2014 9th International Conference on System of Systems Engineering (SOSE 2014)

Conference Theme:
“SoSE: Managing Complex Systems”
9-13 June, 2014

http://sosengineering.org/2014

The 9th Annual International System of Systems Engineering Conference, with its sponsors, will present state-of-the-art System of Systems research and practices through its strong technical program. The conference program will include numerous keynote speakers in the field, plenary panel sessions in addition to high quality research papers. Visits include the construction site of the state of the art $8 billion Air Warfare Destroyer project (http://www.ausawd.com), local vineyards, and other attractions.

Papers are to be five to six pages in length, in standard two-column IEEE Conference Proceedings format. Invitations will be made to the authors of the best papers to submit an extended version of their papers to the following journals or as book chapters for the CRC Taylor-Francis SoSE Book Series:

2. Journal of Enterprise Transformation (http://www.tandf.co.uk/journals/UJET)
3. AutoSoft Journal (http://wacong.org/autosoft/auto/)
4. Journal of Intelligent Computation for Medical Sciences (http://www.wacong.org/icmed)
6. CRC Taylor & Francis Books Series on SoSE, Mo Jamshidi, Editor

Call for Papers SoSE 2014 – 21 March, 2014
SoSE 2014 Call For Papers

PAPER AND SESSION THEMES

The IEEE System, Man, the Cybernetics Society, the IEEE Reliability Society, INCOSE and the Systems Engineering Society of Australia announce the 9th Annual International Conference on System of Systems Engineering (SoSE) that has vast ramifications in numerous engineering fields such as control, computing, communication, information technology and applications such manufacturing, defence, national security, aerospace, aeronautics, energy, environment, healthcare, and transportation.

The conference theme is “SoSE: Managing Complex Systems”. There is strong evidence that successful SoSE needs to draw on the systems approaches to management and complexity science bodies of knowledge and apply appropriate practices from socio-technical and soft systems approaches. Papers aligned to the theme will be particularly welcome as will high-quality papers on theories, methodologies, model-based systems engineering and applications of System of Systems Engineering in science, technology, industry, and education. See below for a full range of topics.

Refereeing meets international blind reviewing requirements for conference papers; conference content will be submitted for inclusion into IEEE Xplore as well as other Abstracting and Indexing (A&I) databases.

KEY DATES (USA – Eastern Daylight Time)

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
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<tr>
<td>10 March 2014</td>
<td>Full Paper submissions closes</td>
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<tr>
<td>9 April 2014</td>
<td>Notification of paper acceptance</td>
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<tr>
<td>22 April 2014</td>
<td>Submission of final camera ready papers and registration payment for authors</td>
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<tr>
<td>1 April 2014</td>
<td>Early Bird registration closes for regular delegates</td>
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<tr>
<td>9 May 2014</td>
<td>Cut-off date for 50% refunds on cancellation of registration</td>
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Please note: IEEE reserves the right to exclude a paper from distribution after the conference (e.g., removal from IEEE Xplore) if the paper is not presented at the conference.

VENUE

The conference will be held in the Stamford Grand on the Glenelg foreshore in Adelaide. The conference organisers have arranged a special rate and booking arrangements can be found on the conference website: http://sosengineering.org/2014

For general inquiries about the conference, please contact the conference General Co-Chairs, Stephen Cook (Stephen.C.Cook@unisa.edu.au) or Vernon Ireland (vernon.ireland@adelaide.edu.au).

For technical program inquiries please contact the Program Co-Chairs Quoc Do (Quoc.Do@unisa.edu.au) or Alex Gorod (alex.gorod@yahoo.com).

Call for Papers SoSE 2014 – 21 March, 2014
Conference Committee

Founding Chair
Mo Jamshidi, University of Texas San Antonio, USA

Conference General Co-Chairs:
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Vernon Ireland, University of Adelaide, Australia

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Mo Jamshidi, University of Texas San Antonio, USA

Sponsorship Chair:
Saeid Nahavandi, Deakin University, Australia

IT Chair:
Will Scott, University of South Australia, Australia
The conference will focus on a range of complex systems topics and papers seeking to address the recognition of human and cultural issues in an engineering setting. Diverse papers on complex systems are welcome.

**Sociotechnical Aspects of SoSE**
- Overall Approaches
- Operating across cultural, religious and legal autonomous systems
- Clarifying boundaries
- Process and role modelling
- Assessment of decision making
- Cultural dimensions
- Political or business objectives
- Strategy, operations and procedure alignment
- Tools to address socio-technical aspects
- Behaviours to support socio-technical objectives

**The Nexus between Complex Systems Concepts and SoSE**
- Systems thinking
- Self-organisation
- Co-evolution
- Sensitivity to initial conditions
- Path-dependence
- Far from equilibrium
- Distributed leadership
- Strange attractors
- Adaptation, stability levels and resilience
- Complexity leadership

**Defining and modelling systems**
- Differences between complex systems, system of systems and enterprise systems.

**SoSE Application Domains and Case Studies**
- Supply chains
- Government services and systems
- Integration of financial systems
- Health and medical
- Power system management
- Air-traffic management
- Defence and aerospace
- Global warming management
- Terrorism management
- Warring nations management
- Disaster management

**SoSE in Mining**
- Business Systems
- Marketing
- Customer tracking
- Competitor tracking

**SoSE modelling, simulation & analysis**
- Agent based modelling
- Systems dynamic modelling
- Mathematical modelling
- Formal models
- Process modelling
- Role modelling
- Cultural modelling
- Model of Models

**SoSE Approaches, Tools, Methods and Processes**
- Governance
- SoSE MBSE
- Systems thinking-based approaches
- SoS T&E
- SoE Utilities
- Estimating SoS performance
- Predicting SoS behaviour
- SoS roadmapping & trajectory shaping
- Enterprise architecting
- SoS architecture
- Adapting generic SoS architecture to specific applications
- Open systems and architecture
- Risk mitigation in SoS
- Cascading effects
- Guided emergence
- Extending the human limits to handling complexity

**Entrepreneurship**
- Systems changing stability levels
- Scenario planning
- Identifying meaning
- Fast responses

**Open Cloud Computing**
- Governance
- Threats, security & privacy
- Legal & compliance
- Open source & open standards
- Commercial issues, e.g. opportunities, vendor lock-in, sustainability
- Big data analytics

**Innovative university programs**
- Degree and master’s degree SoS programs
- Innovative ways of teaching complex systems