Lean Six Sigma 2019 Conference Key Note Speakers

Keynote 1

Title: A Comprehensive Lean Six Sigma Framework for Higher Education

Speaker: Dr Beth Cudney, Missouri University of Science and Technology, USA

Synopsis:

Lean Six Sigma has been widely used across a multitude of industries; however, higher education has been much slower to adopt these principles. Further, while we teach Lean Six Sigma in courses, many higher education institutions fail to implement Lean Six Sigma into their operations. This presentation will provide a roadmap, based on Kolb’s cycle of learning, for improving the learning experience through application of Lean Six Sigma in educational process improvement. Project selection guidelines will be presented to ensure appropriate scope given the semester time frame. Examples of successful projects will also be provided along with lessons learned. In addition, the coaching necessary to achieve significant results and foster team dynamics will be discussed. Through a comprehensive methodology that considers student learning, project selection, coaching, and team dynamics, students and higher education institutions can achieve significant improvements together.

Contents:

- A framework for integrating Lean Six Sigma into educational process improvement
- A methodology, which integrates Kolb’s Cycle of Learning, to improve the student learning experience
- Guidelines for Lean Six Sigma project selection in higher education
- Examples of successful Lean Six Sigma projects in higher education
- Practices for coaching successful projects and improving team dynamics

Biography:

Dr. Elizabeth Cudney is an Associate Professor in the Engineering Management and Systems Engineering Department at Missouri University of Science and Technology. She received her B.S. in Industrial Engineering from North Carolina State University, Master of Engineering in Mechanical Engineering and MBA from the University of Hartford, and doctorate in Engineering Management from the University of Missouri – Rolla. In 2018, Dr. Cudney received the ASQ Crosby Medal for her book on Design for Six Sigma. Dr. Cudney received the 2018 IIESE Fellow Award. She also received the 2017 Yoshio Kondo Academic Research Prize from the International Academy for Quality for sustained performance in exceptional published works. In 2014, Dr. Cudney was elected as an ASEM Fellow. In 2013, Dr. Cudney was elected as an ASQ Fellow. In 2010, Dr. Cudney was inducted into the International Academy for Quality. She
received the 2008 ASQ A.V. Feigenbaum Medal and the 2006 SME Outstanding Young Manufacturing Engineering Award. She has published seven books and over 75 journal papers. Dr. Cudney is a certified Lean Six Sigma Master Black Belt. She holds eight ASQ certifications, which include ASQ Certified Quality Engineer, Manager of Quality/Operational Excellence, and Certified Six Sigma Black Belt, amongst others.
Keynote 2

Title: Lean Six Sigma in Higher Education: Is it a myth or reality?

Speaker: Dr Sandy Furterer, University of Dayton, USA

Synopsis:

The purpose of this keynote presentation is to discuss the value of applying an integrated approach of Lean and Six Sigma to improve higher educational processes. Examples of tools and methods from both lean and six sigma in higher education will be discussed. Identification of which tools can be best applied to focus on multiple characteristics of quality, efficiency, costs and stakeholder satisfaction will be discussed. Several lean six sigma projects from both the academic and the administrative side of higher educational institutions will be highlighted. The reality of how both lean and six sigma can be applied together to solve higher educational process problems will be explored. This presentation will help the audience to understand the power of Lean Six Sigma to make processes simpler, faster and more valuable to students, faculty and administration.

Contents:

- To describe why the Six Sigma DMAIC is a powerful problem solving methodology for higher educational processes in both academic and administrative processes.
- Discuss the critical Six Sigma tools that enhance change management techniques to realize process change.
- Highlight the critical Lean tools that enhance the process and root cause analysis, identify and eliminate process wastes, and help to standardize the processes.
- Present the types of academic and administrative problems that can be tackled with the integrated lean six sigma methods and tools.
- Provide real-world higher educational examples of improving higher educational processes.

Biography:

Dr. Sandy Furterer is an Associate Professor at the University of Dayton, in the Department of Engineering Management, Systems and Technology. She has applied Lean Six Sigma, Systems Engineering, and Engineering Management tools in higher education, healthcare, banking, retail, and other service industries. She has achieved the level of Vice President in several banking institutions. She previously managed the Enterprise Performance Excellence center in a healthcare system.

Dr. Furterer received her Ph.D. in Industrial Engineering with a specialization in Quality Engineering from the University of Central Florida in 2004. She received an MBA from Xavier University, and a Bachelor and Master of Science in Industrial and Systems Engineering from The Ohio State University. Dr. Furterer is an author or co-author of 4 reference textbooks on Lean Six Sigma, Design for Six Sigma and Lean Systems, as well as 11 journal articles, 33
conference proceedings, and 93 conference presentations. Dr. Furterer has extensive experience in business process and quality improvements. She is an ASQ Certified Six Sigma Black Belt, a Certified Quality Engineer, an ASQ fellow, and a certified Six Sigma Master Black Belt.
Keynote 3

Title: Leadership for Lean Transformation within Public Sector Organizations

Speaker: Dr Sanjay Bhasin, Head of Continuous Improvement, National Probation Service, UK

Synopsis:

'46% of all improvement initiatives fail due to a lack of leadership” (Hamalien, 2018). The Civil Service and HE are enduring exceptionally challenging circumstances. There frequently exists a missing link; namely the set of leadership structures and behaviors constituting a lean management system. Lean leadership is defined by the ability to empower and enable people. This kind of leadership promotes the development of a continuous improvement culture in an organization. This obliges viewing Lean as a philosophy, rather than a tools-based improvement program.

This transformation of an organization’s performance requires changing its culture as the new ways of working are so different that making them stick is impossible without a cultural change. Leadership is an important and crucial variable that leads to enhanced management capacity, as well as organizational performance. The presentation scrutinizes the prominent challenge of formulating a truly agile organization that anticipates, influences and reacts to change.

Contents:

- Clearly more work is needed to develop lean leaders. But what is a ‘Lean Leader’? What makes a Lean Leader different from a 'normal' leader? What special competencies are required to be considered a Lean Leader?
- There are essential, fundamental behavioral shifts which illustrate the challenge of building everyday leadership, with each representing a profound break from the typical way that large organizations have long encouraged leaders to behave.
- British universities are amongst the best in the world, consistently topping global rankings and leading innovation in teaching and research. But, apt leadership is needed to overcome the obstacles faced by the higher education sector in the next few years.
- Evidently, the overall number of civil servants has fallen by over 20% in the last nine years; this has run in parallel with an ongoing digitally driven transformation in the way we work. Over the same period, the size of the government estate has shrunk by a quarter, reducing running costs by over £1 billion. Hence the need to continue work smarter, more digitally and collaboratively.
- Both the HE and civil service need to find a way to become truly agile so that they can anticipate, influence, react to change and manage the risks and complexity that comes with that change. This involves creating and sustaining a viable financial and funding model that can adapt to market changes.
Biography:

Dr Sanjay Bhasin is an accredited senior Lean/Continuous improvement practitioner depicting high-ranking management experience within the industrial, education and public sectors. His present position as the “Head of Continuous Improvement” for the National Probation Service largely incorporates managing the sector towards a higher level of Lean maturity. He obtained his PhD in Lean from Aston University. Despite making the decision to predominantly operate as a practitioner, he retains links with the higher education; namely a “visiting lectureship” with Buckingham University. He is the author of various articles published in reputable international journals alongside two books and has presented at various international conferences. He is a fellow of the “Institute of Continuous Improvement in the Public Sector” and the “Chartered Quality Institute.” He is an editorial Board Member “for the “Journal of Applied Continuous Improvement.”
Keynote 4

Title: Lean Six Sigma in Academia: Challenges, Benefits and Lessons Learned

Speaker: Dr Roger Hoerl, Union College, NY, USA

Synopsis:

Use of Lean Six Sigma has driven dramatic improvement in business, healthcare, and government on a global basis. The results have been too overwhelming to question that Lean Six Sigma works. However, one sector of society has not achieved the same level of benefits; academia. Based on experience applying Lean Six Sigma and other improvement methods in both the private sector and also academia, I elaborate on the root causes creating a unique environment in academia that makes progress difficult. I will also review the evidence that Lean Six Sigma actually works in academia when properly applied. In particular, I explain why Six Sigma, as well as Lean, is needed to drive breakthrough levels of improvement. I suggest specific steps that can be taken to utilize Six Sigma, and also Lean, to drive academic improvement on a broad basis.

Contents:

- The need for improvement in academia
- Why academia has a unique environment
- Evidence that Lean Six Sigma works in academia
- The need for Six Sigma as well as Lean
- Transferring best practices from the private sector
- A suggested path forward in academia

Biography:

Dr. Roger W. Hoerl is the Brate-Peschel Associate Professor of Statistics at Union College in Schenectady, NY. Previously, he led the Applied Statistics Lab at GE Global Research, and was an MBB and also Quality Leader with GE. While at GE Dr. Hoerl led or oversaw hundreds of Lean Six Sigma projects, including one for then-CEO Jack Welch, one which produced over $1 million savings annually in credit card collections, and one Design for Six Sigma project in default prediction that led to a US patent, and produced a prediction system still in use to this day. Dr. Hoerl has been named a Fellow of the American Statistical Association and the American Society for Quality, and has been elected to the International Statistical Institute and the International Academy for Quality. He has received the Brumbaugh and Hunter Awards, as well as the Shewhart Medal, from the American Society for Quality, and the Founders Award and Deming Lectureship Award from the American Statistical Association. While at GE, he received the Coolidge Fellowship from GE Global Research, honoring one scientist a year from among the four global GE Research and Development sites for lifetime technical achievement.
Keynote 5

Title: LSS in UK Higher Education Institutions

Speaker: Stephen Anthony, CEO, Institute of the Six Sigma Professionals, UK

Synopsis:

What can we learn from comparing two institutions in the UK who are trying to use Lean six sigma to drive change – when one of these institutions is led and sponsored by the VC and the other is led and sponsored by middle management in the IT department? Does it matter who champions LSS in academia? How projects are selected and how do we measure success? Throughout Stephen’s research he has identified what to good looks like when trying to implement LSS in academia and just as important what to avoid.

Contents:

- Challenges facing academia
- The role LSS is having in UK institutions
- Institution 1 vs Institution 2
- The importance of leadership and more importantly – what does it look like – Visual Leadership

Biography:

He is the CEO of The Institute of Six Sigma Professionals, where he and his team are setting quality standards for Six Sigma in the UK. With a leadership diploma from Harvard University, an MBA and a Masters in Engineering, as well as 25 years industrial experience, Stephen has enviable academic rigour in his approach, blended with down to earth practicality and humour. Stephen is currently studying part time PhD at Herriot University, linking leadership in the public sector to successful Lean Six Sigma implementation. Stephen Anthony is a leading UK Six Sigma Master Black Belt, helping solve complex problems in complex organisations – from finance, public sector to manufacturing. He has provided bespoke in-house consultancy and management development at all levels, as well as mentoring and training for Black Belts, and problem solving on challenging issues.
Keynote 6

Title: How to teach Design of Experiments to Non-Engineering Students

Speaker: William Hooper, President of William Hooper Consulting, USA

Synopsis:

While the science of Design of Experiments within the Six Sigma DMAIC improvement cycle has generally been accepted within the Manufacturing and Engineering areas, it has limited knowledge in Higher Education for areas such as business, marketing and the arts. This presentation will demonstrate a model for teaching Design of Experiments to non-technical students. The active leaning model, methodology for making Design of Experiments visual and a new look at the experimental helicopter model method of teaching will be explored in this presentation. This will conclude with a demonstration of several non-manufacturing settings. Design of Experiments and explore other potential applications of Design of Experiments for everyday life.

Contents:

- What typical processes in everyday life could be optimized by Design of Experiments? What the typical art or business student can expect to learn from Design of Experiments.
- The four steps of the active or Kolb model of leaning and how it applies to teaching Design of Experiments. The paper helicopter model expanded for teaching Design of Experiments.
- How to limit the use of statistics in Design of Experiments while controlling alpha and beta errors. The art of teaching Design of Experiments via cube plots and other visual methods.
- A non-Engineers first DOE assignment examples; Archery, wifi reception, the shooting range and cooking.
- Expanding the model. Design of Experiments for everyday life.

Biography:

William (Bill) Hooper is Adjunct Professor at Purdue University’s Center for Professional Studies in Technology and Applied Research in West Lafayette, Indiana teaching Statistics, data analysis and Design of Experiment in addition to President of William Hooper Consulting, a firm he started in 2012 with the mission of teaching and applying the concepts of Lean Six Sigma for small and mid-sized companies. His company’s business model is centered around innovative courses taught primarily hands-on to teach such areas as probability, hypothesis experimental method, statistical process control, capability analysis, regression modeling and Design of Experiments. Bill Hooper has taught the courses throughout the US, Canada and internationally in Africa and the Middle East. He has applied the model for large scale improvements in quality, downtime, rework elimination and cycle time reduction for manufacturing and transactional companies throughout the United States and Canada.
Bill is the author of *Data, Statistics and Continuous Improvement: Using Creative Hands-on Techniques* by CRC Press where many of the techniques in this presentation can be found in detail.