Agenda
 - Consideration of the Minutes from Sept. 2, 2021

2. Committee Business:
 - Committee on Governance (COG) T. El Korchi
 - Motion to rename the Mechanical Eng. Dept. as the Mechanical and Materials Eng. Dept. J. Yagoobi
 - Motion to rename the Civil & Environ. Eng. Dept as the Civil, Environ., & Archit. Eng. Dept. C. Eggleston

3. Special Report from the Admissions Office (and open discussion) A. Palumbo

“Admissions, Financial Aid, and the Size of Our Recent Incoming Classes”

4. Committee Report: Committee on Financial and Administrative Policy (FAP) J. Fehribach

“Resource Decisions and Allocations to Accommodate the Size of Our Current First-Year Class”

5. Brief Report G. Heineman

Faculty group: Working on Workday (WoW) – to focus on its academic capabilities

6. President’s Report L. Leshin

7. Provost’s Report W. Soboyejo

8. Closing Announcements

9. Adjournment

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WORCESTER POLYTECHNIC INSTITUTE

Faculty Meeting Minutes

Sept. 2, 2021

1. Call to Order
2. Welcome
3. President's Report
4. Committee Business: CAO; CGSR
5. Introduction of New Faculty Members
6. Brief Reports
7. Provost's Report
8. Closing Announcements
9. Adjournment

Detail:

1. Call to Order

The first Faculty meeting of the 2021-2022 academic year was called to order at 3:15 pm on Zoom by **Prof. Richman** (AE). The meeting agenda (as modified to add brief reports from Prof. Sanbonmatsu on student mental health and from Dean McNeill on protocols in place when students test positive for COVID) and the minutes from May 27, 2021 (with one minor correction) were approved.

2. Welcome

Prof. Richman (AE) thanked the faculty for its confidence in electing him Secretary of the Faculty, and he expressed his excitement at presiding over the first WPI faculty meeting at which our nontenure-track colleagues were welcomed to vote and participate fully. He thanked Prof. Dominko (BBT) for her past three years of service as Secretary of the Faculty, Prof. Spanagel (HUA) for honoring the campus with his willingness to serve as Secretary of the Faculty, and Prof. Hanlan (HUA) for agreeing again to serve as parliamentarian.

Prof. Richman emphasized the importance of involving the faculty and its formal faculty governance mechanisms in academic policy making during COVID. He pointed out that in March 2020, the AAUP issued a formal Statement on the Faculty Role in Decision-Making during COVID, including that "...the faculty has primary responsibility for such fundamental areas as curriculum, subject matter and methods of instruction, . . . and those aspects of student life which relate to the educational process," and that "to ensure full participation [in decision making], administrations should share information with faculty and seek input from the appropriate faculty bodies." However, although faculty governance had put in place a mechanism by which the elected members of our standing committees could be brought together on short notice to consider policies and approve them as needed on a temporary basis, this mechanism had not once been utilized. The issue is important because as COVID continues, decisions about our instructional delivery are still very much in the balance. Prof. Richman ended on an optimistic note, seeing such crises as opportunities to solve problems together, and hoping that our community can use this opportunity to bring us closer.

3. President's Report

President Leshin began by pointing out that Provost Soboyejo and members of CERT met regularly with governance chairs throughout last year, and she indicated that she was open to increasing collaboration as desired. President Leshin expressed her gratitude to all those who last year helped expand and remake our faculty in lasting ways. She introduced our new EVP/CFO Mike Horan from IIT, and she introduced Jillian McLeod who is a Council on Education Fellow at WPI this fall.

President Leshin indicated that 97 percent of our students and nearly 95 percent of our faculty and staff are vaccinated. However, in the first week of A-term there has been an increase COVID cases on campus, including about twenty cases yesterday and again today, although our public COVID dashboard has malfunctioned recently.

Our public health team is isolating these individuals and deciding on proper precautions. Most of the recent cases are among vaccinated students traced to off-campus activities. President Leshin did not believe that the campus will be shut down, but she did anticipate greater flexibility in course delivery. She welcomed input from Prof. Richman on how best to proceed and expressed confidence that we could solve the problem based on data and as a community. She pointed out that due to increased demand, the Broad Institute has been slower in returning test results. Nevertheless, there is no evidence that transmission is taking place in classrooms. President Leshin encouraged faculty members to attend her town hall meetings for more information than time allows at faculty meetings. President Leshin expressed pride in belonging to the WPI community and in working through these challenges together.

4. Committee Business

Committee on Academic Operations (CAO):

Prof. Gericke (CBC), on behalf of CAO, moved that the Registrar's list of undergraduate candidates as distributed be approved for August 30, 2021 graduation. The motion **passed**.

Committee on Graduate Studies and Research (CGSR):

Prof. Korkin (CS), on behalf of CGSR, moved that the Registrar's list of graduate candidates as distributed be approved for August 30, 2021 graduation. The motion **passed**.

Prof. Richman thanked Registrar Miles and the staff in the Registrar's office for their painstaking work in compiling the graduation lists.

5. Introduction of New and Recently Appointed Faculty Members

Prof. Richman (AE) expressed his Institutional pride in WPI's success in establishing a tenure track for teaching faculty, and he highlighted a recent (August 11, 2021) Inside Higher Education article ("[Tenure for the Teachers](https://www.insidehighered.com/news/2021/08/11/wpi-creates-45-new-teaching-intensive-tenure-lines)" at <https://www.insidehighered.com/news/2021/08/11/wpi-creates-45-new-teaching-intensive-tenure-lines>) that provided a thorough overview of our successful three-year effort to improve the status of our teaching faculty. Prof. Richman then introduced the following faculty members recently named as part of the first cohort of 15 Professors of Teaching, and each described their teaching and research interests: **Prof. Marcel Blais** (MA); **Prof. Esther Boucher-Yip** (HUA); **Prof. John Galante** (HUA); **Prof. Destin Heilman** (CBC); **Prof. Courtney Kurlanska** (DIGS); **Prof. Ryan Madan** (HUA); **Prof. Stephen McCauley** (DIGS); **Prof. Maqsood Ali Mughal** (ECE); **Prof. Rodica Neamtu** (CS); **Prof. Geoff Pfeifer** (DIGS); **Prof. Gbetonmasse Somasse** (SSPS); **Prof. Sarah Wodin-Schwartz** (ME).

Provost Soboyejo introduced the following Deans and newly appointed Associate Deans and Department Head, and each described their backgrounds for the positions: **Dean Mimi Sheller**, Dean of the Global School (DIGS); **Dean John McNeill**, Dean of Engineering (ECE); **Prof. Alexander Wyglinski**, Associate Dean of Graduate Studies (ECE); **Prof. Arne Gericke**, Associate Dean of Undergraduate Studies (CBC); **Prof. Carolina Ruiz**, Associate Dean of Arts and Sciences (CS); and **Prof. Lauren Elgert**, Department Head, Integrative and Global Studies (DIGS).

Prof. Elgert (DIGS) introduced **Prof. Zoe Eddy**, Assistant Teaching Professor (DIGS); **Prof. Pins** introduced **Prof. Solomon Mensah**, Assistant Professor (BME); **Prof. Strong** (Bus) introduced **Prof. Sébastien Bossu**, Visiting Assistant Professor (Bus); **Prof. Roberts** (ChE) introduced **Prof. Alex Maag**, Assistant Research Professor (ChE); **Prof. Tao** (CEE) introduced **Prof. Jessica Rosewitz**, Assistant Teaching Professor (CEE); **Prof. Wills** (CS) introduced **Prof. Xiaozhong Liu**, Associate Professor (CS), **Prof. Shubhi Taneja**, Assistant Teaching Professor (CS), and **Prof. Torumoy Ghoshal**, Assistant Teaching Professor (Data Sci.); **Prof. Moncrief** (HUA) introduced **Prof. Gizem Arslan**, Assistant Teaching Professor (HUA), **Prof. Laura Eckelman**, Associate Teaching Professor (HUA), **Prof. Jeanne Essame**, Assistant Professor (HUA), **Prof. Emily Gioielli**, Assistant Teaching Professor (HUA), **Prof. Abigail Koo**, Assistant Teaching Professor/Director of Orchestral Activities (HUA), **Prof. Lina Muñoz Márquez**, Assistant Teaching Professor (HUA), and **Prof. Adrien Stoloff**, Assistant Teaching Professor (HUA). **Prof. Smith** (IMGD) introduced **Prof. Ben Schneider**, Professor of Practice (IMGD), and **Prof. Walt Yarbrough**, Professor of Practice (IMGD). **Prof. Blais**, (MA) introduced **Prof. Nicholas Chisholm**, Assistant Research Professor (MA), **Prof. Abby Pecoske Fulton**, Assistant Research Professor (MA), and **Dr. Sixian Jin**, Post-Doctoral Scholar (MA). **Prof. Yagoobi** (ME) introduced **Prof. Lin Cheng**,

Assistant Professor (ME), **Prof. Alireza Ebadi**, Assistant Teaching Professor (ME), and **Prof. Zhu Mao**, Associate Professor (ME). **Prof. Petkie** (PH) introduced **Prof. Benjamin Pollard**, Assistant Teaching Professor (PH). **Prof. Xiao** (RBE) introduced **Prof. Siavash Farzan**, Assistant Teaching Professor (RBE). **Prof. Krueger** (SSPS) introduced **Prof. Mahamadou Lamine Sagna**, Associate Professor (SSPS), and **Prof. Barfuor Adjei-Barwuah**, Distinguished Statesman (SSPS). Each faculty member present who was introduced gave a brief description of their research and/or teaching interests.

6. Brief Reports

Awareness of Student Mental Health: Prof. Sanbonmatsu

Prof. Sanbonmatsu (HUA) wished to bring the issue of student mental health to the faculty's attention today, and has himself been concerned for years about the same issue. In the past, the faculty has relied on the administration to guide us in this area, but Prof. Sanbonmatsu felt strongly that the faculty as a body should take on the issue, and should share both information and ideas about what we can do as a faculty to improve the campus climate for our students. Faculty members are the first line of defense with whom our students interact most often, and their well-being is paramount. Prof. Sanbonmatsu hoped that this brief introduction would serve as a placeholder for a future discussions on the topic.

Prof. Barton (HUA), as Chair of the Committee on Advising and Student Life (CASL), added that concerns about student mental health transcend the work of any one committee and also include matters of pedagogy. **President Leshin** agreed that we need to collaborate broadly. **Prof. Richman** indicated that a lengthier discussion will be put on the October faculty meeting agenda. But in the meantime, he asked that everyone to be as sensitive as possible to our students needs and be as flexible as possible in our courses.

What happens when a student in my class tests positive?: Dean McNeill

Dean McNeill (Eng.) gave a brief overview in response to questions he has been receiving from faculty members. If a student tests positive, they will go into isolation for ten days. Close contacts who are vaccinated do not need to quarantine if there are no symptoms, but they are asked to reduce their close contacts. Close contacts who are unvaccinated are quarantined for a minimum of seven days, and if they test negative throughout quarantine, then they are released. In both cases, the close contact should self-monitor for 14 days. Dean McNeill explained that there is no need to cancel class in the case of a positive test. He encouraged faculty members to use such assistance as lecture capture so students who have to isolate can keep up with their classwork. Those who lecture with more than six feet of separation are not close contacts with students. Dean McNeill suggested encouraging students to sit in the same seat throughout the term and know who their closest neighbors are. (See **Addendum #1** on file with these minutes.)

7. Provost's Report

Provost Soboyejo welcomed everyone back to the beginning of a new academic year, and expressed his appreciation to the faculty, staff, and administration who got us through more than a year of COVID. The Provost is grounded in his concerns for our students, and believes that we are all part of a caring WPI community that should be kind to and flexible with our students. We should provide a sense of inclusion and innovation and achievement, which is part of the new strategic plan. Provost Soboyejo thanked Prof. Richman and the rest of Faculty Governance as well as everyone present for all they do for WPI.

8. Closing Announcements

Prof. Demetry (ME), serving as a co-lead with Prof. Dominko and Dean Heinricher on the COACHE survey analysis, indicated that more than 60 percent of full-time faculty had completed the survey last spring. Now WPI is committed to sharing the results and to taking appropriate action based on them. The preview report of the survey results is available on a Canvas site and a more detailed summary will be available soon. Prof. Demetry and Prof. Dominko are the Chairs of a steering committee that will identify which results we can celebrate and which areas are in need of additional study. Community input will be sought to determine how to proceed.

Prof. Richman thanked all those who participated in today's meeting for observing our tight time constraints.

9. Adjournment

The meeting adjourned at 5:00 pm.

Respectfully submitted,

Mark Richman
Secretary of the Faculty

Addendum on file with these minutes:

1. Addendum #1 – What happens when a student tests positive? – Minutes 9-2-21

Date: October 7, 2021

To: WPI Faculty

From: Committee on Governance (Prof. El-Korchi, Chair)

Re: Motion to Rename the Mechanical Engineering (ME) Department as the Mechanical and Materials Engineering (MME) Department

Motion: The Committee on Governance recommends and I move that the Mechanical Engineering (ME) Department be renamed as the Mechanical and Materials Engineering (MME) Department.

Rationale:

The ME department consists of the Mechanical Engineering (ME), Materials Science and Engineering (MTE), and Manufacturing Engineering (MFE) programs. Since the Aerospace and Robotics Engineering programs, once housed within ME, became their own departments in July 2020, the ME department now consists of 28 TTTs and 8 NTTs, broken down as follows: ME: 12 TTTs and 8 NTTs; MTE and MFE programs combined: 16 TTTs. The ME department offers the following degrees at the undergraduate and graduate levels:

- B.S. – Mechanical Engineering (enrollment: 903)
- M.S. – Mechanical Engineering (enrollment: 128)
- M.S. – Materials Science & Engineering (enrollment: 28)
- M.S. – Manufacturing Engineering (enrollment: 14)
- M.S. – Materials Process Engineering (enrollment: 8)
- Ph.D. – Mechanical Engineering (enrollment: 28)
- Ph.D. – Materials Science & Engineering (enrollment: 40)
- Ph.D. – Manufacturing Engineering (enrollment: 4)

The above reported enrollment numbers correspond to A-term 2020, with a total 903 undergraduate and 250 graduate students, a large size despite the negative impact of pandemic.

The research strengths in the ME department include nanotechnology and nanomaterials, biomechanics and medical devices, enhancement of heat transfer, additive manufacturing and printed electronics, photonics and opto-mechanics, sensors and metrology, metals processing, batteries and electrochemistry, solar cell materials, recycling, and drying. The department houses two NSF Industry University Cooperative Research Centers, one within the MTE program (CR3 – recycling) and the other within the ME program (CARD – drying). The externally sponsored research awards in ME department exceeded \$17.5M in the last FY.

The faculty of ME department voted unanimously on November 24, 2015, to change the department name from ME department to MME department. This name change was also discussed during the ME department annual retreat in May 2020 (virtual) and again received a unanimous approval. The ME department External Advisory Board has also endorsed this name change. With the Aerospace Engineering program currently as a separate department, this name change is very timely. The name change will bring a significant visibility and recognition to our MTE program. The proposed renaming is in line with the practice at other universities. Specifically, many universities have a double-named Mechanical and Materials Engineering/Science departments

(e.g., the University of Cincinnati, University of Pittsburgh, Duke University, Yale University, Washington State University, Harvard University, and Washington University at St. Louis). The rationale for renaming the ME department to MME department is summarized below.

- ME program and MTE program both have large enrollments at the MS and PhD levels.
- ME program and MTE program both have very strong research funding and expenditures records.
- The external visibility of MTE program at WPI is limited. This is despite its significant research activity level.
- Changing the name of the Department of Mechanical Engineering to the Department of Mechanical and Materials Engineering will bring significant external visibility to our MTE program without any negative impact on the ME program.
- There is a significant existing collaboration among the faculty of ME department programs (education and research). The ME department will have a better reflection of its coherent focus (internal and external) under the new name.
- The ME program and MTE program at WPI are ranked in the top 39% and 61% out of 179 and 111 ranked graduate programs in the country, respectively, according to the US News & World Report in 2020. The name change will bring a significant visibility and recognition to our MTE program, improving its ranking. This will help in attracting/recruiting highly qualified domestic and international graduate students.

In March 2021, a concern that was raised with regards to MME (Mechanical and Materials Engineering) department having the same acronym as the Masters in Mathematics for Educators program. This issue was resolved in a recent meeting that took place with Provost Soboyejo, Dean Heinricher, Professor Olson, Professor Goulet, Professor Mishra, and Prof. Yagoobi. The conflict was resolved and it was agreed:

- MME for Mechanical and Materials Engineering corresponds to a department while MME Masters in Mathematics for Educators corresponds to a program.
- MTE and MFE courses will all be renamed and reclassified as ME courses once this motion is approved.
- The search engine will be improved to allow for MME Masters in Mathematics for Educators program to be visible effectively during searches.

The faculty of MTE and MFE programs have unanimously agreed to rename and reclassify their MTE and MFE courses as ME courses once this motion is approved.

Date: October 7, 2021
To: WPI Faculty
From: Committee on Governance (Prof. El-Korchi, Chair)
Re: Motion to Rename the Civil & Environmental Engineering (CEE) Department as the Civil, Environmental, and Architectural Engineering (CEAE) Department

Motion: The Committee on Governance recommends and I move that the Department of Civil & Environmental Engineering be renamed as the Department of Civil, Environmental, and Architectural Engineering.

Rationale:

The Department of Civil and Environmental Engineering (CEE) houses 3 undergraduate academic programs (Civil Engineering, Environmental Engineering, and Architectural Engineering) each of which is separately accredited by ABET. The CEE faculty currently consists of 12 TTT and 3 TRT faculty; one TRT faculty member is shared with Chemical Engineering; and a search is presently underway for another TRT faculty member in the area of Construction and Project Management because of the retirement of a long-serving TTT faculty member in this area in summer of 2020. The department also lost a TTT search to the pandemic, one that was underway in spring 2020. The CEE department also houses the following degree programs:

- Certificate – Water Resources
- Certificate – Water Quality Systems
- Certificate – Construction and Project Management (can be online; 3)
- B.S. – Civil Engineering (186)
- B.S. – Environmental Engineering (83)
- B.S. – Architectural Engineering (80)
- M.S. – Civil Engineering (11)
- M.Eng. – Civil Engineering (1)
- M.S. – Environmental Engineering (18)
- M.S. – Construction and Project Management (10)
- Ph.D. – Civil Engineering (16)

The enrollment numbers were obtained from Tableau data from A-term 2020. We note that the Architectural Engineering program in particular has grown significantly, up from 68 in 2019 and 62 in 2018. Admitted student data also shows another uptick in students declaring an interest in Architectural Engineering, likely with 26 new students for fall 2021. It seems likely that enrollment in Architectural Engineering will increase again for fall 2021.

The CEE department presently has research strength and critical mass in structures and materials, environmental engineering, and the design and construction of buildings. There are other areas represented, including transportation and urban planning. Emerging areas of research strength include new architectural and construction materials (e.g., thermal batteries, enzymatic and bioinspired materials, geopolymers, carbon-storing materials), nanoparticles and “forever chemical” contaminants, surface and interface science (coatings, adhesion, adsorption, contaminant partitioning), and photoactive materials. Research funding in the department has been

low recently, but at over \$368K in FY 21 research expenditures have grown by 23% over the previous year, and by a greater percentage compared to two years ago.

The faculty of the CEE department voted unanimously to change the name of the department in spring of 2020, and the majority voted to use the name “Civil, Environmental and Architectural Engineering.” A less popular option was “Civil, Architectural and Environmental Engineering”. Both of these names are represented in other universities across the nation. For example, the first name (CEAE) is used by the University of Colorado in Boulder, and by the University of Kansas. The second name (less popular in our department) is used by the University of Miami, Illinois Institute of Technology, Drexel University, the University of Texas at Austin, and others. The majority of the CEE faculty favor a name with programs in historical order of addition. The rationale for renaming the CEE department to CEAE department is summarized below.

- The AREN program has been growing recently, and recognition of the field in the department name can generally help support that growth in the long run and increase both internal and external visibility of the field at WPI.
- The AREN faculty, now carrying a growing undergraduate program forward with minimal numbers, is also moving into increasing research; faculty teaching for AREN have been successful with research funding from the start of the program onwards. The name change gives the program and its faculty more visibility in attracting faculty and students to engage in research.
- The AREN program has put effort into planning an entry into graduate education, and that effort will continue. Such graduate-level education aligns with increasing research presence. About 25% of PhD students in the CEE department are currently advised by AREN faculty.
- The importance of Architectural Engineering for climate mitigation and adaptation cannot be overstated, with the construction and operation of buildings accounting for nearly 40% of carbon emissions globally. This, together with the fact that 80% of today’s building stock will still be in operation in 2040, indicates a pressing need for major retrofitting of buildings to achieve needed emissions reductions. The name change will help the department support this particular aspect of Architectural Engineering; for example, the current CEE webpage features the WPI Solar Decathlon Oculus structure from the international competition in 2019, demonstrating energy and material-efficient building structure, materials and operation and garnering a top award in building comfort.
- Civil Engineering at WPI has been ranked #20 nationally by College Factual in 2021, and ranked #2 in Massachusetts for undergraduates. We believe that it is important to build upon this visibility with actions to enhance the visibility of all of its key parts.
- Architectural Engineering is one of only two majority-female engineering programs at WPI, with over 62% female students. The department overall is near parity, with 49% female degree-seeking undergraduates. The name change will help elevate the program and its visibility to a diverse student body, and thereby support diversity efforts within the department and at WPI generally.