

Transdisciplinary nature of SE – impact on traditional and novel applications

March 2022 Norwegian University of Science and Technology

Systems engineering is recognizing its transdisciplinary nature and impacting both traditional and novel application domains. From aerospace and automotive to medical equipment and smart cities systems engineers are challenged to understand the needs of new stakeholders and bring similar and unprecedented systems into being. CSER was founded by Stevens Institute of Technology and the University of Southern California, and this year the conference is focused on exploring recent trends and advances in systems sciences, digital engineering, formal modeling, sustainability goals, and the convergence of systems engineering with other disciplines. The 19th Annual Conference on Systems Engineering Research (CSER) invites researchers to submit papers that address how systems engineers can prepare themselves to respond to the challenges posed by 21st century systems.

Conference General Co-chairs (NTNU)



*Prof. Torgeir Welo - Dept. Head Mechanical and Industrial Engineering
Prof. Annik Magerholm Fet - Deputy Dean, NTNU Ålesund*

Technical Program Co-chairs



*Prof. Charles Dickerson - Chair Systems Engineering Loughborough University
Prof. Gerrit Muller - Chair Systems Engineering, University Southeastern Norway*

USC Viterbi
School of Engineering
Systems Architecting and Engineering



Important dates –

November 2021 – Full papers due

December 2021 – Notifications to authors

February 2022 – Final papers submitted

March 2022 – SEANET and Tutorials

March 2022 – Conference at NTNU

Conference manager: Cecilia Haskins, cser2022 @ to-be-determined

About Trondheim and NTNU

Venue – The conference will be organized in the university facilities on the Gløshaugen campus, south of the city center, and in walking distance of the city center. The campus is accessible to persons with disabilities, and the university hospital is across the street in case of a medical emergency. Our web site will contain more information and maps of Trondheim and the campus.

Accommodation & travel information –

Trondheim is the third largest city in Norway with ample accommodations, restaurants, pubs and cafés. There are many webpages in English that cater to visitors, such as <https://visittrondheim.no/en>. The city of Trondheim offers a wide range of hotels. Special rates will be negotiated and listed on our web site. Trondheim Værnes Airport (TRD) has many daily international connections, and most travelers are most likely to arrive from a major hub airport, such as Copenhagen or Amsterdam. The main operators are SAS, KLM and Norwegian. The airport bus (Flybussen) brings you to the center of town in approx. 35 minutes. The city also has excellent public transportation and abundant taxi services.

Suggested Research Topics

The following topic are illustrative and all papers that address the theme are welcome

- AI4SE
- SE4AI
- SE for New Space
- SE for Medical Sciences
- SE for Smart Cities
- SE for Sustainable Development
- Digital Engineering, Digital Twins
- Digital Transformation
- Industry 4.0 and CPS
- Cybersecurity
- Lean Manufacturing
- Advances in MBSE
- Trust and Autonomous Systems
- Value-based, Lean, Agile Systems Engineering
- Cybersecurity and System Security Engineering
- Uncertainty and Complexity Management
- Systems Architecting for Citizens
- Human-Systems Integration
- Big Data and Analytics
- Cyber-Physical-Social Systems
- Systems/Critical Thinking
- Social Systems Engineering

