ESD Digest
March 23, 2012

ESD NEWS

Save the date: The 2012 Charles L. Miller Lecture will be on Wednesday, April 25 at 4pm in Building 34, Grier Room B. ESD Interim Director Professor Joseph Sussman will present the talk “Complex Sociotechnical Systems: The Case for a New Field of Study.”

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Marking the publication of Professor Nancy Leveson’s new book, *Engineering a Safer World: Systems Thinking Applied to Safety*, she is holding a workshop in system safety approaches on April 17-19. Traditional system safety approaches are being challenged by the introduction of new technology and the increasing complexity of the systems we are attempting to build. The book describes STAMP/STPA, a new systems thinking approach to engineering safer systems. The techniques described in the book are already being used in space, aviation, medical, defense, nuclear, automotive, food, and other applications. The first day of the workshop will feature a tutorial for beginners and a parallel advanced tutorial. You can sign up for the tutorials [here](#). (Space is full for the workshop presentations on the other two days—with more than 200 registrants from 19 countries.) The book is available for free download [here](#) (in the lower left corner, click on “Read complete text of this book”).

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In collaboration with the MIT AgeLab, the National Academy of Sciences’ Marian Koshland Museum in Washington, D.C. has digitally inducted AGNES, the MIT AgeLab Age Gain Now Empathy System. An Xbox Kinect program was created that simulates the suit’s imposed limitations on physical mobility. Several tasks, including moving one’s arms and legs to have an avatar catch butterflies are altered at each level to slow the user’s movements, decrease peripheral vision, and alter memory. The interactive exhibit is among others that teach about the lifespan and mobility challenges of aging. Read more [here](#).

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Reminder: The 3rd International Conference on Complex Systems Design & Management (CSD&M) will be held December 12-14, 2012, at the Cité Internationale Universitaire in Paris, France. CSD&M is accepting papers for the conference. The paper submission deadline is April 20, 2012, with an optional abstract pre-submission deadline of April 6, 2012. More information, including submission procedures and award details, is available on the [CSD&M website](#).

WORKING PAPERS

Three new papers have been added to the ESD Working Papers Series.

Two papers submitted for the Third International Engineering Systems Symposium (co-sponsored by CESUN, ESD, and TU Delft), to be held June 18-20, 2012 at TU Delft:
Investigating Relationships and Semantic Sets amongst System Lifecycle Properties (Ilities)
Olivier L. de Weck, MIT
Adam M. Ross, MIT
Donna H. Rhodes, MIT

Complex Socio-technical Problems for Engineers: Pedagogical Motivation and Experience at the Undergraduate Level
Afreen Siddiqi, MIT
Regina Clewlow, MIT
Joseph M. Sussman, MIT

One paper submitted to the American Society of Engineering Education (ASEE) 119th Annual Conference and Exposition in San Antonio, TX, June 2012:

Integrating Engineering Systems Research and Undergraduate Education Through A Term-Length Case Study
Travis P. Dunn, MIT
Naomi Stein, MIT
Joseph M. Sussman, MIT
David Uniman, Steer Davies Gleave

Read these and other papers in the ESD Working Papers Series at: http://esd.mit.edu/WPS.

IN THE MEDIA

Article on using rare-earth metals to power generators cites research from the Materials Systems Lab (part of the MIT Sociotechnical Systems Research Center)
“Rare earths and climate change: In a hole?”
The Economist – March 17, 2012
(This is from the print edition; this article previously appeared in the Economist’s science & technology blog on 3/13.)

Ernest Moniz participates in panel discussion on clean energy at the 2012 Bloomberg New Energy Finance Summit in New York
“Browner, Krupp, Kandel, Moniz on Energy Efficiency” (video)
Bloomberg – March 20, 2012

John Hansman quoted in coverage about a new law regarding commercial and law enforcement UAVs
“MIT: U.S. Commercial Drone Law a Good Move”
WCVB-TV – March 20, 2012 (includes video)

Two recent articles from Jim Rice in Supply Chain Management Review
“Global Trends Roundtable” – March 19, 2012
EVENTS

Tuesday, March 27, 2012
ESD Faculty Lunch
Time: 12-1pm
Location: E40-298
Tom Kochan (selected to serve on the Presidential Search Committee) will seek input from ESD faculty regarding the search.

Thursday, March 29, 2012
Global Supply Chain Trends: What the Experts See Ahead
Supply Chain Management Review – Global Trends Online Roundtable
Expert panelists including Jim Rice, Deputy Director of CTL, will offer their insights into key areas such as global risk management, energy costs, near-shoring, regulatory compliance, educational requirements, and more.
Time: 2-3pm
Register here

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