



The 7<sup>th</sup> European Lean Educator Conference

# Learning in the Digital Era

Trondheim, Norway. 25<sup>th</sup> – 27<sup>th</sup> October 2021

## Conference Program & Parallel Sessions Schedule

All sessions will take place on Zoom. Joining instructions will be sent to registered participants in due course. Welcome to #ELEC2021 😊

|       | DAY ONE: Monday 25th October  |                                  | DAY TWO: Tuesday 26th October  |                            |                             | DAY THREE: Wednesday 27th October   |  |  |  |
|-------|---|----------------------------------|--|----------------------------|-----------------------------|---|--|--|--|
| 09:30 | Opening Ceremony  |                                  | Welcome day 2  |                            |                             | Welcome day 3   |  |  |  |
| 09:45 | Meet the Authors - The Lean Sensei  |                                  | Meet the Authors - All About Pull Production   |                            |                             | Meet the Authors - Lean in the Classroom  |  |  |  |
| 10:00 | Keynote 1: Prof. Dr. Torbjørn Netland, ETH Zurich<br>- Teaching Lean in the Digital Era |                                  | Keynote 3: Rose Heathcote, University of Buckingham<br>- Forget business as usual. We've work to do. |                            |                             | Keynote 5: Vincent Wiegel & Lejla Brouwer, HAN / New Engineers - Lean in (and out) of the classroom |  |  |  |
| 10:15 |   |                                  |  |                            |                             |   |  |  |  |
| 10:30 |   |                                  |  |                            |                             |   |  |  |  |
| 10:45 | Break   |                                  | Break  |                            |                             | Break   |  |  |  |
| 11:00 | Learning Lean 1   | Teaching Lean in the Digital Era | Learning Lean 3  | Lean and Digital           | Lean Management             | New Perspectives on Lean 2  | Productivity and Performance Improvement |  |  |
| 11:15 |   |                                  |  |                            |                             |   |  |  |  |
| 11:30 |   |                                  |  |                            |                             |   |  |  |  |
| 11:45 |   |                                  |  |                            |                             |   |  |  |  |
| 12:00 |   |                                  |  |                            |                             |   |  |  |  |
| 12:15 |   |                                  |  |                            |                             |   |  |  |  |
| 12:30 | Lunch   |                                  | Lunch  |                            |                             | Lunch   |  |  |  |
| 12:45 |   |                                  |  |                            |                             |   |  |  |  |
| 13:00 |   |                                  |  |                            |                             |   |  |  |  |
| 13:15 |   |                                  |  |                            |                             |   |  |  |  |
| 13:30 | Keynote 2: Eva Helen Rognskog, SATPOS<br>- Fail fast, Learn faster                      |                                  | Keynote 4: Torbjørn Gjerdevik, Laerdal Medical<br>- People First                                     |                            |                             | Post-conf. Digital Workshops  |  |  |  |
| 13:45 |   |                                  |  |                            |                             |   |  |  |  |
| 14:00 |   |                                  |  |                            |                             |   |  |  |  |
| 14:15 | Learning Lean 2   | Lean 4.0                         | Skills and Knowledge Management  | New Perspectives on Lean 1 | Lean Coaching and Mentoring |   |  |  |  |
| 14:30 |   |                                  |  |                            |                             |   |  |  |  |
| 14:45 |   |                                  |  |                            |                             |   |  |  |  |
| 15:00 |   |                                  |  |                            |                             |   |  |  |  |
| 15:15 |   |                                  |  |                            |                             |   |  |  |  |
| 15:30 |   |                                  |  |                            |                             |   |  |  |  |
| 15:45 | Break   |                                  | Break  |                            |                             |   |  |  |  |
| 16:00 | Panel Discussion 1:<br>Digital Lean Hotspots in the Educational Ecosystem               |                                  | Panel Discussion 2:<br>The Lean Digitalization Paradox - Industrial perspectives                     |                            |                             |   |  |  |  |
| 16:15 |   |                                  |  |                            |                             |   |  |  |  |
| 16:30 |   |                                  |  |                            |                             |   |  |  |  |
| 16:45 |   |                                  |  |                            |                             |   |  |  |  |



NTNU

Norwegian University of  
Science and Technology



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25-27<sup>th</sup> October 2021 in Trondheim, Norway



**ELEC 2021**



## **TEACHING LEAN IN THE DIGITAL ERA.**

**PROF. DR. TORBJØRN NETLAND**

Chair of Production and Operations Management, ETH Zurich, Switzerland.

In this keynote speech, Prof. Netland provides examples of how new digital technologies are changing and shaping the future of lean education and training. Frontal lecturing in the classroom or long sessions of online conferencing are not only disengaging, but also ineffective. Lean should be taught on the Gemba. But what do we do when we cannot travel?

Prof. Netland is a Member of the World Economic Forum's Global Future Council on Advanced Manufacturing and Production. His research on managing production improvement programs is performed in close cooperation with global companies, and appears in leading scientific journals such as the MIT Sloan Management Review and the Journal of Operations Management. He is also the recipient of two Shingo Research Awards.



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## **FAIL FAST, LEARN FASTER.**

**EVA HELEN ROGNSKOG**

Chief Executive Officer, SATPOS, Norway.

In this keynote speech, Eva will share her experiences and insights from leading SATPOS, an innovative lean-startup that is using digital offshore technology to accelerate the sustainable development of a new and exciting aquaculture frontier – the seaweed industry. Eva insists that “Big Company Disease” is damaging society. To be truly agile, firms must embrace lean and develop a learning-to-learn capability.

Entrepreneur in tech and passionate about ocean health, Eva is a founding member of the Seaweed for Europe Coalition where she leads the Raise Awareness Task Force. Having herself been an entrepreneur several times before, she now works as CEO and co-founder in the exciting growth company SATPOS, which specializes in the development of future positioning and sensor systems for marine environments.



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## **DIGITAL LEAN HOTSPOTS IN THE EDUCATIONAL ECOSYSTEM.**

**MODERATOR: STEVE YORKSTONE, EDINBURGH NAPIER UNIVERSITY, SCOTLAND**

We educate in an ecosystem which over the past year has exploded with digitalization. But what are the hotspots where a digital lean combo has made an impact on education? Where are the areas that need digital lean more than ever before? If there was just one hotspot you could influence, what would it be? Join us in this interactive panel discussion as four educators from different lean backgrounds share their experiences in applying digital lean to the educational ecosystem.



**Steve Yorkstone,**  
Edinburgh Napier University,  
Scotland.



**Dr. Ruth Archer,**  
Michigan Tech., USA.



**Dr. Radka Newton,**  
University of Lancaster, England.



**Christine Stewart,**  
Macresco Ltd, Scotland.



**Sarah Lethbridge,**  
Cardiff University Business  
School, Wales.



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**FORGET BUSINESS AS USUAL. WE'VE WORK TO DO.**

**ROSE HEATHCOTE**

Head of Lean, School of Business – University of Buckingham, U.K.

The world looks and feels different, and lean education must respond. Change is a familiar friend, but now takes its cue from environmental pressures, economic fragility, social transformation, and advancements in technology. We've learned that generating profit is not enough and that lean principles still matter, but the agenda has expanded. Lean leaders have work to do to meet the challenge and preaching alone is not enough. In this keynote speech, Rose explores the challenge of educating future Lean leaders.

A learner, writer and teacher, Rose Heathcote is personally dedicated to developing the capacity in people to solve problems that matter. She has spent more than 25 years in various industry- and public sectors and coached an array enterprises in Africa, United Kingdom, Middle East and India in Lean thinking.





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## **PEOPLE FIRST!**

**TORBJØRN GJERDEVIK**

VP Supply Chain & Manufacturing, Laerdal Medical, Norway.

In this keynote speech, Torbjørn will share his experiences and insights as Plant Manager and Vice President of Supply Chain at Laerdal Medical, a market leading global supplier of medical equipment and simulators.

To make great products we must develop great people and the lean way to developing people is through systematic kaizen and on-the-job training. Inspired by Training Within Industry (TWI), Laerdal Medical has developed its own system for continuously developing operators, team leaders and managers.



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## LEAN IN (AND OUT OF) THE CLASSROOM

LEJLA BROUWER-HADŽIALIĆ<sup>1</sup> & VINCENT WIEGEL<sup>2</sup>

<sup>1</sup>New Engineers/UPD, <sup>2</sup>University of Applied Sciences Arnhem, The Netherlands.

For almost a decade Lejla and Vincent have been experimenting, practicing, and publishing about Lean and Learning, and the application of Lean in education. Most notably in the recent book *Lean in the Classroom*.



The application of Lean means transformation. Transformation is best served by learning organizations. In their keynote, Vincent and Lejla will expand on the pedagogical framework that underlies their practice in training and organizational change. They will demonstrate how to create learning spaces (in digital environments). You will receive and experience practical tips on how to create engaging settings that foster learning and create value. Learning and Lean have a close affinity.

## Parallel Sessions: Monday 25<sup>th</sup> October 2021

|                      |  |  |
|----------------------|--|--|
| Monday 11.00 - 12.30 | Learning Lean 1: Chair: Christoph Roser  | Authors  |
| 1                    | <b>The impact of different training approaches on learning lean: a comparative study on Value Stream Mapping</b> | Matteo Zanchi, Paolo Gaiardelli, Daryl Powell  |
| 2                    | <b>Learning Spaces for engineering education: An exploratory research about the role of Lean Thinking</b>        | Maira Callupe, Monica Rossi  |
| 3                    | <b>The learning way to EBITDA improvement</b>  | Torbjørn Hekneby, Daryl Powell   |
| 4                    | <b>Top Down or Bottom Up: Perspectives on Critical Success Factors of Lean in Institutes of Higher Education</b> | Alinda Kokkinou, Ton van Kollenburg  |
| Monday 11.00 - 12.30 | Teaching Lean in a Digital Age Chair: Torbjørn Netland   | Authors  |
| 1                    | <b>Teaching in Virtual Reality: Experiences from a Lean Masterclass</b>  | Peter Hines, Torbjørn Netland  |
| 2                    | <b>A Lean Six Sigma training providers transition to a 100% online delivery model</b>                            | Olivia McDermott, Patrick Walsh, Lorraine Halpin   |
| 3                    | <b>Lean courses in process form - do as we learn, success or not?</b>  | Eivind Fauskanger  |
| 4                    | <b>The digitalisation and virtual delivery of Lean Six Sigma teaching in an Irish university during COVID-19</b> | Olivia McDermott   |
| Monday 14.15 - 15.45 | Learning Lean 2 Chair: Christoph Roser   | Authors  |
| 1                    | <b>Learning a Lean Way</b>   | Signe Syrrist  |
| 2                    | <b>Lean Learning Factories: concepts from the past updated to the future</b>                                     | Gabriela Witeck, Anabela Alves   |
| 3                    | <b>Shaping Lean Teaching Methods: Recognizing Lean as a Journey vs. a Set of Tools.</b>                          | Khavitha Singh, Guy Bowden   |
| 4                    | <b>The production cultural biorhythm as a new LEAN learning process</b>  | Bernd Langer*, Bernd Gerns, Yannik A. Langer, Maik Mussler, Christoph Roser, Timo Schaefer |
| Monday 14.15 - 15.45 | Lean 4.0 Special Session: Chair Jannes Slomp   | Authors  |
| 1                    | <b>Learning through action: on the use of Logistics4.0 Lab as learning developer</b>                             | Mirco Peron, Erlend Alfsnes, Fabio Sgarbossa   |
| 2                    | <b>Blended Network Action Learning – Solving Complex Organizational Problems Across Space and Time</b>           | Daryl Powell, Melanie de Vries, Mitchell van Roij, Jannes Slomp                            |
| 3                    | <b>Mapping the Landscape for Lean Six Sigma 4.0</b>  | Jiju Antony, Olivia McDermott, Daryl Powell, Michael Sony                                  |
| 4                    | <b>Roles, Responsibilities and Skills of the LEAN 4.0 Operations Manager</b>                                     | Jannes Slomp   |



## Parallel Sessions: Tuesday 26<sup>th</sup> October 2021

|                       |   |  |
|-----------------------|---|--|
| Tuesday 11.00 - 12.30 | Learning Lean 3 Chair: Christoph Roser  | Authors  |
| 1                     | <b>Proposing VSM as a tool to compare synchronic online teaching and face-to-face teaching</b>  | Felipe Martinez  |
| 2                     | <b>Hybrid learning factories for lean education: Approach and morphology for competency-oriented design [...]</b>                       | Thomas Riemann*, Antonio Kreß, Liane Klassen, Joachim Metternich |
| 3                     | <b>Sustaining Continuous Improvement Through Double Loop Learning</b>   | Chris Buckell, Mairi Macintyre                                   |
| 4                     | <b>Fostering insights from real-time data</b>   | Henrik Saabye, Daryl Powell                                      |
| Tuesday 11.00 - 12.30 | Lean & Digital Chair: Erlend Alfnes   | Authors  |
| 1                     | <b>Lean and Industry 4.0: Analysing benefits, success factors and barriers with operational, environmental, and social perspectives</b> | Aysegul Yilmaz   |
| 2                     | <b>When digital lean tools need continuous improvement</b>  | Marte Holmemo, Jonas A Ingvaldsen, Eirik Korsen                  |
| 3                     | <b>Breaking out of the Digitalization Paradox</b>   | Sourav Sengupta, Heidi Dreyer, Daryl Powell                      |
| 4                     | <b>Discovering Artificial Intelligence implementation and insights for Lean Production</b>  | Bassel Kassem, Federica Costa, Alberto Portioli-Staudacher       |
| Tuesday 11.00 - 12.30 | Lean Management Chair: Eivind Reke  | Authors  |
| 1                     | <b>Toyota Inspired Excellence Models</b>  | José Dinis-Carvalho, Helena Macedo                               |
| 2                     | <b>'Fake lean'; On deviating from an ambiguous essence</b>  | Jos Benders, Marte Holmemo, Jonas A Ingvaldsen                   |
| 3                     | <b>Quantum Lean: The Next Step in Lean Systems</b>  | Sean Fields, Michael Sanders                                     |
| 4                     | <b>What comes after the transformation?</b>   | Ton van Kollenburg, Alinda Kokkinou                              |

|                       |   |  |
|-----------------------|---|--|
| Tuesday 14.15 - 15.45 | Skills and Knowledge Management: Torgeir Dingsøy  | Authors  |
| 1                     | <b>Bloom Taxonomy, Serious Games and Lean Learning: What they have in common?</b>                               | Gabriela Witeck, Anabela Alves, Mariana Bernardo           |
| 2                     | <b>14 Steps Toward Lean Knowledge Management</b>  | Olve Maudal, Torgeir Dingsøy                               |
| 3                     | <b>Taking the Playing Lean Experience Online: The Case of Using a Board Game to Teach Lean Startup Remotely</b> | Bruno Pešec  |
| 4                     | <b>Lean Teaching and Teaching Lean: 22 Years of Lessons Learned</b>   | Bob Emiliani   |
| Tuesday 14.15 - 15.45 | New Perspectives on Lean 1 Chair: Eirin Lodgaard  | Authors  |
| 1                     | <b>Lean office in a manufacturing company</b>   | Federica Costa, Bassel Kassem, Alberto Portioli-Staudacher |
| 2                     | <b>Lessons learned from Toyota Kata implementation in the Norwegian construction industry</b>                   | Eirin Lodgaard, Maria Flavia Mogos, Natalia Iakymenko      |
| 3                     | <b>Lean Healthcare: Reduce waste to create best services</b>  | Federica Costa, Bassel Kassem, Alberto Portioli-Staudacher |
| 4                     | <b>"Me to We thinking" - A bridge for management to sustainability</b>  | Dennis Gawlik  |
| Tuesday 14.15 - 15.45 | Lean Coaching and Mentoring Chair: Ton van Kollenburg   | Authors  |
| 1                     | <b>Developing middle managers with gemba training</b>   | Eivind Reke, Nadja Böhlmann                                |
| 2                     | <b>Towards effective Lean QRM Yellow-belt training programs: a longitudinal analysis</b>                        | Mitchell van Roij, Martin Linde, Wilfred Knol              |
| 3                     | <b>Lean Competency Strategy – getting rid of the belts (abstract only)</b>                                      | Sidsel Storås  |
| 4                     | <b>Lean Green Belt, improvement as practical skill in the 21st Century</b>                                      | Ton van Kollenburg   |

## Parallel Sessions: Wednesday 27<sup>th</sup> October 2021

|                         |   |  |
|-------------------------|---|--|
| Wednesday 11.00 - 12.30 | New Perspectives on Lean 2 Chair: Eirin Lodgaard  | Authors  |
| 1                       | <b>Lean Translated from a Manufacturing Industry Context to Municipality Service Production: A Case Study</b> | Eirin Lodgaard, Maren Sogstad  |
| 2                       | <b>Challenges in Prototyping a Problem-Solving Practice</b>   | Christina Villefrance Møller   |
| 3                       | <b>Lean contribution to the companies' sustainability</b>   | José Carlos de Sá  |
| 4                       | <b>Leonardo Da Vinci: Lean Educator or Lean Sensei?</b>   | Gianpaolo Perlongo, Monica Rossi                                       |
| Wednesday 11.00 - 12.30 | Productivity and Performance Improvement Chair: Jannes Slomp  | Authors  |
| 1                       | <b>A Framework and Qualitative Comparison on Different Approaches to Improve the Lean Skillset</b>            | Christoph Roser, Bernd Langer, Claas-Christian Wuttke                  |
| 2                       | <b>Lean Warehousing: Enhancing productivity through lean</b>  | Matteo Rossini, Bassel Kassem, Alberto Portioli-Staudacher             |
| 3                       | <b>A Simulation-Based Performance Comparison between Flow Shops and Job Shops</b>                             | Christoph Roser, Daniel Ballach, Berndt Langer, Claas-Christian Wuttke |
| 4                       | <b>Lean Monitoring Boosting KPIs processing through Lean</b>  | Bassel Kassem, Federica Costa, Alberto Portioli-Staudacher             |