

## فهرست و خلاصه وبینارهای آیفیز در حدود یک سال گذشته

August2019-April2020

### 1. April 8 2020

#### **Online Delivery of Engineering Programs: Tips You Can Use From an Experienced ABET-Accredited Program**

In 2013, Arizona State University's (ASU) Electrical Engineering program became the first bachelor's level ABET-accredited engineering program to be available 100% online. In this live virtual event, Stephen Phillips, Professor and Director of the School of Electrical, Computer and Energy Engineering at ASU, will discuss online delivery strategies used in the program as well as highlight lessons learned and specific techniques that can be used by faculty looking to convert to online delivery.

#### **Speaker**

Stephen Phillips

Professor and Director of the School of Electrical, Computer and Energy Engineering Arizona State University

### 2. April 6 2020

#### **A Scalable Approach to Distance Learning Available Today!**

For decades Quanser has been providing engineering students with rich interactive learning experiences on hardware in the lab. The current global crisis has catalyzed the Quanser academic team to deliver a platform that can provide turn-key remote lab experiences overnight. Based on our industry leading hardware platforms, we have created a suite of virtual plants and curriculum that is interactive, engaging, high-fidelity, and more importantly available now. In this webinar Peter Martin, R&D Manager of Academic at Quanser will discuss how to leverage this platform to deliver meaningful hardware experiences to your students in the (online) lecture and (virtual) lab, and how to access a free trial of the platform to get your students back in the lab today!

#### **Speaker**

Peter Martin,

an engineering education specialist who has been a member of the Quanser R&D team for almost ten years.

### 3. April 3 2020

#### **Distance Learning with Cloud-based Tools from MathWorks**

University closures have required courses to move to a virtual format. MathWorks has developed several cloud-based tools to enable instructors and students to have access anytime, anywhere. Join us for a free webinar where we'll discuss these tools, how they fit together to support your course development and delivery workflow, and how to use them immediately in your online course.

We will discuss several resources including:

- Accessing MATLAB Online™ and MATLAB Drive™ Anytime, Anywhere ( parallel construct)
- Leveraging interactive content with self-paced courses, MATLAB® Apps, and Live Scripts

- Mentoring students at scale with automated assessment and feedback in MATLAB Grader™

Connecting students with the community by participating in the MATLAB user community

**Speaker**

Elvira Osuna-Highley,  
Senior Customer Success Engineer at MathWorks

**4. April 1 2020**

**Preparing for Change – When Pedagogy Needs Technology at Times of Crises**

In a dynamic world that is forever undergoing economical, societal, environmental and political changes, Higher Education in general and the Engineering Discipline in particular remain under constant pressure to meet the continuous demands of the industry that is in need of highly intellectual graduates with the relevant cognitive and experiential skills.

Such dynamics and demands, paired with the fast growing and rapid advancements of technology at the dawn of the 21st century, have been a great catalyst for change in Higher Education and often a cause for reform and reshaping its educational practices. These reforms were witnessed in the early 1990s with the arrival of the internet, multimedia software and several government initiatives across the globe set to develop Computer Aided Learning tools. These tools soon became redundant due to platform changes, while the technology concurred the new millennium with Virtual Reality tools and platforms in addition to the use of mobile and wireless technologies, followed by platforms for Augmented Reality, smart devices, high speed networks and Cloud Computing.

There is no doubt that technology has the potential to revolutionize the traditional teaching and learning process, enhance the pedagogy of teaching through synchronous and asynchronous modes, eliminate the barriers to education imposed by space and time and dramatically expand access to lifelong learning. Although universities have generally been quick to adopt new platforms of technologies, their utilization of the technology to enhance the teaching and learning process, has been slow for various reasons. Therefore, today more than ever, there is a need for a new reform to revolutionize Higher Education practices, while pedagogy is in its most need for the technology to survive in the face of the current 'Coronavirus' global crises, at a time where university students in some countries are expected to study at a distance via online modes of delivery.

This seminar shares the role of 'Pedagogy and Technology' in supporting Engineering Education, giving examples of some of the remarkable efforts of the Teaching & Learning Community and IT services at the American University of Sharjah in the UAE in preparedness for its migration from its traditional ways of teaching to online teaching via synchronous and asynchronous modes of delivery. These efforts are hardly free of challenges, but they form a stepping stone toward revolutionizing our educational practices with great lessons yet to be learnt. This seminar is targeted at all stakeholders with interest in Engineering Education and related disciplines within Higher Education and beyond to reform at times of crises.

**Speaker**

Vian Ahmed,

Professor of Industrial Engineering and Director of Alternative Delivery for the College of Engineering at the American University of Sharjah (AUS).

•.March 30 2020

### **Meeting the Challenge of Education During COVID-19 Outbreak: SUSTech Experience on Online Teaching**

With the outbreak of COVID-19, we have been faced with great challenges in providing quality education to our students without delaying their progress in completing their degree requirements. At SUSTech, we started online teaching for full offerings across the university without any delay in starting the school. In this webinar, we will share our experiences on our online teaching gained so far. With a quick overview on SUSTech and development of COVID-19 in China, the presentation will focus on different media available and used by our faculty members for online teaching, preparation and delivering of online lectures, methods of interactions with students to ensure active involvement of students and student-centered learning in online teaching, and feedback analysis results of students. Online teaching is still a learning in progress to maximize its value with many challenges remaining to be resolved.

#### **Speaker**

Zhenghe Xu,

graduated with B.Sc. and M.Sc. in Minerals Engineering in 1982 and 1985, respectively, from Central-South Institute of Mining and Metallurgy, Changsha, China; and Ph.D. in Materials Science and Engineering in 1990 from Virginia Polytechnic Institute and State University, Blacksburg, Virginia, USA.

¶. March 26 2020

### **Remote Summer Internship Program Addressing Industry 4.0 Skills for engineering Students**

Current situation of COVID-19 has brought unexpected break in academic schedule and govt / higher education departments have issued notifications to all colleges not to allow students for physical internships with various companies. This shall not stop students upskilling and exposure with industrial project. Outcome based e-learning with remote internships are the best solutions to fill this break and prepare students for the transforming industry.

SmartBridge has built a unique solution for students to learn new technologies in project based learning environment and for the companies to drive remote internships with real company experience. We would like to provide you a walk through our platform & its unique features.

#### **Speaker**

Amarender Katkam,  
Founder & CEO, SmartBridge Educational Services Pvt. Ltd., India  
IBM Champion 2020

•.March 23 2020

### **On-Line Engineering Education for Electronics and Telecoms: Multi-User, Remotely Controlled Hardware Experiments**

Remote on-line education offers hands-on experiential lab experiments. This delivery mode is well established (first released by Emona in 2004) and being used around the world now.

This webinar will provide a thorough technical overview and facilitate live participant use of a range of experiments covering analog and digital electronic circuits experiments, communications systems

(modulation and coding) and signals & systems experiments

Questions addressed in this webinar:

- What is Remote Controlled Hardware lab equipment
- How can 30 or more students simultaneously share one piece of hardware, while running unique experiment sessions
- How is remote hardware installed and set-up. What student monitoring and verification tools are deployed?
- How is collaboration achieved in this remote environment for superior pedagogical outcomes and live tutoring ?
- Demonstration of student access and control of the experiment via a web browser
- How to contrast Remote Controlled Experiments as opposed to Virtual (Simulation Software) Lab Experiments

This webinar will equip engineering deans and teaching professionals with a solid understanding and hands-on experience with Remote Controlled Hardware lab experiments. As well, participants can verify the practical and efficient nature of a remote teaching environment and how it may be deployed in their own context as a complementary mode of teaching delivery.

#### **speaker**

Alfred Breznik,  
Sales & Marketing Director – Emona TIMS  
Technical Director – Emona Group

**^.** **March 18 2020**

#### **Technology is Accelerating... How Can Educators Prepare Engineers for the Future of Work?**

As defined by world leaders at the World Economic Forum, we are now in a 4<sup>th</sup> Industrial Revolution, where technologies in the cloud are accelerating at a dizzying pace. These technologies, including AI, Machine Learning, and Quantum Computing, are digitally transforming the world. Startups have the ability to disrupt big companies more easily. Big companies want to digitally transform to improve their business, and innovate in new ways to gain more revenue and profit. Because the new technologies are evolving at exponential rates and they are transforming ways of working (e.g., systems, processes, and tools), people need to continuously be upskilled every 3-6 months. Companies, government, and non-profits are scrambling to find ways to keep current employees up-to-date, and to teach others skills so that they have a viable employee pipeline for the future. No one wants to fall behind in this technology race. Efforts are underway and need to be explored at company levels, national levels (ReWork America), and global levels (United Nations and World Economic Forum). The implications for educators are becoming clear – how do we keep up with the technologies, their applications, and provide skills that complement the technologies as they evolve? Faster, better, and cheaper ways of upskilling individuals are vital. Stackable credentials are becoming a norm, and they are becoming as important, if not more important, than degrees. This session will explore the 4<sup>th</sup> industrial revolution in a global world, the need for speedy upskilling, and the implications for educators.

#### **Speaker**

Michael A. Fors,

an Executive Leader of Corporate Division Development in Boeing's Leadership, Learning & Organizational Capability (LLOC) Team, driving transformation toward the 2025 corporate vision

^ **March 4 2020**

### **Providing a PLM Course for Academic Organizations World-Wide**

Product Lifecycle Management (PLM) spread quickly throughout industry world-wide after its emergence at the beginning of the 21st Century. Twenty years later, an industrial company expects new employees to be knowledgeable about PLM, and to work immediately in its PLM environment. However, few PLM courses have been offered by academia, meaning that companies have been forced to develop and provide their own PLM education for new hires. It also means that it has been difficult for students to learn about PLM, either at undergraduate or graduate level. In recent years two such courses were developed and taught, one in USA and the other one in Europe. Their authors joined forces to create a complete course package that could be taught throughout the world with the support of Siemens Digital Industries Software. This paper describes the project and the PLM course that is now available for use in academic organisations throughout the world.

This webinar will initially introduce the historic context of PLM and its growth as a discipline over the last decades. The authors will then introduce the new "Business Value of PLM" course. This is a business-oriented course about PLM. It's a 3 Credit (US) course. In other words, a typical one-semester course requiring about 145 hours of effort from a student of an academic organisation such as a University, College, or School. The content of the 15-week course will be discussed, along with information about how the course is being taught and opportunities for further dissemination of the course material.

#### **Speakers**

Korhan Sevenler

a Visiting Professor at Kate Gleason College of Engineering and College of Engineering Technology at Rochester Institute of Technology.

Jennifer Bradley

received her Bachelor's degree in Psychology from the University of Missouri and her MS in Instructional Design and Technology from Fontbonne University.

John Stark

the President of JSA, a consultancy organisation providing services in the area of Product Lifecycle Management (PLM).

^ **February 19 2020**

### **Engineering for a Better World**

The rapid engineering and technological advances, with their unprecedented rate of growth and their resulting increasing power, call for continuous and similarly unprecedented changes in engineering education and research. Engineering schools are at the center of enabling every other discipline, from the professions to the social sciences. And the increasing power of technology presents unprecedented opportunities to solve grand challenge-like problems (ranging from the NAE Grand Challenges to the UN

Sustainable Development Goals). Electing to pursue such opportunities is an *ethical mandate* that should be heeded by engineering schools worldwide in their education and research.

In parallel, society will increasingly demand trust from institutes of higher education and research, including the development of *trustworthy* engineers. And while engineering schools currently excel in providing one of the two essential attributes of trust, namely *competence*, they must also endeavor to nurture engineering graduates with the other essential attribute, namely *character*, with its components of purpose and values.

This webinar will focus on these two rapidly emerging mandates, by focusing on programs, such as the Grand Challenges Scholars Program, and on curricula innovations that infuse elements of technology ethics and address the increasing intersection of technology, humanity and society.

### **Speaker**

Yannis Yortsos,  
Dean of the USC Viterbi School of Engineering and the Zohrab Kaprielian Chair in Engineering

**9. January 20 2020**

**"Tomorrow, 'everything' will be able to 'see', 'think', 'do', and communicate with 'everything else'"**

The question that this session will explore is how can universities prepare the engineering leadership of tomorrow to respond to these emerging challenges.

The traditional undergraduate engineering curriculum, is founded in engineering science. We emphasize modelling and analysis, and we look for a deep understanding of the dynamics of physical components. Additionally, we have invested significant energies into design education and techniques such as Project Based Learning (PBL).

Typical PBL frameworks for design, however, are built on relatively simplistic systems where learning success is not dependent on rigorous comprehension and management of component or system dynamics. One can call such systems intuitive systems and the corresponding design process, instinct-based design. Small structures, hobby-style robots, and low-tech Grand Challenges-inspired projects are good examples of intuitive systems. But is this enough to build necessary skills and insights to deal with systems of authentic engineering complexity in a connected world? Can the engaging experiences of PBL be balanced with the foundational traditions of engineering science to effect complex design?

The session will review the conceptual foundation of emerging pedagogies, potential contribution of particular teaching technologies, and case studies from select institutions as part of the evolving framework for addressing such emerging challenges.

## **Speaker**

Mahyar Fotoohi  
Regional Manager  
Quanser

**10. January 19 2020**

### **Future of Space Systems**

In the future, as formation and constellation flying increases, the need for automated operations in space applications will be essential. Stringent communications constraints such as limited communication windows, long communication latencies, system complexity, and many other factors will p The traditional undergraduate engineering curriculum, is founded in engineering science. We emphasize modelling and analysis, and we look for a deep understanding of the dynamics of physical components. Additionally, we have invested significant energies into design education and techniques such as Project Based Learning (PBL).

## **Speaker**

Nelli Mosavi,  
Program Manager at the Space Exploration Sector  
Johns Hopkins University

**11. January 3 2020**

### **Helping New Engineering Faculty Members get their Careers off to a Good Start**

Brain surgeons, electricians, accountants, chemical engineers, and members of all other skilled professions, have one thing in common: they all received training before they were allowed to practice professionally.

All but one skilled profession, that is—being a college faculty member. Graduate school prepares future faculty members to work on research projects someone else defined; however, it generally does not prepare most of them to plan research independently, get it funded, recruit good graduate students in competition with more experienced colleagues, set up a lab, build a research team, publish in top journals, plan courses, design and deliver effective instruction, make up good assignments and tests, and deal with dozens of research, teaching, and time management crises that routinely occur in the lives of all faculty members.

People are not born knowing all those things, and trial-and-error is not an efficient way to learn them. The work of Robert Boice has shown that most new faculty members take four to five years to become as productive in research and effective in teaching as they need to be to meet their

institutions' standards. About 5%, however ("quick starters") do it in one to two years. Boice has also shown that the 95% make mistakes that limit their productivity and effectiveness and that the mistakes are avoidable. With the proper guidance, new faculty members can be turned into quick starters.

This webinar briefly outlines measures that engineering deans, department heads, and senior faculty members can take to help new engineering faculty members reach quick-starter status, and points to on-line resources that provide details on the design and implementation of the measures.

## **Speakers**

Rebecca Brent  
President, Education Designs, Inc.

Richard Felder  
Hoechst Celanese Professor Emeritus of Chemical Engineering, North Carolina State University

## **12. December 2 2019**

### **CIOs and IT Executive Leadership**

The rapid development and adoption of mobiles and Internet have had major impacts on society and ICT is now a key component of national development in healthcare, education, financial services, smart cities and poverty reduction. Newer technologies including AI, robotics and blockchain also will potentially have major ramifications for society. With this increasing role of technology often as part of digital transformation programs, the role of the CIO has increasingly become strategic and governments are undertaking initiatives to strengthen institutional capacity for ICT executive leadership.

The talk reviews the latest innovations in mobiles, robotics, AI, drones and blockchain and other new technologies in the context of the evolution of the role of CIOs and development of CIO institutions. What are current and potential applications, related challenges, possible future development paths, policy considerations and potential societal ramifications? How are the roles of CIO and related CIO institutions developing and adapting to the increasing possibility with greater risk and challenge of technology innovation and adoption? And how are engineering and university education changing to adapt for current and future students as well as to facilitate life long learning for graduates.

**Speaker**

J.P. Auffret

Co-Founder and Vice President, International Academy of CIO

Director, Research Partnerships, School of Business, George Mason University

**13. November 20 2019**

**Mapping Social Space—A shared, modular, global research agenda for Peace Engineering**

Engineering in the last century gave us large, systematic, exciting new ways to sense and measure our environment, in the process creating (and more importantly distributing) massive universal social benefits, not only for people everywhere, but even for other species in our ecosystem. Satellite mapping of the earth, combined with the GPS network, has given anyone anywhere the ability to map geo-space with a precision and utility unimagined by our ancestors. Similarly, VLS Radio Telescope Arrays have given us the ability to map and understand outer space and our position in the universe in ways previously impossible. Yet for one of the most important environments of human well-being--social space--we don't even have a good map, let alone an active sensor array. And such an array would be, for the social sciences, the kind of engineering feat that the telescope has been for astronomy, and the microscope for biology.

For Peace Engineering, a good map of social space is both a necessary technical foundation, a worthy research challenge, an eminently fundable proposition, and--bonus--a very buildable project, requiring no new technology. And, through a convenient and fortuitous alignment of pre-existing technologies, it is a massively collaborative research project that, it turns out, any engineer (or engineering student) in any workplace in the world, has multiple opportunities and incentives to participate in. In this talk you will get an overview of this fascinating opportunity, and an introduction to how you can be a part of this inspiring project.

**Speaker**

Mark Nelson

Co-Director and Founder

Stanford Peace Innovation Lab

**14. August 28 2019**

**"The Personal Challenge and Emergent Opportunities for Engineers and their Educators in the Disruptive World" with Elsie Maio**

In the words of this session's presenter, Elsie Maio: "'Fraught' could qualify as the word of the year, if such a designation existed to describe the *zeitgeist*. Geopolitics, the biosphere, time-honored institutions,

business systems, national populations, are heaving with increasing unrest. And each seems to be exacerbating the volatility of the other.

As educators, how can you know what you are even preparing your students for when the future is so murky? And, as a professional whose own livelihood and legacy assumptions are at risk, it's difficult to see a generative path forward. Students, with a lighter backpack of 'proven' paradigms may be more agile, but they need you to help them discover the worldly relevance of the engineering talent and skills you cultivated so well in them so far".

**Speakers:**

Elsie Maio,

Founder of Humanity,Inc. and creator of SoulBranding<sup>SM</sup> NewYork

Mila Popovich,

Founder, EVOLving leadership; Chair, World Academy of Art and Science

**15. December 16 2019**

**The challenge of Assessing Teamwork and Group Projects**

There is no consensus among engineering educators regarding proper design and grading of group projects. A gap exists between the learning objectives or desired outcomes of such group work, and common practice in terms of formation of functioning groups, delineation of responsibilities, allocation of grades, and assessment of student outcomes. On the other hand, a number of challenges exist when it comes to assessing the students' abilities and the skills needed to work in functional teams, as well as the instruments needed to perform such assessment. In this webinar, the difference between group work and teamwork abilities will be discussed, along with best practices and innovative assessment methods for each. Guidelines that can be used in the context of engineering curricula to perform meaningful assessment of teamwork skills and group projects will be shared with the participants. A few scenarios targeting different outcomes will be presented, along with corresponding examples of instructional design, assessment tools, and rubrics used to measure the level of attainment of the outcome.

**Speaker:**

Alaa K. Ashmawy ,

Dean of the School of Engineering and Professor of Civil Engineering at the American University in Dubai (AUD)

**16. October 30 2019**

**Global Engineering for a Small Planet**

In the next two decades, almost two billion additional people are expected to populate the Earth. This growth will create unprecedented demands for natural resources, materials, waste disposal, health care, and infrastructure. The role of engineers will be critical in fulfilling those demands at various scales, ranging from small communities to large urban areas, and mostly in the developing world. A simple question arises: Do today's engineering graduates and engineers have the skills and tools to address the global problems that our planet and humans are facing today, or will be facing within the next 20 years? Since the answer to that question is negative, a new epistemology of engineering practice and education is needed. This paper addresses the importance of reflective and adaptive practice, system thinking, and

social engagement (e.g., Engineers Without Borders) when addressing global problems. As we enter the first half of the 21<sup>st</sup> century, the engineering profession must embrace a new mission statement—to contribute to the building of a more sustainable, stable, equitable, and above all, peaceful world. Engineers must be more than providers of technical solutions. They must also be peacemakers, social entrepreneurs, and leader and be able to operate in a multi-cultural world.

**Speaker:**

Bernard Amadei,

Distinguished Professor and Professor of Civil Engineering at the University of Colorado at Boulder

**17. October 20 2019**

**Peace Innovation: Ways to Imagine Engineering and Technology to Build Scalable Peace**

Margarita Quihuis co-directs the Peace Innovation Lab at Stanford. For the last ten years, her team has looked to re-imagine technology innovation and how it can positively influence society, politics and the economy. In this 30 minute talk, she will draw on PIL’s work and discuss the need for a new peace tech industry, and how engineers, business and investors can work together to create the world we want to live in.

A behavior designer, social entrepreneur and mentor capitalist, Margarita Quihuis now serves as the Co-Director of the Peace Innovation Lab (PIL). Quihuis formerly served as the first Director of Astia—a technology incubator for women entrepreneurs where her portfolio companies raised \$67 million in venture funding. At PIL, Quihuis’ research focuses on how entrepreneurs can leverage innovation, mass collaboration, persuasive technology and social networks to change society for the better.

Her projects have included the study of collaboration and citizen engagement to foster government innovation – Manor Labs, bottoms-up post-disaster response and recovery – Relief 2.0 and advisory roles in citizen psy-op efforts such as the ‘Israel Loves Iran’ and ‘Romancing the Border’ social media campaigns. A recognized thought leader and public speaker in the areas of innovation, technology, access to capital and entrepreneurship, and emergent social behavior, and Quihuis has advised, mentored, and addressed numerous start-ups, corporations, academic institutions on the power of persuasive technology.

**Speakers:**

Margarita Quihuis,

Co-director of the Peace Innovation Lab, Margarita examines how tech and innovation can create more stable societies.

**18. October 4 2019**

**Affective Education and New Technologies starting from Music Therapy to Engineering Education**

For any enterprise, a key success factor is the quality of the product it delivers. In the education sector, this “product” is the delivery process itself, while in medicine; the customer – i.e. the student – actually takes part in the process as a “co-producer”.

This interactive aspect of the service delivery has a significant consequence for us as technology providers in medicine (**actual and important now in engineering education**), namely that any time a student fails to engage in the educational process, they suffer a kind of “loss” in this process. More relevant to this report is the fact that the people trying to predict the future of the education often disagree on the trends and drivers affecting it the most, and hence they don’t draw the same conclusions about the direction of future evolutions.

**Niels Bohr was right when he said, “Prediction is difficult, especially about the future.”**

Engineering education must engage the students in both the cognitive domain – developing ability to perform the techniques – and in the affective domain – transforming the student’s belief to recognize the positive value of the engineering education methodology. We need to think how to fill the current gap in addressing the affective domain in **music therapy and how to extend it to engineering education**.

### **Speaker**

Doru Ursutiu

Manager of Center for Valorization and Transfer of Competence (CVTC) at Transylvania University of Brasov and coordinator of the CVTC Creativity Laboratory

**19. September 19 2019**

### **Engineering & UN Sustainable Development Goals**

Discussions on implementing the UN Sustainable Development Goals have not, so far, addressed the crucial role of engineering. Achieving the goals will depend on large productivity increases in emerging economies, and engineers will be influential actors in that effort. However, neither engineering education nor contemporary definitions of engineering address the urgent need for productivity improvement: enabling people to achieve more with less human effort, energy, materials, uncertainty, health risks and environmental disturbances. It is possible that global slowing of productivity growth, particularly in advanced economies, could be associated with this oversight.

Extensive research on engineering practice in Australia, Brunei, India and Pakistan has shown how social culture and knowledge gaps make technical collaboration much more difficult in emerging economies, leading to high costs and low productivity. This research also identified a small number of expert engineers who have been able to create highly productive enterprises around them, despite these difficulties.

Deep structural issues in contemporary education limit the ability of universities to build on this research to improve engineering education. Education in workplaces could avoid these difficulties. The research is being applied to create a workplace education programme that could help novice and mid-career engineers learn from the experience of this small cohort of experts. Achieving the UN goals could well depend on how successfully such education programmes can improve engineering practice in emerging economies.

There are huge opportunities and rewards for engineers who can grasp new ideas on value generation, and overcome a hundred or more misconceptions about engineering practice that (mostly) inadvertently arise through contemporary engineering education programs. Engineering educators with the courage to learn about this research could be extremely influential in transforming their countries and overcoming barriers to social and economic development that lie in the minds of today’s engineers.

**Speaker:**

James Trevelyan

an engineer, educator, researcher and has recently become a start-up entrepreneur

**20. September 3 2019****The Simulation-Driven Design Process**

we all know that the world we are living in is changing rapidly. Today, we have more scientists and engineers than we have ever had in our entire history. This intellectual revolution is leading to more discoveries and innovations than ever before. And in this revolution, the way we design products has changed tremendously. The simulation-driven design process—the home ground of Altair—is gaining acceptance and momentum in all industries. For instance, topology optimization (lightweight design)—formerly considered to be something “fancy” and only available to and used by expert CAE analysts—has made its way to the designer’s desk already. It is clear to see that technology-driven innovation is evolving at a high pace. And the greatest challenge for the engineer of tomorrow is to keep up with the pace by learning constantly. We at Altair, (especially the Academic Team) are dedicated towards education and teaching to help you and your students to be successful. From your success, we derive ours, and that understanding is the basis of our Academic Program where we strive to provide students with the best resources and software to help them become the best engineers and designers that they can be. Let us come together and discuss how we can help you to build a better-engineered future.

**Speakers:**

Matthias Gölke

Ph.D. degree from the Free University of Amsterdam

Jim Ryan

working in customer-facing roles with leading companies in the CAE software industry – including SDRC (Structural Dynamics Research Corp.), MDI (Mechanical Dynamics Inc.), MSC Software, MathWorks, CD-adapco, Siemens PLM, and Altair.

**21. August 6 2019****Making Engineering Appealing to the Next Generation**

Engineering faces a challenge in appealing to the next generation. Young people see other career fields as either contributing more to the health and welfare of their communities, or providing comparable compensation with less effort. Drawing on his personal background, ASEE Executive Director Norman L. Fortenberry will highlight the challenges and opportunities that were presented to him as indicative of the types of challenges faced by many others, draw general lessons about key challenges facing engineering educators, and discuss the importance of engineering playing a leading role in pre-college education.

**Speaker:**

Dr. Norman L. Fortenberry

was awarded the S.B., S.M., and Sc.D. degrees (all in mechanical engineering) by the Massachusetts Institute of Technology

**22. August 1 2019**

### **Interdisciplinary in Engineering Education Research: Challenges and Rewards**

The webinar is addressed particularly to researchers coming from STEM research traditions who are relatively new to the field of engineering education research (EER). Such researchers often report challenges in coming to terms with the interdisciplinary nature of the field.

The webinar will first look at why interdisciplinary research can be important and will go on to present some strategies for getting one's work published in EER journals. Bill Williams will share data from a study on the role of interdisciplinary in papers published by leading journals in the field. He will then provide suggestions on how we can address the issues involved in choosing an appropriate journal and in preparing a manuscript to avoid desk rejection.

#### **Speaker:**

Bill Williams

Chemist at University College Cork, Ireland.