

Dear BED members,

Well - not sure about the rest of you -- but the thaw seems to be trying to push its way through here in the northeast. I'm hoping that the spring brings some good news as we all try to emerge from Omicron...fingers crossed.

For those of you who missed last week's words of wisdom, you get a second chance to get some great advice from Yan-Fen Li, our recent BED award winner. Great ideas for seeking out mentorship, which is clearly more and more important these days.

This week, I am also including a new resource for people trying to wrap their arms around reviewing education literature - specifically for the Journal of Engineering Education (JEE). The JEE has launched a new initiative to mentor individuals through the peer review process -- giving people guidance on:

- Roles and Responsibilities
- Equity and Inclusivity in Reviewing
- Tips on Writing and Reviewing
- Considerations of Research Quality
- Other Resources for Peer Reviewers

This is a great lens into the process for engineering education literature - which may be still new to many of us.

Thanks again for reading before hitting "delete" :).

Be well and in good health!

Aileen Huang-Saad, BED Division Chair

The Roux Institute, Northeastern University



BED Announcements for 12/1/21

General Announcements (e.g. upcoming Webinars, upcoming seminars, upcoming grants, publication opportunities, etc.)

- 1. CALL FOR SPECIAL ISSUE CONTENT:** Experiential Learning in Biomedical Engineering
- 2. CALL FOR NEWSLETTER CONTENT:** ASEE BED Bi-monthly Newsletter
- 3. CALL FOR PARTICIPATION:** ASEE Industry 4.0 Workforce Summit, Omni Shoreham Hotel in Washington DC, April 25-26, 2022
- 4. CALL FOR PARTICIPATION:** BEEC "Developing Projects for Senior Design Courses", February 16th, 2022 1:00 PM (EST).

BME Education Resources for You

1. **WORDS OF WISDOM:** “Finding your mentor as a junior faculty,” Yan-Fen Li

Position Announcements

1. **POSITION ANNOUNCEMENT:** Instructor Opening in Bioengineering, Rice University
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3. **POSITION ANNOUNCEMENT:** Position Announcement: Professor (Department Chair) Biomedical Engineering, UMass Lowell
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7. **POSITION ANNOUNCEMENT:** First year Engineering at University of Tennessee

Engineering Education Research Resources

1. **REVIEWING PAPERS:** JEE Mentored Reviewer Program

General Announcements

1. **CALL FOR SPECIAL ISSUE CONTENT:** [Experiential Learning in Biomedical Engineering](#)

Biomedical Engineering Education announces a special call for papers focused on experiential learning in biomedical engineering. Experiential learning is the application of students’ knowledge and skills to real-world experience, whether within the clinic, the classroom, the laboratory, or the community. It fosters reflection on one's learning and the development of transferable skills. Examples may include clinical immersion, design, open-ended course-based labs, study abroad, entrepreneurial pursuits, internships, undergraduate research experiences, or clubs.

Authors are encouraged to submit an abstract that defines the paper type and the general scope of the intended paper at <https://tinyurl.com/BMEEAbstract>. Following feedback, a full manuscript will be requested by July 15, 2022. Authors may submit a full paper without first having submitted an abstract.

Submission of abstracts (300–500 words in length)	March 15, 2022
Notification of editorial feedback on abstracts	April 15, 2022
Submission of manuscript	July 15, 2022

2. **CALL FOR NEWSLETTER CONTENT:** ASEE BED Bi-monthly Newsletter

As of 2021, the ASEE BED has started to share a bi-monthly newsletter with the community. We share general resources, BME Education Resources for Students and Faculty, Upcoming Positions, Engineering Education Research Resources. Information will be shared in consecutive emails. If you have information to share with the community, please send your announcement to the BED listserv, as a 2-3 paragraph description including any relevant URLs and contact info as well as a subject line. Do not include any attachments. Be sure that the announcement includes the person to contact with questions. Email all of this information to Aileen Huang-Saad at a.huang-saad@northeastern.edu with [BED Announcement] in the subject line to facilitate email sorting. Announcements will be sent out on the 1st and 15th of each month. Each set of announcements will be included in the announcements email twice. Announcements will also be recorded on the BED website (<https://sites.asee.org/bed/>) and HUB (<https://aseehub.asee.org/groups/home/34#active-group-members>).

3. CALL FOR PARTICIPATION: ASEE Industry 4.0 Workforce Summit, Omni Shoreham Hotel in Washington DC, April 25-26, 2022

The ASEE Industry 4.0 Workforce Summit, an in-person event at the Omni Shoreham Hotel in Washington DC, April 25-26, 2022, is fast approaching! Register now!

<https://workforcesummit.asee.org/>

The Summit will convene key stakeholders from industry, education, and public policy to forge a new vision, action plans, and partnerships to accelerate innovation in engineering education and workforce training for Industry 4.0.

Keynote speakers at this event will include:

- Dr. Victor McCrary, Vice Chair of the National Science Board
- Dr. Darryll Pines, President of the University of Maryland
- Barbara Humpton, CEO of Siemens USA, and
- Dr. Gregory Washington, President of George Mason University

Panel sessions will feature senior leaders from industry (GM, Microsoft, NI, Autodesk, Siemens USA), accrediting bodies (ABET, National Coalition of Certification Centers), federal agencies (NSF, DOD) and public-private partnerships (Greater Washington Alliance, CESMII/The Smart Manufacturing Institute).

April 2022 is just the beginning! The ASEE Industry 4.0 Workforce Summit is building the coalitions and alliances that will drive the systematic change needed to transform the preparation of engineers and skilled technical workers.

4. CALL FOR PARTICIPATION: BEEC “Developing Projects for Senior Design Courses”, February 16th, 2022 1:00 PM (EST). [REGISTER HERE](#)

Topic: “Developing Projects for Senior Design Courses”

When: February 16th, 2022 1:00 PM (EST).

Lead: Christine King, PhD - University of California Irvine

If you are interested to be part of this discussion, collaborating, contributing, or just learning something new don't miss it!

See you all there!

BME Education Resources for You

1. WORDS OF WISDOM: “Finding your mentor as a junior faculty,” Yan-Fen Li

Finding your mentor as a junior faculty

I remember the first day I sat in my office as a faculty member fresh out of my PhD. I sat staring at my empty desk with confusion and had no clue to what to do next. Should I be reading papers? Am I supposed to put some things on these white walls? Should I... sharpen some pencils? I knew that I needed a mentor if I was going to navigate this new career successfully, but on a campus full of strangers, that seemed like such a daunting task. Fast forward to now, three and a half years later, I find myself trying to survive in the midst of the pandemic like many of you. I imagine that like many of you, I barely made it. I was only able to do so because I got lucky. I was so fortunate to be surrounded by many mentors who gave me advice, pushed (and sometimes dragged) me forward, advocated for me, and made sure I celebrated the little successes. Now that I have mentees of my own, I find myself reflecting on the things that I accidentally did right and wrong. Here, I list some of my advice for finding a good mentor and hope that something works for you as well.

1. **Chairs, Deans, and Provosts? They're people too.** I remember when I was an undergraduate student, I was terrified of my professors and thought that they were these perfect, wickedly smart, and super intimidating creatures. Then when I became a professor, I realized that they were just normal (and super smart) people. As a new faculty member, I looked at my chair, my dean, my provost, and once again thought they must be these perfect, wickedly smart, and super intimidating creatures. Then I realized that they were probably people too; and as people, they have probably also been confused or have made stupid mistakes. *So don't be scared to ask them questions or make mistakes in front of them.* How many times have you been frustrated that a student refused to ask you a question and would rather waste time stumbling in the dark to complete a homework assignment? The administrators who are more senior to you are probably thinking the same thing about you now so don't be afraid to go up to them and ask your “stupid” question. Along those same lines, if they make a mistake, realize that they're not perfect, communicate, and move on. Just because they've made some mistakes does not mean they cannot be good mentors.

2. **Everybody's gotta eat.** We all know that faculty are busy and it can feel like a burden or like you're being selfish to ask for someone else's time. One may feel the need to “find an excuse” in order to set up a meeting with someone you think might be a good mentor. However, I think that any day lost looking for the right excuse is a day wasted. *You do not need an excuse to meet someone, simply wanting to get to know them better is good enough.* If this feels awkward, then realize that everybody's gotta eat (or take a break). Invite them out to a quick lunch or coffee, or ask them if they're interested in taking a break and going for a short walk around campus. This way, you're not adding to their busy schedule with another meeting and are both doing something you were going to do

anyway. Everyone I've ever met has been delighted about my request to a casual social meeting (this includes deans and administrators!).

3. Networking events are essential, but need to be triaged. Depending on your university, there may be many different networking events, both for junior faculty and for the whole campus. Some of them may feel very awkward and like a waste of time which can be discouraging. Thus, it is important to be able to triage your networking events appropriately. For me, smaller events within certain centers or programs that are regular were the most useful if you can commit to attending regularly. Larger networking events are only useful if you already have a mentor who can take you around and introduce you. In addition, I prioritized networking events with faculty that I wouldn't normally meet, such as events within colleges of education, sociology, or business.

4. Mentoring is a relationship and support starts with you. A lot of the time, when we talk about mentors, we talk about the things that they can do for you. However, per number one above, they are people too and they have their own fears and worries. Most of the time, the good mentors are the ones who are also stretched thin, who are active with service, and who are spearheading initiatives. Sometimes you will see announcements for events that seem last minute, not well advertised, or simply at a weird time and no one might go. *Go to those events and support them even if you don't care too much about it.* The program organizers would be so happy and grateful to have your support and you will feel good about supporting a colleague. These awkward events with little attendance is also the perfect opportunity to network with those who care.

5. Look for honesty, not agreement. When trying to navigate through chaos, asking questions seems hard enough. However, getting the right answers can be even harder. Most people you meet will try to give you the nice or politically correct answer, but if you can find someone who is willing to give you a genuine answer with your best interest in mind, that is the person to remember. Sometimes the advice they give you will not be what you want to hear or what you agree with, but if they are honest then that is all that matters. The advice they give is based on their own experiences which might be different from your own. It is easy to dismiss it and think that someone is behind on the times or not understanding of your unique background and situation. This might be true and you should definitely take their advice and decide for yourself if it works for you in your context. However, *if it's not the right advice for you right now, it doesn't mean that you won't get the right advice next time.* Don't dismiss someone as a mentor because of this.

6. Plan for the long term and sacrifice as needed. I've already said it many times, but we are all busy. We all have many tasks that need to be done, and sometimes it's not possible to them all. In these times, we need to prioritize and sometimes push or drop tasks that are lower in priority. *I would like to encourage you to place nurturing your mentoring relationship at the top of the priority list.* It might seem off-putting to not submit a paper in order to attend an event but in the long term, attending that event to support your mentor will have a higher impact on your career than an extra paper. Your extra paper will not introduce you to other collaborators, they will not send you opportunities from societies you didn't know exist, they will not read your promotion package later and give you feedback, and they will not push and advocate for you in faculty meetings!

Finding a good mentor, and nurturing that relationship from potential mentor to full mentor, takes a lot of time and initiative. It takes time to attend events, it takes time to chat with people, and it takes time to follow up and nurture the relationship. However, I think that this time spent at the beginning of your career is worth it and having multiple honest mentors will help you a lot

more career wise. I am so grateful to my many mentors and hope to extend their wisdom and aid to others around me. If anyone in our wonderful community is in need of a mentor, please take the first step and invite me out for coffee!

Position Announcements

1. POSITION ANNOUNCEMENT: Instructor Opening in Bioengineering, Rice University

The Department of Bioengineering is currently accepting applications for a full-time instructor who will teach core undergraduate lecture and laboratory courses. While experts in all areas of bioengineering are encouraged to apply, one with the ability to instruct an introductory level bioinstrumentation laboratory course is preferred. The university offers significant professional development opportunities for teaching focused faculty including the resources of the Center for Teaching Excellence and teaching focused faculty promotion pathways. Priority consideration will be given to applications received by February 28, 2022, but applications will continue to be accepted until the position is filled. A start date of July 1, 2022 is expected. The position will have a two-year initial appointment with the possibility of renewal given satisfactory performance. The department has a strong history of developing long term teaching faculty. To apply, please submit the following materials at <http://apply.interfolio.com/95580> : (1) cover letter, (2) curriculum vitae, (3) statement of teaching philosophy (up to 2 pages), and (4) diversity, equity, and inclusion (DEI) statement including prior DEI contributions and DEI plans as an instructor at Rice (up to 2 pages). In addition, candidates will be asked to provide the names and contact information for three references who will automatically be emailed for letters of recommendation at the time of application.

2. POSITION ANNOUNCEMENT: Teaching Faculty/Freshman Engineering Adviser, Northwestern U.

The McCormick School of Engineering and Applied Science plans to hire a continuing, full-time Assistant Professor of Instruction (non-tenure track; rank negotiable) to serve as a freshman adviser in undergraduate engineering. The adviser will support first year students in academic and career planning. In addition to these duties, the adviser will be expected to teach three quarter-length courses annually, emphasizing freshman design.

<https://www.mccormick.northwestern.edu/offices-services/undergraduate-engineering-jobs.html>

3. POSITION ANNOUNCEMENT: Position Announcement: Professor (Department Chair) Biomedical Engineering, UMass Lowell

The Department of Biomedical Engineering at the University of Massachusetts Lowell seeks a visionary leader for the position of department chair. The new chair will have the opportunity to lead the next stages of academic and research development and advance the reputation of the department. The appointment is expected to be at the level of Associate or Full Professor with tenure. The Department of Biomedical Engineering is located in UMass Lowell's Francis College of Engineering, a dynamic, growing college that prepares scientists and professionals in a wide range of engineering areas. The department currently has 11 faculty, including five new energetic and engaged tenure-track faculty that have been hired in the last two years. The new chair will contribute to the planned growth of the department and the hiring of new teaching and tenure-track

faculty. Apply here: <https://careers.pageuppeople.com/822/lowell/en-us/job/511452/professor-department-chair-biomedical-engineering>

4. **POSITION ANNOUNCEMENTS:** Multiple education postdoctoral positions in the Biomedical Engineering Department at Georgia Tech

The BME department at Georgia Tech is working to hire three postdoctoral fellows as soon as possible. Interested candidates can reach out to Joe Le Doux (joseph.ledoux@bme.gatech.edu) or Todd Fernandez (Todd.Fernandez@bme.gatech.edu) for more information or to submit an application.

KEEN Postdoc in faculty development

Postdoctoral position in engineering faculty development and/or learning sciences. The Georgia Tech Biomedical Engineering Department is hiring a postdoctoral fellow with a background and/or interest in faculty development. Specifically, this fellow will be leading the design, implementation, and assessment of faculty development as part of a large curricular change grant in the GT College of Engineering. The grant supports work to change engineering curriculum and teaching in ways that embrace the power of personal narratives to help students develop a clearer sense of themselves, foster empathy for who they are designing for, and improve their ability to communicate with others. This postdoctoral fellow will focus on research and implementation of faculty development. We expect work will focus on the analysis of faculty's needs to succeed in curricular change efforts as well as developing programming to meet those needs. A secondary focus will be to assess the outcome of that development work as well as gathering data on how faculty perceive students, how they approach education, and how they understand the concepts at the center of the grant. The Georgia Tech KEEN grant involves four departments within the college of engineering (Aerospace Engineering, Biomedical Engineering, Civil and Environmental Engineering, Create-X). The Biomedical Engineering (BME) department serves a coordinating and leadership role for this project. *Qualifications:* PhD in learning sciences, engineering education, or a related field. The ideal candidate should have demonstrated the ability to work with faculty as well as the ability to take research from ideation to publication. Preference will be given to candidates with prior experience in designing and/or implementing teaching and learning interventions in higher education. In addition to specific disciplinary knowledge and skill competencies, successful applicants will have demonstrated experience in one or more of the following areas: curricula change, faculty development, student development, and/or engineering education research. We are also looking for those with a track record of academic publications, and excellent oral and written communications skills. Consistent with our program scope, we are especially interested in candidates who show promise to engage intellectually in teaching across diverse engineering disciplines. The postdoc will receive mentoring, career development training, and professional opportunities, in alignment with a personal career development plan.

KEEN Postdoc in learning sciences / theory development

Postdoctoral position in the use of narratives in engineering education pedagogy starting as soon as possible. This role will focus on learning sciences analysis of novel pedagogies. The key responsibility will be documenting and disseminating key research work on the theoretical foundations of story-driven learning and its contribution to engineering students' entrepreneurial mindset and entrepreneurial self-concept. That includes the development of a learning sciences / conjecture based models of a novel/developmental pedagogy we are

referring to as *Story-Driven Learning*. It will primarily focus on developing and executing a research agenda to study the impact that pedagogical changes have on students. The role necessitates comfort with both qualitative and quantitative educational research methods. It will include the development and utilization of measurement appropriate instruments as well as interviewing and observation. A background in either learning sciences or identity theory will likely be appropriate. Prior experience with formal literature reviews, conjecture mapping, design-based research, and associated publication techniques would also be beneficial. The Georgia Tech KEEN grant involves four departments within the college of engineering (Aerospace Engineering, Biomedical Engineering, Civil and Environmental Engineering, Create-X). The Biomedical Engineering (BME) department serves a coordinating and leadership role for this project. *Qualifications:* Applications are welcome from recipients of a PhD in educational psychology, learning science, engineering education, or a related field. Academic and/or professional experience related to the above research areas is strongly preferred. The ideal candidate should have demonstrated the ability to perform work with faculty in studying classroom settings as well as the ability to take research from ideation to publication. Preference will be given to candidates with prior experience in designing and/or implementing teaching and learning interventions in higher education, particularly if these experiences involved Entrepreneurial Mindset, Narrative Construction, and/or Engineering Education. We are also looking for those with a track record of academic publications, excellent oral and written communications skills, experience working on large scale grants, and implementation-based research projects. The ability to work independently to develop and drive a research agenda without disciplinary support will also be critical.

RED Postdoc on inculcating inclusion into biomedical engineering

The Georgia Tech Biomedical Engineering Department is seeking to hire a Post-doctoral Fellow to join a multidisciplinary team implementing revolutionary change in engineering education practices. Our vision is to educate inclusive engineers who understand that a diverse workforce finds and solves new and compelling problems, and who have the skills and disposition to seek out, form, and thrive on diverse and inclusive teams. To achieve our vision, the Fellow will work collectively with curricular faculty and students to create a curriculum that seamlessly interweaves inclusive concepts and practices with technical content at multiple social scales. The Fellow will contribute to a research program that seeks to answer the following research questions: 1) how can inclusion-promoting interventions be sustainably integrated into the curriculum, 2) how do the curriculum modifications impact students' interpersonal skills and understanding of inclusive engineering design practices, and 3) what system and structural changes are effective in supporting organizational change? We are seeking a candidate who has a strong record of designing and executing qualitative studies. Qualitative interviewing, participant observation, state-of-the-art analytic techniques and code book development are the essential tools we seek. The Fellow will also have the opportunity to recruit and mentor a team of undergraduate research assistants. Essential Duties and Responsibilities:

- Conduct literature reviews, present briefs, and organize resources.
- Plan and conduct qualitative research projects autonomously while working collaboratively with the Co-PIs and project staff.
- Participate in project related meetings as needed.
- Help develop and evaluate scalable and transferrable educational interventions.
- Present findings at conferences, workshops, and stakeholder meetings.
- Publish articles in peer-reviewed journals.

- Perform other related duties as needed.

Qualifications: PhD in social psychology, clinical psychology, community psychology, organizational psychology, organizational behavior, organizational justice, sociology, organizational change, engineering education, ethnography, or related fields. The ideal candidate should have demonstrated ability to perform both quantitative and qualitative analysis, although our primary need is qualitative.

5. POSITION ANNOUNCEMENT: Multiple Adjunct Faculty, Stevenson University

The Biomedical Engineering program at Stevenson University is looking for multiple adjunct faculty members to join our program for Fall 2022. In particular, we are looking for people interested and capable of teaching courses in systems physiology, current topics in biomedical engineering (e.g., surgical/assistive robotics, tissue engineering, or medical imaging), or capstone design. They can find more information here: <https://stevenson.peopleadmin.com/postings/7121> or by contacting me directly at nrothman@stevenson.edu. Please share with alumni or others in Baltimore, MD area who may be interested.

6. POSITION ANNOUNCEMENT: Department Head of Biomedical Engineering at the University of Arizona

The Department of Biomedical Engineering (BME) at the University of Arizona is seeking nominations and applications for a department head with excellent leadership skills and enthusiasm for world class research, innovative teaching, and collaborations with industry, government, community, and clinical partners. The University of Arizona, a Research I, Land-grant, and Hispanic Serving institution, ranks in the top 4% of all US Institutions, with more than \$734 million in annual research expenditures, according to data from the National Science Foundation. The annual research expenditures for the department exceed \$3 million. The BME Department Head, who reports to the College of Engineering dean, should be a visionary who can lead a diverse group of faculty, staff and students; oversee modern educational research laboratories and facilities; and, most importantly, spearhead the continuing transformation of BME for the challenges of the 21st century.

Successful candidates are expected to have extensive research and teaching experience at a level sufficient to qualify for appointment as a tenured Full Professor. The BME Department at the University of Arizona has a strong local, national, and international reputation for undergraduate and graduate education and research. The department has 21 tenured or tenure track faculty, 2 career track faculty, and 32 joint faculty that support teaching, research, and service missions. The department has more than 170 undergraduate (sophomore-senior), a total of 31 M.S students, and 42 Ph.D. students enrolled. Undergraduate research is a major emphasis of the BME Department as almost 90% of our undergraduate students are placed in research labs and nearly 30% go on to graduate school.

Link to the position

posting: <https://arizona.csod.com/ux/ats/careersite/4/home/requisition/8129?c=arizona>

Contact person: Sammy Tin, Department Head, Materials Science and Engineering, tin@arizona.edu

7. POSITION ANNOUNCEMENT: First year Engineering at University of Tennessee

The Engineering Fundamentals Program (EFP) at the University of Tennessee, Knoxville, seeks a dynamic and innovative Lecturer to contribute to its first-year engineering program. EFP is the home of the engage program, an integrated and team-taught first-year curriculum and is responsible for teaching nine credit hours of common coursework for each of the College's first year students (1000 per year). Subject matters taught include:

- Introduction to engineering physics
- Perspectives of the engineering profession
- Teaming
- Engineering design process
- Engineering technical communication
- Computing tools for numerical analysis
- Student success related topics (time management, study skills, etc)
- Leadership training for student mentors

Details of the Engineering Fundamentals Program are available at <https://engage.utk.edu/>.

This position is a full-time, non-tenure-track, 9-month appointment. Candidates are expected to have an earned doctorate in engineering or computer science with an undergraduate degree in any engineering or computer science field; strongly preferred are candidates with a doctorate in electrical, computer engineering, robotics/mechatronics, computer science or engineering education. Candidates must possess excellent communication skills, a solid commitment to innovative teaching methods, both traditional and technology enabled, and the ability to contribute in meaningful ways to the diversity and intercultural goals of the University. Demonstrated interest in engineering and computing education programs is expected. College-level teaching experience is preferred.

Find additional details and apply at: <https://apply.interfolio.com/102199>

Engineering Education Research Resources

1. REVIEWING PAPERS: [JEE Mentored Reviewer Program](#)

To send an announcement to the BED listserv, please prepare a 2-3 paragraph description including any relevant URLs and contact info as well as a subject line. **Do not include any attachments.** Be sure that the announcement includes the person to contact with questions. Email all of this information to Aileen Huang-Saad at a.huang-saad@northeastern.edu with **[BED Announcement] in the subject line** to facilitate email sorting. Announcements will be sent out on the 1st and 15th of each month. **Each set of announcements will be included in the announcements email twice.** Announcements will also be recorded on the BED website (<https://sites.asee.org/bed/>) and HUB (<https://aseehub.asee.org/groups/home/34#active-group-members>).

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