



“A tutorial on Cognitive Systems Engineering
and Ecological Interface Design”

September 17, 2010

by Dr. John Flach & Dr. Kevin Bennett

Full Day Seminar @ General Dynamics C4S: Friday, September 17, 2010, 8:30 – 5:00

Typically - our view of the world is framed by the academic disciplines that we are trained in. Social scientists are traditionally trained to study the ‘human factor,’ while engineers are typically trained to study the ‘technological components.’ However, almost all natural systems (e.g., aviation, military command and control, healthcare) involve interactions that cross these disciplinary boundaries. Thus, this requires an image of the ‘system’ that supersedes the worldviews framed from within disciplinary stovepipes. Cognitive Systems Engineering (CSE) provides a theoretical framework for addressing the dynamic interactions between humans, technology, and work domains.

This tutorial will introduce the CSE framework as it has developed from the original work of Jens Rasmussen in the domain of nuclear safety. General topics will include semiotics, work domain analysis, problem-solving/abduction, and ecological interface design (EID). More specifically, CSE analytical tools are useful in modeling work domains and the decisions that need to be made within them. This information provides the basis for design of effective decision support in the form of displays and interfaces. This tutorial will discuss the CSE framework, the associated analytic tools, and provide concrete demonstrations of their application in EID. Drawing from their book entitled: “**Display and Interface Design: Subtle Science, Exact Art**” Doctors Flach and Bennett will provide examples of EID from the diverse domains of process control, aviation, consumer electronics, and military command and control. This tutorial is a must attend for anyone interested in the new and exciting developments in Cognitive Systems Engineering and the “Subtle science” and “Exact art” of display and interface design.

Registration Info:

Registration deadline: 5:00 pm, Sept 15, 2009

Registration Fee = \$150per person

INCOSE Members = \$100 (All INCOSE Members who register and do not attend, will be invoiced an additional \$50 for holding a seat.)

Registration fee includes course materials, refreshments and lunch. Parking is not an issue.

Security is a priority concern at General Dynamics C4 Systems. Although the HSI Tutorial is not classified — all attendees must register as soon as possible to allow for verification of US citizenship. Non-US citizens will need to have their registrations completed 10-days prior to the tutorial date. Please plan accordingly.

Complete the registration form on the next page and send to Becky Matz.

****First 25 entered in door prize drawing****

Location Info:

General Dynamics C4 Systems
12001 Research Parkway, Suite 500
Orlando, FL 32826
Phone: (407) 823-7000
Fax: (407) 823-7012

Directions at: <http://www.incose.org/orlando/Attach/ResearchParkMap.pdf>

For questions or additional information, contact Ed Smith
eddieboydsmith@gmail.com



<http://www.incose.org/orlando>

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About the Instructors:

John Flach: John is Professor and Chair of Psychology at Wright State University. He has over thirty years experience in interdisciplinary research on the dynamics of human-machine systems. He has an extensive record of publication including two edited books on Ecological Approaches to Human-Machine Systems and he is co-author with Richard Jagacinski of the book “Control Theory for Humans” and the forthcoming book with Kevin Bennett “Display and Interface Design: Subtle Science, Exact Art.”



Kevin Bennett: Kevin is Professor of Psychology at Wright State University. He has over thirty years experience in CSE, display design and interface design. He is a Fellow of Human Factors and Ergonomics Society and has served on the Editorial Board of the Human Factors Journal since 1995. He has an extensive record of publication and has received several awards for this work.



Registration Form

Full Day Workshop: “A tutorial on Cognitive Systems Engineering and Ecological Interface Design”
(Workshop materials, refreshments and lunch are included in your registration fee.)

Name:	Title:
Company:	
Mailing Address:	
Work / Cell Phone:	
E-mail Address (needed for e-Confirmation):	
Registration Fee (select one): <input type="checkbox"/> Registration Fee = \$150/person <input type="checkbox"/> INCOSE Members = \$100 (Note to all INCOSE members: “No Shows” will be charged and additional \$50)	
Payment Method (select one): <input type="checkbox"/> Check – Send checks, payable to INCOSE, to Becky Matz, INCOSE Orlando Chapter Treasurer, Orlando, FL 32828-7842. <input type="checkbox"/> PayPal - http://www.incose.org/orlando/paypal_tutorial_HSI_9_2010.php <input type="checkbox"/> Visa or <input type="checkbox"/> MasterCard – Please include e-mail address above so a receipt can be sent to you.	
Card Number:	Exp Date:

INCOSE Members can e-mail registration form to BECKY.G.MATZ@saic.com.

Cancellation Policy: Substitutions are permitted until the day before the course. Full refunds will be made prior to COB, 15 September 2010. No refunds will be made after that, although substitutions will be allowed. INCOSE-Orlando reserves the right to cancel the course with full refunds.