



EMEASEC 2014: 27 - 30 October 2014

Cape Town, South Africa

<http://incose-emea.org>

INCOSE EMEA SECTOR SYSTEMS ENGINEERING CONFERENCE
"SYSTEMS ENGINEERING: EXPLORING NEW HORIZONS"

EMEASEC 2014 PROGRAMME

DAY 1: MONDAY 27 OCTOBER 2014

In case of any problem with the arrangements speak to Wessel Joubert (cell: 082 459-6814)
 A 5 minute change-over time is provided for between tracks

Start Time	End Time	SESSION 1A: CONFERENCE OPENING PLENARY			
07:30	08:30	Registration & Coffee			
08:30	09:00	Opening statements and Welcome: EMEASEC 2014 Conference Chair (René Oosthuizen) INCOSE SA Chapter President (Braam Greeff) EMEA Sector Director (Jean-Claude Roussel)			
09:00	10:00	Conference Opening Keynote: "Building for Tomorrow: 21 st Century Systems Engineering" David Long (INCOSE President)			
10:00	10:05	Introduction to the programme for the day Jörg Lalk (Technical Chair)			
Start Time	End Time	SESSION 1B: TRACKS AND TUTORIALS			
		TRACK D1-1 SYSTEMS ENGINEERING PRINCIPLES, PROCESSES AND STANDARDS	TRACK D1-2 PEACE AND CONFLICT & TRANSNATIONAL ORGANIZED CRIME	TRACK D1-3 GLOBAL CONVERGENCE OF IT	TRACK D1-4 TUTORIAL TRACK
10:10	10:45	Systems engineering value stream modelling <u>Author:</u> Dieter Scheithauer	Towards combating poaching in the South African abalone fishery <u>Authors:</u> Suja Joseph-Malherbe, Achmed Giesler	Implementation of information technology in a South African construction company: A case study <u>Authors:</u> Albert Eicker, Richard Weeks	Attaining a system perspective <u>Presenter:</u> Brigitte Daniel Allegro
10:50	11:20	Coffee/Tea			
Start Time	End Time	SESSION 2: TRACKS AND TUTORIALS			
11:20	11:55	Structuring requirements in standard templates <u>Authors:</u> Andrew Pickard, Richard Beasley, Iain Cardow & Michael Hartley	A case study into the status of requirements management in the South African defence industry <u>Authors:</u> Sunil Surju, Siebert Benade	The integration of talent management practices and computer aided engineering in new product development <u>Authors:</u> Wynand Louw, Siebert Benade	Attaining a system perspective (cont.)
12:00	12:35	From requirements management to requirements authoring <u>Authors:</u> Gerard Auvray, Jean-Claude Roussel, Juan Llorens	Engineering design of an environmental management system: A trans-disciplinary response to the rhino poaching problem <u>Authors:</u> Henk Roodt, Hildegard Koen	A template for solving wicked problems <u>Authors:</u> Henson Graves, Robert Garrett	



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12:40	13:25	Lunch			
Start Time	End Time	SESSION 3: TRACKS AND TUTORIALS			
13:30	14:05	The life cycle of a requirement <u>Author:</u> Ad Sparrius	Aligning force planning and systems acquisition <u>Authors:</u> James Thaba, Siebert Benade	Definition of a data model to support risk analysis in the frame of critical infrastructure protection <u>Authors:</u> Lucio Tirone, Claudio Calisti	How to apply systems engineering principles to the built environment ensuring that technical, financial and leadership decision-making leads to a feasible schedule of projects in a portfolio <u>Presenters:</u> Johan Coetzee, Collins Sekele
14:10	14:45	Effective SE communication through models and representations <u>Author:</u> David Long	Application of systems engineering: An acquisition agent perspective <u>Authors:</u> Adrian Niken, Louwrence Erasmus	Architecture-driven design study of an electrically- powered UAV <u>Authors:</u> Yves Lemmens, Wouter Dehandschutter, Ivan Becuwe, Thierry Olbrechts	
14:50	15:15	Coffee/Tea			
Start Time	End Time	SESSION 4A: TRACKS AND TUTORIALS			
15:20	15:55	Introducing the INCOSE Systems Engineering Handbook Version 4 <u>Authors:</u> David Walden, Garry Roedler, Kevin Forsberg	Addressing large national problems in South Africa <u>Author:</u> Duarte Gonçalves	TOPASE: Tools for operability assessment and support enhancement for life cycle system performance optimisation <u>Authors:</u> Christophe Ducamp, Charles Elegbede	How to apply systems engineering principles to the built environment ensuring that technical, financial and leadership decision-making leads to a feasible schedule of projects in a portfolio (cont.)
Start Time	End Time	SESSION 4B: SAASTA YOUTH OUTREACH			
16:00	16:35	<ol style="list-style-type: none"> The role played by SAASTA in the advancement of science, technology, engineering, mathematics and innovation in South Africa <u>Speaker:</u> Mthuthuzeli Zamxaka Creating a brighter New Horizon for our Youth in Science, Technology, Engineering, Mathematics and Innovation <u>Speaker:</u> Dr Ron Beyers 			
Start Time	End Time	SESSION 4C: PLENARY			
16:40	17:40	A systems perspective on the wine industry Dr Willem Barnard			
Start Time	End Time	CONFERENCE WELCOMING FUNCTION			
17:45	21:00	Ice Breaker & Wine Tasting			



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DAY 2: TUESDAY 28 OCTOBER 2014

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Start Time	End Time	SESSION 5A: PLENARY			
07:30	08:30	Registration & Coffee			
08:30	09:30	Systems engineering in complex international programmes Felix Mehler			
09:30	09:35	Introduction to the programme for the day Jörg Lalk (Technical Chair)			
Start Time	End Time	SESSION 5B: TRACKS AND TUTORIALS			
		TRACK D2-1 SCIENCE & TECHNOLOGY	TRACK D2-2A SYSTEMS ENGINEERING PRINCIPLES, PROCESSES AND STANDARDS (CONT)	TRACK D2-3A GLOBAL CONVERGENCE OF IT (CONT)	TRACK D2-4A TUTORIAL TRACK
09:40	10:15	Applying OntoREM to a space mission: Developing requirements for the MASCOT lander <u>Authors:</u> Kelly Antonini, Mario Kossmann, Caroline Lange & Mohammed Odeh	Communicating with the C-suite: Turning systems engineer- speak into executive-speak <u>Author:</u> David Walden	Model based architecting for evolutionary design of systems of systems <u>Authors:</u> Tim Lochow, Imad Sanduka, Alexandre Arnold	If space engineers could learn how to meet any deadline, couldn't you too? <u>Presenters:</u> Niels Malotaux
10:20	11:05	Coffee/Tea			
Start Time	End Time	SESSION 6: TRACKS AND TUTORIALS			
11:10	11:45	SKA1 telescope manager: Challenges and opportunities <u>Authors:</u> Paul Swart, Gerhard le Roux	Systems engineering - difficult?...but useful! An integration case study <u>Author:</u> Terje Fossnes	TRACK D2-3B HEALTH ISSUES Healthcare service delivery efficiency: Performance of Gauteng hospitals <u>Authors:</u> Oliver Nwauka, Richard Weeks	If space engineers could learn how to meet any deadline, couldn't you too? (cont.)
11:50	12:25	Re-configurability in decision-centred system design <u>Author:</u> Marc Houllier	Generic model-based systems engineering methodology <u>Author:</u> Bernhard Meyer	A systems engineering perspective on eHealth implementations' efficiency and effectiveness: A case study involving suppliers <u>Authors:</u> Getnet Fanta, Louwrence Erasmus	
12:30	13:15	Lunch			
Start Time	End Time	SESSION 7: TRACKS AND TUTORIALS			
13:20	13:55	Modelling methodology for engineering of complex sociotechnical systems <u>Authors:</u> Rudolph Oosthuizen, Leon Pretorius	Common terminology, well established techniques and methods are key success factors of requirements engineering: The contribution of RE certification to project success <u>Authors:</u> Camille Salinesi, Stefan Sturm	Making new and integrated sense of heterogeneous preeclampsia <u>Author:</u> Gary Smith	The overall systems engineering value stream <u>Presenters:</u> Dieter Scheithauer, Kevin Forsberg



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14:00	14:35	Executable system of systems architecture using OPM in conjunction with colored Petri net: A module for flexible intelligent and learning architectures for system of systems <u>Authors:</u> Renzhong Wang, Siddhartha Agarwal, Cihan Dagli	Lean reliability engineering <u>Author:</u> Albertyn Barnard	Requirements engineering for human activity systems <u>Author:</u> Jonno Erasmus	
14:40	15:05	Coffee/Tea			
SESSION 8A: TRACKS AND TUTORIALS					
15:10	15:45	Concept definition for the SKA and MeerKAT projects <u>Author:</u> Thomas Kusel	TRACK D2-2B SUSTAINABLE DEVELOPMENT AND CLIMATE CHANGE Can systems engineering support innovation in sustainable development? <u>Author:</u> Cecilia Haskins	The impact of technological innovation on cloud computing as an emerging phenomenon within the South African healthcare environment <u>Authors:</u> Thembayena Mgozi, Richard Weeks	The overall systems engineering value stream (cont.)
15:50	16:25	A report on the MeerKAT project: Lessons learned <u>Author:</u> Justin Jonas	System architecture in the Dutch (rail) infrastructure <u>Author:</u> Paul Schreinemakers	Factors influencing diffusion of health technology <u>Authors:</u> Riaan van der Watt, Tinus Pretorius, Leon Pretorius	TRACK D2-4B PANEL DISCUSSION Complexity and the energy water nexus: Implications for systems engineering and regional policy <u>Panel:</u> William Good, Diana Mann, David Mason, Larry Millikan, Neil Snyder, Scott Workinger
SESSION 8B: PLENARY					
16:30	17:30	Back to basics: "San solutions"; If you're not hunting you're being hunted! Quinton Coetzee			
Start Time	End Time	CONFERENCE FUNCTION			
18:30	22:00	Traditional South African Braai			



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DAY 3: WEDNESDAY 29 OCTOBER 2014

In case of any problem with the arrangements speak to Wessel Joubert (cell: 082 459-6814)

A 5 minute change-over time is provided for between tracks

Start Time	End Time	SESSION 9A: PLENARY			
07:30	08:30	Registration & Coffee			
08:30	09:30	System Modelling to Manage South Africa's Water Resources Dr Ronnie McKenzie			
09:30	09:35	Introduction to the programme for the day Jörg Lalk (Technical Chair)			
Start Time	End Time	SESSION 9B: TRACKS AND TUTORIALS			
		TRACK D3-1 SUSTAINABLE DEVELOPMENT AND CLIMATE CHANGE (CONT)	TRACK D3-2 SYSTEMS ENGINEERING EDUCATION	TRACK D3-3 ENERGY	TRACK D3-4 TUTORIAL TRACK
09:40	10:15	A systematic method for the development of a functional safety concept <u>Authors:</u> Ruediger Kaffenberger, Karl-Ernst Neitzel	The BKCASE™ project and the Graduate Reference Curriculum (GRCSE) <u>Author:</u> Richard Adcock	Applying systems thinking in shaping South Africa's electricity system <u>Authors:</u> Pieter Stoker, Johan Fick	Design of human services and public health interventions using systems engineering principles <u>Presenters:</u> Tak Igusa
10:20	11:05	Coffee/Tea			
Start Time	End Time	SESSION 10: TRACKS AND TUTORIALS			
11:10	11:45	A systems engineering approach for the deployment of an atmospheric monitoring station <u>Authors:</u> AD Venter, PW Stoker, PG van Zyl, JP Beukes, V Vakkari, L Laakso	SE journeyman years-Learning project success by doing <u>Author:</u> Asmus Pandikow	The case for nuclear electricity in South Africa - An economic view <u>Authors:</u> Pieter Stoker, Johan Fick, Lukhanyo Ndube, Ntsoaki Tlape, Michael Vuba	Design of human services and public health interventions using systems engineering principles (cont.)
11:50	12:25	Case description and initial analysis of systems engineering principles application to the design of integrated solutions for megacities – Urban intervention in São Paulo: Tietê Arc <u>Authors:</u> Carlos Zink, Eduardo Werneck	Feedback from training SE at universities and companies <u>Author:</u> Alain Faisandier	The case for nuclear electricity in South Africa - A political alignment framework <u>Authors:</u> Pieter Stoker, Johan Fick, Mandisi Stwayi, Justice Gumede	
12:30	13:15	Lunch			
Start Time	End Time	SESSION 11: TRACKS AND TUTORIALS			
13:20	13:55	Using systems thinking to inform natural resource governance <u>Author:</u> Suzi Malan, John Innes	Presenting systems engineering concepts to undergraduate mechanical engineering students <u>Author:</u> Wim Fuls	Ontology-driven semantic search for requirement engineering <u>Authors:</u> Luca Piciaccia, Roberto Basili, Danilo Croce, Valerio Storch	The principles of evolutionary acquisition <u>Presenters:</u> Ad Sparrius
14:00	14:35	SE in rural transport - Applying SE in a non-traditional domain <u>Author:</u> Tom Strandberg	Systems engineering career analysis in the Helix project <u>Authors:</u> Nicole Hutchison, Devanandham Henry, Arthur Pyster, Peter Dominick	A risk based view on building a sustainable nuclear electricity industry in South Africa <u>Authors:</u> Johan Fick, Pieter Stoker, Johann Austin, Yerishca Mudaly	



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14:40	15:05	Coffee/Tea			
SESSION 12A: TRACKS AND TUTORIALS					
15:10	15:45	Support for sustainable development projects based on real options <u>Author:</u> Krzysztof Targiel	Engineering education - A systems dynamics view <u>Authors:</u> Alwyn Smit, Alan Brent, Josephine Musango	Subsea oil production: The design basis <u>Author:</u> Luca Piciaccia	The principles of evolutionary acquisition (cont.)
SESSION 12B: CONFERENCE CLOSING PLENARY					
15:50	16:15	Announcing the winner of the Ad Sparrius Best Paper Award!			
16:15	17:15	Conference Closing Keynote: "The cost of technical debt on a program" John Thomas			

DAY 4: THURSDAY 30 OCTOBER 2014

In case of any problem with the arrangements speak to Wessel Joubert 082 459-6814

Start Time	End Time	EDUCATIONAL TOURS AND EXAM			
		PLEASE CONSULT BROCHURES FOR EXACT DETAILS - INFORMATION HERE IS FOR GUIDANCE ONLY			
		SKA TOUR	TOWNSHIP TOUR	DISTELL TOUR	CSEP EXAM
05:30		Depart from Hotel Foyer Tour as per brochure			
07:30					Report to venue
08:00	10:30				Trial Exam
09:00	15:00		Depart from Hotel Foyer Tour as per brochure	Depart from Hotel Foyer Tour as per brochure	
	13:00		Return to Hotel		
	15:00			Return to Hotel	
	17:30	Return to Hotel			

