



2019

Annual **INCOSE**
international workshop

Torrance, CA, USA

January 26 - 29, 2019

Systems Science

www.incose.org/iw2019

Systems Science



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CHAIR

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MEMBERS

250

CO-CHAIRS

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<https://connect.incose.org/WorkingGroups/SystemsScience/Pages/Home.aspx>

INCOSE WEB PAGE



<https://sites.google.com/site/sysciwg/>

Charter Summary



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WG PURPOSE/MISSION

Promote the advancement and understanding of Systems Science and its application of Systems Theories to SE.

WG GOAL(S)

1. Encourage advancement of Systems Science principles and concepts as they apply to Systems Engineering.
2. Promote awareness of Systems Science as a foundation for Systems Engineering.
3. Highlight linkages between Systems Science theories and empirical practices of Systems Engineering.

WG SCOPE

1. Systems science
2. Systems philosophy
3. Systems thinking
4. Systems theories and research
5. Systems laws and principles

Planned Work for IW



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Systems Science WG

Sat 26 : 10:00-17:00

Systems Principles Action Group Report (Rousseau/Calvo) New Definitions of SE & System (Martin/McKinney) Systems Research & Development: a) SSM-TRIZ methodology (Phillips), 2 hrs b) Systems Principles for Designing Human Activity Systems (Calvo/Rousseau), 1-2 hrs

Systems Science WG

Sun 27 : 08:00-17:00

Sys Sci for Sys Engr (SS4SE), 7 hrs a) Systems science integration (G Smith) b) Systems science enterprise (J Martin) c) Systemology - Principles and Laws (Rousseau/Calvo/Billingham) d) Systemic transformations (Swami) e) SE foundations (Swami/Schindel) f) Isomorphies & grand sequence (Troncale/Smith) g) System life cycle processes (Smith/Lomax)

Systems Science WG

Mon 28 : 08:00-17:00

Systems Literacy (Tuddenham), 3 hrs System Patterns & Languages (Schindel?) Category Theory (Lloyd?)

Systems Science WG

Tue 29 : 08:00-15:00

Systems Research & Development, c) Human agency in social systems (Gabriel), 2 hrs d) Pathologies of SE Projects (Troncale), 3 hrs e) Systems Mimicry/Pathology from Natural Systems (Troncale/Anway) – Joint with NSWG, 2 hrs

Science Basis for Systems Mimicry

Tue 29 : 13:00-15:00

Discussion with Len Troncale on Isomorphic Patterns for SE Systems Mimicry/Systems Pathology from Studies of Natural Systems