# ASME MED Life Cycle Engineering (LCE) Technical Committee (TC)

# Report for MSEC 2020

# June 8, 2020

## A. Committee Membership

**Number of Committee Members:** Total: **34** (please see list in Appendix). Membership updated on June 8, 2020, based on the 4-year service rule established in 2017.

**New Members who joined in 2020:**
Julius Schoop (University of Kentucky)

**Chair:** Nancy Diaz-Elsayed (University of South Florida)
**Vice-Chair:** Daniel Cooper (University of Michigan)

## B. Update on LCE TC Activities

### 1. MSEC 2020

- Received 2 symposium proposals; all were approved and sponsored (please see list below)
- Received one nomination for an invited speaker, Dr. Björn Johansson, who was selected for MSEC 2020 (see details below).

**List of Symposia (2):**

- **4-1 Sustainability and Cost Dimensions of Additive Manufacturing**
  (*Co-hosted with Additive Manufacturing TC*)
  Daniel Cooper, University of Michigan, drcooper@umich.edu
  Robert De Kleine, Ford Motor Company, rdeklein@ford.com
  Paul Witherell, National Institute of Standards and Technology, paul.witherell@nist.gov

- **4-2 Advances in Modeling, Analysis, and Applications of Smart and Sustainable Manufacturing Systems**
  (*Co-hosted with Manufacturing Systems TC*)
  Nancy Diaz-Elsayed, University of South Florida, nancyd1@usf.edu
  KC Morris, National Institute of Standards and Technology, kcm@nist.gov
  Julius Schoop, University of Kentucky, julius.schoop@uky.edu

**Invited Speaker:**
Björn Johansson, Professor of Sustainable Production, Chalmers University of Technology

## C. MSEC 2021

The 2021 ASME International Manufacturing Science and Engineering Conference (MSEC 2020) and the 49th North American Manufacturing Research Conference (NAMRC49) will be hosted by the University of Cincinnati, June 21-25, 2021 (tentatively), in Cincinnati, OH, USA.

The LCE TC has not received symposium proposals for MSEC 2021, but a planned submission is underway.

**Appendix.** 2020-2021 ASME MED Life Cycle Engineering Technical Committee Members (Updated June 8, 2020)

**Existing Members (32)**

| | Last Name | First Name | Affiliation | Email | Research Areas | Term |
|---|---|---|---|---|---|---|
| 1 | Arinez | Jorge | General Motors Corporation | jorge.arinez@gm.com | Sustainable manufacturing; Composites manufacturing; Manufacturing systems | 2022 |
| 2 | Behdad | Sara | University of Buffalo | sarabehd@buffalo.edu | Sustainable design and manufacturing; Remanufacturing and EOL product recovery; Design under uncertainty; Bio-inspired design; Decision analysis; Simulation and data modeling techniques | 2023 |
| 3 | Bernstein | William | National Institute of Standards and Technology | william.bernstein@nist.gov | Sustainable design; Data-driven manufacturing; Product lifecycle management (PLM); Visual analytics; Information visualization | 2023 |
| 4 | Brundage | Michael | National Institute of Standards and Technology | michael.brundage@nist.gov | Smart manufacturing; Sustainable manufacturing; Manufacturing systems; Diagnostics and prognostics; Performance measurement; Knowledge extraction; Capability assessment; Natural language processing | 2022 |
| 5 | Chang | Qing (Cindy) | SUNY Stony Brook | qing.chang@stonybrook.edu | Integrate production and energy systems modeling and control; Real-time energy management of manufacturing systems; Battery manufacturing; Composites manufacturing; System-level cost evaluation; Intelligent maintenance; Intelligent control for distributed generation micro-grid systems; E-telehealth management systems | 2022 |
| 6 | Cooper | Daniel | University of Michigan | drcooper@umich.edu | Sustainable manufacturing; Material efficiency; Material reuse; Metal forming; Additive manufacturing; Metals processing; Factory configurations; Supply chains | 2023 |
| 7 | Haapala | Karl | Oregon State University | karl.haapala@oregonstate.edu | Sustainable design; Sustainable manufacturing; Life cycle engineering; Manufacturing process modeling; Evaluation for environmental impact reduction; Sustainable engineering education | 2023 |
| 8 | Harris | Paul | University of California, Davis | pharris@ucdavis.edu | Sustainable manufacturing; Energy efficiency; Pneumatic and compressed air systems; Machine tools and high-speed machining; Fluid power applications in advanced manufacturing | 2020 |
| 9 | Hartman | Nathan (Nate) | Purdue University | nhartman@purdue.edu | Product lifecycle management (PLM); Model-based definition; Interoperability and data exchange standards; Product data management (PDM); CAD | 2020 |
| 10 | Hedberg | Thomas (Tom) | National Institute of Standards and Technology | thomas.hedberg@nist.gov | Model-based enterprise; Smart manufacturing; Product lifecycle management (PLM); Data information flow in the lifecycle; Product data quality; Product data visualization; Long term data archival and retrieval (LOTAR) | 2022 |
| 11 | Helu | Moneer | National Institute of Standards and Technology | moneer.helu@nist.gov | Smart manufacturing; Monitoring, diagnostics, prognostics, and control of manufacturing systems; Manufacturing data interoperability; Digital manufacturing; Data-driven manufacturing; Precision machining; Capability assessment | 2023 |

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| 12 | Jia | Tao (Terri) | GE Healthcare | tjia@ge.com | Digital manufacturing; Product lifecycle management (PLM); Product data management (PDM); Design | 2023 |
| 13 | Lee | Yuan-Shin | North Carolina State University | yslee@ncsu.edu | Bio-medical manufacturing; Computational geometry for bio-medical design and manufacturing; CAD/CAM/CAE integration; 5-axis NC machining; Computer graphics; Rapid prototyping; High speed machining; Computational intelligence; Product realization; Computer-aided process planning; Tool selection and optimization | 2021 |
| 14 | Li | Lin | University of Illinois Chicago | linli@uic.edu | Real-time energy management; Multi-machine system modeling and throughput estimation; Discrete event simulation; Real-time throughput control; Intelligent maintenance of manufacturing systems; Extension of engineering research to healthcare systems | 2021 |
| 15 | Li | Yang | Tongji University | yangmli@tongji.edu.cn | Smart manufacturing; Manufacturing systems control; Energy management; Network optimization; Maintenance | 2022 |
| 16 | Linke | Barbara | University of California, Davis | bslinke@usdavis.edu | Manufacturing technologies; Sustainable manufacturing; Energy efficiency; Grinding and other abrasive machining technologies; Home-scale 3D printing; Surface engineering; Food processing equipment; Automotive, aerospace, and biomedical components | 2023 |
| 17 | Lu | Scott | Sandvik Coromant | scott.lu@sandvik.com | Digital manufacturing; M2M, cloud infrastructure, and software integration in discrete manufacturing | 2021 |
| 18 | Lyons | Kevin | National Institute of Standards and Technology | kevin.lyons@nist.gov | Sustainable manufacturing; Assembly; Additive manufacturing; Simulation and modeling; Nanomanufacturing | 2021 |
| 19 | Mani | Mahesh | US Department of Energy | mahesh.mani@ee.doe.gov | Smart manufacturing; Rapid prototyping; Additive manufacturing; Benchmarking; Six Sigma | 2021 |
| 20 | Mehta | Parikshit | Arconic Technology Center | parikshit.mehta@arconic.com | Machining process control; Bayesian estimation; Predictive control; Adaptive control; Data analytics | 2022 |
| 21 | Morris | KC | National Institute of Standards and Technology | kcm@nist.gov | Smart manufacturing; Sustainable manufacturing; Techniques for design, testing, and evaluation of systems and standards | 2023 |
| 22 | Murugappan | Sundar | GE Global Research | murugappan@ge.com | Design; Human-computer interaction; Gestures; Information visualization; Visual analytics | 2022 |
| 23 | Nath | Chandra | Hitachi America, Ltd. | nath_chandra@yahoo.com | Advanced manufacturing; Sustainable manufacturing; Machining; Digital manufacturing; Additive manufacturing; Modeling and simulation | 2020 |
| 24 | O'Driscoll | Eoin | Siemens | eoin.odriscoll@ppc.com | Industrial energy management; Energy auditing; Manufacturing process optimization; Non-intrusive load monitoring | 2020 |
| 25 | Ramunujan | Devarajan | Aarhus University | devr@eng.au.dk | Sustainable design; Product lifecycle management; Visual analytics; Conceptual design, Design for the developing world | 2022 |
| 25 | Rickli | Jeremy | Wayne State University | jlrickli@wayne.edu | Enhancing disassembly planning decisions and operations; Remanufacturing systems modeling and analysis; | 2023 |

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| | | | | | Sustainable manufacturing; Leveraging data to innovate decision making in the digital manufacturing enterprise; Point cloud quality monitoring and inspection systems in manufacturing | |
| 26 | Starly | Binil | North Carolina State University | bstarly@ncsu.edu | Digital manufacturing; Digital factories; Product manufacturing information; Additive manufacturing; Tissue biofabrication; Biometrology | 2022 |
| 27 | Tai | Bruce | Texas A&M University | btai@tamu.edu | Sustainable machining; Biomedical manufacturing; Additive manufacturing; Precision engineering; Inverse problems | 2020 |
| 28 | Terpenny | Janis | Pennsylvania State University | jpt5311@engr.psu.edu | Engineering design; Smart manufacturing; Knowledge and information in design; Product families and platforms; Obsolescence in products and systems; Complexity of products and systems; Cloud computing for design and manufacturing integration | 2022 |
| 30 | Vinayak | N/A | Texas A&M University | vinayak@tamu.edu | Gesture based design and art; Computer graphics; Human-computer interaction; Information visualization; Geometric modeling; Design; Augmented and virtual reality interfaces for design; Computer-aided ergonomics | 2022 |
| 31 | Witherell | Paul | National Institute of Standards and Technology | paul.witherell@nist.gov | Additive manufacturing; Design optimization; Knowledge representation in product development; Ontology and semantics | 2021 |
| 32 | Wu | Dazhong | University of Central Florida | dazhong.wu@ucf.edu | Data-drive prognostics and health management; Data analytics; Smart manufacturing; Cyber-physical systems; Additive manufacturing; Engineering design theory; Obsolescence risk management; Product lifecycle forecasting | 2022 |
| 33 | Zhao | Fu | Purdue University | fzhao@purdue.edu | Sustainable manufacturing; LCA; Design for the environment; Renewable energy; Energy policy | 2021 |

## New Members (1)

| | Last Name | First Name | Affiliation | Email | Research Areas | Term |
|---|---|---|---|---|---|---|
| 34 | Schoop | Julius | University of Kentucky | julius.schoop@uky.edu | Sustainable manufacturing; Machine tool design and development; Modeling and optimization of Manufacturing Processes; Modeling of High Strain Rate Material Behavior; Cryogenic Processing | 2024 |