

Tuesday, 12 July

0700-0745

Speakers/Session Chairs' Breakfast – *Riverside Court*

0700-0800

Continental Breakfast – *Galleria*

0700-1700

Symposium Registration – *Galleria*

0700-1800

Speaker Ready Room – *Aqueduct AB*

0700-1900

Cyber Café sponsored by **Boeing** – *Empire Lounge*

0800-0930

Tuesday Keynote Speaker – *Lilac Ballroom*

Subsea Production Systems – The Importance of Systems Engineering

Hans Jørgen Lindland, *FMC Production Services A/S*

0800-1700

INCOSE Meetings – See INCOSE Business Meeting Sections

0930-1000

Coffee Break – *Exhibit Hall*

0930-1700

Exhibits Open

1000-1130

SESSION 4: Six Simultaneous Technical Paper & Panel Tracks
See page 39

1000-1600

Technical Information Exchange Session (TIES) – *Exhibit Hall*

1000-1130

TIES 1: ICDM- Conceptual Design Methodology

Amihud Hari, *UNISA*

1300-1430

TIES 2: Project Estimation Based on Requirements Analysis Using UML Tools

Jorge Buenfil, *Rockwell Collins*

1430-1600

TIES 3: Introduction of the Systems Engineering Dual Vee Model

Hal Mooz, *CSM*

Tuesday, 12 July *(continued)*

1000-1700

Full Day Optional Fee Tutorials (*Ticket Required*)

- Tutorial F03** **Developing Executable Architectures for Systems of Systems (SoS) Using DoDAF**
James E. Long, *Vitech Corporation*
Steven Dam, *Systems and Proposal Engineering Company (SPEC)*
Location: *Cascade DEF*
- Tutorial F04** **Object Oriented Systems Engineering Methodology (OOSEM)**
Abraham Meilich; Sanford Friedenthal;
Howard Lykins, *Lockheed Martin Corporation*
Location: *Highland DG*

1000-1700

Working Group Presentations - *Lilac Ballroom South*

1130-1300

Lunch - sponsored by **Northrop Grumman** - *Exhibit Hall*

1300-1430

SESSION 5: Four Simultaneous Technical Paper Tracks
See page 40

1300-1700

Half-Day Optional Fee Tutorials (*Ticket Required*)

- Tutorial H03** **Requirements Reuse**
Mike Mannion,
Glasgow Caledonian University
Hermann Kaindl,
Vienna University of Technology
Location: *Cascade ABC*
- Tutorial H04** **Standard Approach to Trade Studies for Program/Project Managers and Systems Engineers**
Art Felix, *US Navy*
Location: *Highland EF*

1430-1500

Coffee Break - *Exhibit Hall*

1500-1630

SESSION 6: Four Simultaneous Technical Paper Tracks
See page 41

1730-2130

Eastman House Reception (*Ticket Required - Business Casual Attire*)

Keynote Speaker: James Stoffel

Sponsored by Eastman Kodak Company

Keynote Speakers

Tuesday, 12 July 2005, 0830

Subsea Production Systems – The Importance of Systems Engineering

Hans Jørgen Lindland, FMC Production Services A/S

Hans Jørgen Lindland holds a MSC (equivalent) in petroleum engineering. He is currently Managing Director of FMC Production Services A/S. Mr. Lindland's career comprises seven years with Elf in production and completion operations, and 19 years with Statoil within well technology and subsea production systems. Mr. Lindland has been Statoil's subsea chief engineer for seven years. He holds several patents relevant to subsea technology. Mr. Lindland has also served as chairman and committee member for various conferences and workshops, and has published several papers on the subject of subsea technology.

Abstract:

Sweeping changes have been experienced throughout the whole of the subsea oil production industry. "Space technology" has gone subsea, oil reservoir recovery factors become a priority and with that comes the need to properly and efficiently address the relevant issues. The traditional oil industry, used to measure its tools in multiple of tons and its performance in barrels, has been faced by the challenge of distributed system interfaces and their metrics. The presentation describes how the challenge is being tackled at FMC Kongsberg Subsea (FKS), the Subsea Production System manufacturer with the largest number of subsea systems installed in the world.

TUESDAY EVENING KEYNOTE SPEAKER at EASTMAN HOUSE RECEPTION (OPTIONAL)

Sponsored by Eastman Kodak Company

Tuesday, 12 July 2005, 1845

Systems Engineering – An Imperative for Economic Growth

James Stoffel, Kodak

Dr. Stoffel joined Kodak in 1997, in the newly created position of vice president and director, Electronic Imaging Products Research & Development. He was promoted to director of Research & Development in 1998. He had previously been with Xerox Corporation. Jim began his career at Xerox and held various positions of increasing responsibility in research, product development, manufacturing, and marketing. In 1989, he was named vice president & chief engineer; and subsequently, vice president, imaging systems development; and vice president and general manager of the Advance Imaging business unit for Xerox.

Stoffel was elected a corporate officer and vice president of Kodak in 1998. In 1999, he was promoted to Director of Research and Development and vice president, responsible for research and development for all Kodak laboratories worldwide. In 2000, he was appointed Chief Technical Officer and elected a senior vice president. His most recent responsibility was for Kodak Ventures (venture capital and new business incubation) and the new Kodak Display Business Unit. Stoffel retired from Kodak in February 2005.

Stoffel received a BSEE Magna Cum Laude degree from the University of Notre Dame. As a NDEA Fellow at Syracuse University, he received his MSEE degree in 1970 and his Ph.D. in 1972. He is the author/editor of "Binary and Graphical Image Processing," a reference book for graduate students. He holds over 25 U.S. patents and numerous international patents.

Stoffel currently is on the boards of directors for Harris Corporation and NexPress Solutions LLC. He is a member of the advisory board of the graduate school at the University of Notre Dame. He is a Trustee for the George Eastman House. He also serves on the Executive Committee and Board of the Information Technologies Industries Association, Washington, D.C.

Abstract:

Economic growth comes from the generation of new products and services, but the pathway to new business is not easily charted and there are numerous potholes on the road to this growth. This keynote will highlight one of the very big problems on the road to new product and new technology business delivery, the Colorado Syndrome, which has historically caused significant shortfalls. Furthermore, one will be introduced to some countermeasures and shown the value of systems engineering at the major levels of the new business, system hierarchy. Most importantly, the application of system engineering principles to the “business system” will be shown to help address the Colorado Syndrome and generate higher probabilities of success for new product, business growth.

Session Chair:	4.1 Enterprise Systems	4.2 Systems Architecture	4.3 Measurements & Analysis	4.4 Requirements	Working Group Reports	4.5 PANEL 3	4.6 PANEL 4
1000-1025	<p>Carol Gutierrez</p> <p>4.1.1 Bridging Systems Engineering Views with A Structuring Matrix D.J. Battersby, BAE Systems SEIC, C. Holden, Airbus UK, Flight Physics</p>	<p>Cecilia Haskins</p> <p>4.2.1 Introducing the Role of Process Architecting J.E. Kasser, University of South Australia</p>	<p>Terje Fossnes</p> <p>4.3.1 Generic Measures of Effectiveness for Systems T.C. Mackley, Granfield University</p>	<p>Eileen Arnold</p> <p>4.4.1 A Hybrid Requirements Capture Process J.D. Daniels, R. Botta, BAE Systems, T. Bahill, The University of Arizona</p>	<p>Tools DB WG - Dona Lee</p>	<p>What is Most Important to System Design Success Moderator: G. Copie Panelists: C. Ingamells, Airbus J. van Goosbeek, Northrup Grumman J. Martin, The Aerospace Corp.</p>	<p>Can Government Initiatives Bridge Industry with Academia or Do Links/Have to Evolve Naturally? Moderator: A. El-Fatraty, SEIC Panelists: M. Wilson, US Airforce C. Calvano, US Office of Naval Research P. Smith, Loughborough Univ. A. Pickard, Rolls Royce</p>
1030-1055	<p>4.1.2 A Model-Based Requirements Database Tool for Complex Embedded Systems M.B. Bennett, R.D. Rasmussen, M.D. Ingham, Jet Propulsion Laboratory</p>	<p>4.2.2 Family-of-Systems Architecture Analysis Technologies P.P. Jain, Information Systems Sector; C. Dickerson, BAE Systems</p>	<p>4.3.2 Engineering and Implementing RMS Engineering's DTC Metric G. Stratton, Q. Redman, E. Casey, Raytheon Missile System</p>	<p>4.4.2 Quantifying the Evolution of Goals in Requirements Engineering: A Study on the Quality Assurance Review Assistant Tool K.M. Cooper, T. Chowdhury, L. Chung, The University of Texas at Dallas</p>	<p>Model Driven System Design WG & AP233 - Dave Oliver</p>		
1100-1125	<p>4.1.3 Evolving to Intelligent Systems Engineering: Findings of the IS2004 Panel J. Ring, Innovation Management, Inc.</p>	<p>4.2.3 Network Centric Architectures: Are We Up To The Task? S.T. Booth, Vitech Corporation</p>	<p>4.3.3 Systems Engineering Measurement Primer: A Metrological Evaluation T.L. Ferris, Systems Engineering and Evaluation Centre</p>	<p>4.4.3 Developing Requirements for Technology Driven Products L.S. Wheatcraft, Compliance Automation, Inc.</p>	<p>Reqs WG (REGAL - RE3WG)</p>		

Session Chair:	5.1 Education - Research & Design	5.2 Systems Architecture	5.3 Education	5.4 Requirements	Working Group Reports
1300-1325	<p>Stephen Cook</p> <p>5.1.1 A Meeting of the Minds: A Successful Systems Engineering Experiment Using Concept Maps for Effective Communications C.A. Calimer, Boeing Inc.; J.L. BelVier, John L. BelVier & Associates, LLC</p>	<p>Jack Riley</p> <p>5.2.1 Architecting Ontological Systems A.R. Terrill, The Boeing Company; C. Dagli, University of Missouri-Rolla</p>	<p>Steve Sutton</p> <p>5.3.1 What Can a Project Manager Learn from an Actor? Improving Professional Skills through Analogical Thinking G. Backlund, J. Sjunnesson, Combitech Systems AB E. Josephson, The Royal Dramatic Theatre, Sweden</p>	<p>Regina Gonzales</p> <p>5.4.1 RAS-Centered Requirements Analysis J.O. Grady, J0G System Engineering, Inc.</p>	<p>SysML - Sandy Friedenthal</p>
1330-1355	<p>5.1.2 An Approach to Developing R&D Standard Processes Y.H. Hwang, J-G. Park, Electronics and Telecommunications Research Institute</p>	<p>5.2.2 Addressing the System of Systems Challenge M.A. Wilson, Strategy Bridge International, Inc.; J. Boardman, Elipsis, Inc.; A. Fairbairn, JBA, Ltd.</p>	<p>5.3.2 Didactic Recommendations for Education in Systems Engineering G. Muller, Embedded Systems Institute</p>	<p>5.4.2 Why Are Requirements So Hard To Get Right? J.W. Carl, Harris Corporation</p>	<p>EIA 632 Upgrade - Richard Harwell</p>
1400-1425	<p>5.1.3 Work Practice in Research: A Case Study N.G. Martin, Xerox Corporation</p>	<p>5.2.3 Obsolescence Management for System-of-System Hierarchies: A Technology-Based Approach T.E. Herald, Lockheed Martin</p>	<p>5.3.3 i-pub – Towards Electronic Access to INCOSE Publications E. Herzog, A. Pandikow, J. Andersson, Syntell AB</p>	<p>5.4.3 Real Requirements: How to Find Out What the Requirements Really Are. T. Gilb, RPL</p>	<p>ISO 15288 Harmonization - Ken Crowder</p>

SESSION 6

Session Chair:	6.1 Education - Curricula		6.2 Systems Architecture		6.3 SE Principles		6.4 SE Process		Working Group Reports	
	Phillip Rust		Jerry Fisher		Garry Roedler		Dieter Scheithauer			
1500-1525	6.1.1	Towards a Structure for Systems Engineering Research T.L. Ferris, S.C. Cook, Systems Engineering and Evaluation Centre; E.C. Honour, Honourcode, Inc.	6.2.1	Systems Engineering: Driving the Evolution to Actionable Architecture J. Popkin, Popkin Software	6.3.1	The MSOCC Data Switch Replacement: A Case Study in Eliciting and Elucidating Requirements J.E. Kasser, University of South Australia; C. Michandani, Lockheed Martin	6.4.1	Adapting SEER Cost Estimating Tools to Evolutionary Acquisition E. Stump, Galorath Incorporated, D. Ferens, AFRL/IFEA	Transportation Sector WG - Ashok Jain	
1530-1555	6.1.2	Systems Engineering Degree Programs in the United States W.J. Fabrycky, Academic Applications International, Inc. E.A. McCrae, Academic Applications International, Inc.	6.2.2	Measuring the Performance of the Risk Management Process B.B. Roberts, Futron Corporation; R. Kitterman, Northrup Grumman Newport News	6.3.2	Some Really Useful Principles: A New Look at the Scope and Boundaries of Systems Engineering H.G. Sillitto, Thales UK	6.4.2	Capability Engineering Process within Canadian Defence: Some Engineering Issues M. Couture, M. Mokhtari, M. Lizotte, C. Lalancette, G. Dussault, F. Bernier, Defence R&D Canada - Valcarlier, S. Lam, Defence R&D Canada - Ottawa	Intelligent Enterprises WG - Jack Ring; Net Centric Operations WG - John Hsu	
1600-1625	6.1.3	Conceptual Design of an Environment for Systems Engineering Education D.M. Buede, J. Ring, Innovation Management Inc.; F. Bolling, University of Michigan-Dearborn	6.2.3	Modeling ISO/IEC 15288 & Tailoring Enterprise Systems Engineering Processes for an Organization's Success L. Walker, Lockheed Martin Corporation	6.3.3	Practical Applications of Complexity Theory for Systems Engineers S.A. Sheard, Systems and Software Consortium, Inc.	6.4.3	Requirements Management, from the RFP to the Project R. Jakacky, O.R. Doty, ITT Corporation	Education & Research	