General Framework and Keynote Speakers of the Collocated conferences

The 15th World Multi-Conference on Systemics, Cybernetics, and Informatics: WMSCI 2011
The 4th International Multi-Conference on Engineering and Technological Innovation: IMETI 2011
The 5th International Multi-Conference on Society, Cybernetics, and Informatics: IMSCI 2011

Orlando, Florida USA – July 19th – 22nd, 2011

Tuesday, July 19th, 2011

9:00 AM – 12:00 and 1:00 PM – 5:00 PM **Registration**

1:00 PM – 5:00 PM **Workshop**: *Cybernetics - Reflexivity - Topology - Sign and Space*
Speaker: Professor Louis H. Kauffman

Wednesday, July 20th, 2011

8:00 AM – 12:00 and 1:00 PM – 5:00 PM **Registration**

7:30 AM – 10:05 AM **General Joint Plenary Session** of all Collocated Conferences (with Plated Breakfast)

- 7:50 AM – 8:35 AM Keynote Speaker: Professor Stuart Umpleby (The George Washington University, USA), *Second Order Science: Logic, Strategies, Methods.*
- 8:35 AM – 9:20 AM Keynote Speaker: Professor Louis H. Kauffman (University of Illinois at Chicago, USA), *Reflexivity and Scientific Theories*
- 9:20 AM – 10:05 AM Keynote Speaker: Professor T. Grandon Gill, (University of South Florida, USA), *The Complicated vs. the Complex: Lessons for Research and Informing*

10:10 AM – 12:10 PM Breakout Sessions

12:10 PM – 1:10 PM Lunch (on your own)

1:10 PM – 3:30 PM **General Joint Plenary Session** of all Collocated Conferences

- 1:10PM – 1:55 PM Keynote Speaker: Professor Karl H. Müller (University of Vienna, Austria; University of Ljubljana, Slovenia), *The New Science of Cybernetics (NSC): Towards Self-Reflexive and Robust Forms of Research*

1:55PM – 2:40 PM Keynote Speaker: Dr. Jeremy Horne (President-emeritus, Southwest Area Division, American Association for the Advancement of Science: AAAS, USA), *Is Reality digital or analog?*

2:40 PM – 3:25 PM Keynote Speaker: Professor Mario Norbis (Quinnipiac University, USA), *Security and Risk Assessment*

3:30 PM – 4:00 PM Coffee Break

4:00 PM – 6:30 PM Breakout Sessions

7:00 PM – 8:30 PM **Welcome Reception**

Thursday, July 21st, 2011

8:00 AM – 12:00 and 1:00 PM – 5:00 PM **Registration**

7:30 AM – 10:05 AM **General Joint Plenary Session** of all Collocated Conferences (with Plated Breakfast)

7:50 AM – 8:35 AM Keynote Speaker: Professor Leonid Perlovsky (Harvard University and The Air Force Research Laboratory, USA), *Science and Spirituality: A Philosophical-Scientific-Mathematical Approach*

8:35 AM – 9:20 AM Keynote Speaker: Professor Jerome Pine (California Institute of Technology: Caltech, USA), *Active Learning in Science and Engineering Instruction*

9:20 AM – 10:05 AM Keynote Speaker: Professor Alec Yasinsac (University of South Alabama, USA), *A Look at Insiders and Insider Threats*

10:10 AM – 12:10 PM Breakout Sessions

12:10 PM – 1:10 PM Lunch (on your own)

1:10 PM – 3:30 PM **General Joint Plenary Session** of all Collocated Conferences

1:10PM – 1:55 PM Keynote Speaker: Professor Ranulph Glanville (The Royal College of Art, UK; RMIT University, Australia), *The Benefits of the Difficult*

1:55PM – 2:40 PM Keynote Speakers: Dr. Ham Chan (Southern Polytechnic State University, USA) and Dr. Felix Soto-Toro (NASA, USA), *A*

Case Study of a Multidisciplinary Work in the Space Shuttle Program

2:40 PM – 3:25 PM Keynote Speakers: Dr. Susu Nousala (University of Melbourne, Australia) and Dipl.-Math Norbert Jastroch (MET Communications GmbH, Germany), *Knowledge Networks: Between Connecting Islands and Building Clusters*

3:30 PM – 4:00 PM Coffee Break

4:00 PM – 6:30 PM Breakout Sessions

Friday, July 22nd, 2011

8:00 AM – 12:00 PM Registration

7:30 AM – 10:05 AM **General Joint Plenary Session** of all Collocated Conferences (with Plated Breakfast)

7:50 AM – 8:35 AM Keynote Speaker: Professor Thomas Marlowe (Seton Hall University, USA), *The Johari Window Becomes a Crystal Palace — Collaboration, Knowledge, and Intellectual Property*

8:35 AM – 9:20 AM Keynote Speaker: Professor Shigehiro Hashimoto (Kogakuin University, Japan), *Role of Bridge-Curriculum for Multidisciplinary Courses: Application to Biomedical Engineering*

9:20 AM – 10:05 AM Keynote Speaker: Dr. Marta Szabo White (Georgia State University, USA), *Academic Globalization: Cross-Cultural Research and Transnational Education*

10:10 AM – 12:10 PM Breakout Sessions

12:10 PM – 1:10 PM Lunch (on your own)

1:10 PM – 3:40 PM Breakout Sessions

3:40 PM – 4:00 PM Coffee Break

4:00 PM – 6:30 PM Breakout Sessions

7:00 PM – 8:30 PM **Awards Ceremony and Toast**

Award Certificates will only be delivered at the Awards Ceremony. No exceptions will be made under any circumstances.

Joint Event of the Collocated Conferences

The 15th World Multi-Conference on Systemics, Cybernetics, and Informatics: WMSCI 2011
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WORKSHOP: Tuesday, July 19th, 2011
1:00 PM – 5:00 PM

Professor Louis H. Kauffman

University of Illinois at Chicago
Department of Mathematics, Statistics, and Computer Science
Past President of the American Society for Cybernetics

Workshop

Cybernetics - Reflexivity - Topology - Sign and Space

Abstract

This workshop will explore the epistemology of reflexivity by using topological, geometrical and mathematical materials. We use mathematics not so much for its ability to make calculations but for its capacity to provide us with cogent relationships of ideas and concepts that promote philosophical, mathematical and cybernetic discussion.
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Short Bio

Professor Kauffman was the President of the American Society for Cybernetics (1997-1998). He is the 1993 recipient of the Warren McCulloch award of the American Society for Cybernetics. He "is the founding editor and one of the managing editors of the *Journal of Knot Theory and its Ramifications*, and editor of the *World Scientific Book Series OnKnots and Everything*. He writes a column entitled Virtual Logic for the journal
Cybernetics and Human Knowing." his "interests are in cybernetics, topology (knot theory and its ramifications) and foundations of mathematics and physics. His work is primarily in knot theory and connections with statistical mechanics, quantum theory, algebra, combinatorics and foundations. These fields include representation and exploration of topology, fractals and recursions using computers, logical and diagrammatic algebras, Hopf algebras, relations of topology with statistical mechanics and quantum field theory, foundations of discrete physics,

quantum computing. In topology he introduced and developed the bracket polynomial and Kauffman polynomial."

He has worked at many places as a visiting professor and researcher, including the University of Zaragoza in Spain, the University of Iowa in Iowa City, the Institute Hautes Etudes Scientifiques in Bures Sur Yevette, France, the Institute Henri Poincaré in Paris, France, the Univesidad de Pernambuco in Recife, Brasil, and the Newton Institute in Cambridge England.

Professor Kauffman has been a prominent leader in Knot Theory, one of the most active research areas in mathematics today. His discoveries include a state sum model for the Alexander-Conway Polynomial, the bracket state sum model for the Jones polynomial, the Kauffman polyomial and Virtual Knot Theory.

He is author of several monographs on knot theory and mathematical physics. His publication list numbers over 170. Among his books are the followings:

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- 2006, *Formal Knot Theory*, Dover Publications, 272 pp.
- 2007, *Intelligence of Low Dimensional Topology 2006*, with J. Scott Carter and Seiichi Kamada.

(http://en.wikipedia.org/wiki/Louis_H._Kauffman)

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General Plenary Keynote Speakers

Wednesday, July 20th, 2011

7:50 AM – 8:35 AM **Professor Stuart Umpleby** (The George Washington University, USA), *Second Order Science: Logic, Strategies, Methods.*

8:35 AM – 9:20 AM **Professor Louis H. Kauffman** (University of Illinois at Chicago, USA), *Reflexivity and Scientific Theories*

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General Plenary Session: Wednesday, July 20th, 2011

7:30 AM – 10:05 PM

Professor Stuart A. Umpleby

The George Washington University
Former President of The American Society of Cybernetics

Keynote Address

Second Order Science: Logic, Strategies, Methods.

Abstract

Presently there are several efforts to redefine science in more general terms. There are several underlying causes. First, a great deal of research and many experiments have been done, leading to a desire to combine and synthesize what we have learned. Second, the internet creates opportunities for cooperation both in integrating past results and in conducting future experiments. Third, there is increased interest in the role of the observer in the scientific process and in the effect of theories on the systems being studied, at least in the social sciences. This paper will focus on the third factor.

In the social sciences it is clear that theories affect the phenomenon being studied. Indeed, we create theories in the hope that the theory will be accepted, acted upon, and the social system will function better. However, usually social science research is based on the assumption that the theory does not affect the phenomenon. The result is a gap between our assumptions about social systems and the way we do research. Closing this gap is leading to new methods for both research and practice.

In the case of science policy we now have several hundred years of research results. Our knowledge of research methods, cognition, and cooperative behavior have all advanced greatly. But science policy uses the history of science only in so far as decision-makers are aware of the history of science. Presently science policy is primarily a matter of matching budget allocations to perceived needs. Additional studies of how science advances can be expected to improve the return on funds allocated to science.

Creating a second order science is presently impeded by logical difficulties involving self-reference. This problem can be solved by reinterpreting the implications of some parts of mathematics. Additional support for second order science will result both from defining methods that can be applied to many problems and by showing results with beneficial outcomes. The paper will provide some current examples.

Short Bio

Stuart Umpleby is a professor of management at The George Washington University in Washington, DC and Former President of the American Society for Cybernetics.

Stuart Umpleby is a professor in the Department of Management Science and Director of the Center for Social and Organizational Learning at George Washington University. He teaches courses in cybernetics and systems theory, the philosophy of science, cross-cultural management, and computer simulation. Other interests include total quality management, interactive planning methods, and computer conferencing.

As a graduate student in the early 1970s he was associated with Heinz von Foerster and Ross Ashby at the Biological Computer Laboratory at the University of Illinois in Urbana-Champaign. He received degrees in engineering, political science, and communications from the University of Illinois in Urbana-Champaign. While at the University of Illinois he worked in the Biological Computer Laboratory and the Computer-based Education Research Laboratory (the PLATO system).

He has been using and designing computer conferencing systems since 1970. Between 1977 and 1980 he was the moderator of a computer conference on general systems theory which was supported by the National Science Foundation. This project was one of nine "experimental trials of electronic information exchange for small research communities." About sixty scientists in the United States, Canada, and Europe interacted for a period of two and a half years using the Electronic Information Exchange System (EIES) located at New Jersey Institute of Technology.

Umpleby teaches a course in system dynamics modeling. He constructed a system dynamics model of national development for the US Agency for International Development, and he was an instructor for several years in the AID Development Studies Program.

Since 1981 he has been arranging scientific meetings involving American and Russian scientists in the area of cybernetics and systems theory. In 1984 he spent part of a sabbatical year at the International Institute for Applied Systems Analysis, an East-West research institute located near Vienna, Austria. In the spring of 1990 he was a guest professor at the University of Vienna, of Medical Cybernetics and Artificial Intelligence.

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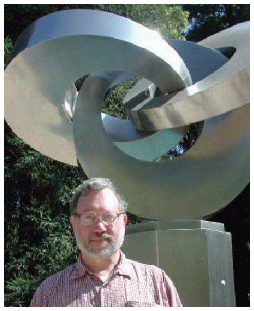
General Plenary Session: Wednesday, July 20th, 2011

7:30 AM – 10:05 PM



Professor Louis H. Kauffman

University of Illinois at Chicago
Department of Mathematics, Statistics, and Computer Science
Past President of the American Society for Cybernetics

Keynote Address

Reflexivity and Scientific Theories

Abstract

Reflexivity is a cybernetic theme in thinking about systems that modify themselves and systems where the participant/observers in the system are instrumental in determining the structure of the system. Reflexive systems and reflexive situations do not appear to be objective in the usual sense of scientific practice. A person with a strong theory of the action of stock market may change the stock market through the action of his theory. A person with a new concept in artistic praxis can change the face of art and design. In physical theory we attempt to make theories that describe actions and experiences that are independent of the existence of those theories. As a physicist one assumes that the "physical world" is not influenced by our discovery of Electromagnetism, General Relativity or Quantum Theory. Of course the advent of such theories has made an enormous influence on the technological and social worlds and in this sense such theories do participate in relflexive systems. The purpose of this talk is to discuss the epistemology of this complex relationship of cybernetics and objective thought.

Short Bio

Professor Kauffman was the President of the American Society for Cybernetics (1997-1998). He is the 1993 recipient of the Warren McCulloch award of the American Society for Cybernetics. He is the founding editor and one of the managing editors of the *Journal of Knot Theory and its Ramifications*, and editor of the *World Scientific Book Series OnKnots and Everything*. He writes a column entitled Virtual Logic for the journal

Cybernetics and Human Knowing." his "interests are in cybernetics, topology (knot theory and its ramifications) and foundations of mathematics and physics. His work is primarily in knot theory and connections with statistical mechanics, quantum theory, algebra, combinatorics and foundations. These fields include representation and exploration of topology, fractals and recursions using computers, logical and diagrammatic algebras, Hopf algebras, relations of topology with statistical mechanics and quantum field theory, foundations of discrete physics, quantum computing. In topology he introduced and developed the bracket polynomial and Kauffman polynomial."

He has worked at many places as a visiting professor and researcher, including the University of Zaragoza in Spain, the University of Iowa in Iowa City, the Institute Hautes Etudes Scientifiques in Bures Sur Yevette, France, the Institute Henri Poincaré in Paris, France, the Univesidad de Pernambuco in Recife, Brasil, and the Newton Institute in Cambridge England.

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General Plenary Session: Wednesday, July 20th, 2011

7:30 AM – 10:05 PM

Professor T. Grandon Gill

University of South Florida, USA
College of Business

Keynote Address

The Complicated vs. the Complex: Lessons for Research and Informing

Abstract

Some environments impose many constraints and entities. Such environments must behave according to numerous rules in order to meet a viable end state. Other environments consist of many components that interact in such a way such that many end-states are viable. We shall refer to the former as *complicated*; the latter as *complex*.

It is important to understand the distinction between the complicated and complex because it has can have significant implications for research and informing. In purely complicated systems, such as the tax code, the challenge presented is to discover and internalize the applicable rules; doing so tends to lead use to similar "solutions". Such environments benefit from a long term program of systematic research because once discovered, the rules that describe behavior tend to remain valid; experts tend to fare far better than novices in these domains. On the other hand, purely complex systems, such as the contents of a cookbook, provide for many radically different viable end-states such generalization nearly impossible. They also tend to be turbulent in their behavior. Such environments tend to be dominated by processes of search and imitation; sadly, experts often prove to be little better than novices in predicting outcomes in these domains. The research and informing challenge we face is that it can be hard to determine whether a domain is complicated, complex or both. The presentation explores how we can begin to make such a determination and the implications of doing so.

Short Bio

Grandon Gill is a Professor in the Information Systems and Decision Sciences department at the University of South Florida. He holds a doctorate in Management Information Systems from Harvard Business School, where he also received his M.B.A. His principal research areas are the impacts of complexity on decision-making and IS education, and he has published many articles describing how technologies and innovative pedagogies can be combined to increase the effectiveness of teaching across a broad range of IS topics. His most recent book, *Informing Business: Research and Education on a Rugged Landscape*, deals with how we might better align business academia with the complexity of business practice. Currently, he is Editor-in-Chief of *Informing Science: The International Journal of an Emerging Transdiscipline* and an Editor of the *Journal of IT Education*.

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General Plenary Session: Wednesday, July 20th, 2011

1:10 PM – 3:30 PM

Dr. Karl H. Müller

University of Vienna, Austria
University of Ljubljana, Slovenia

Director of the
Wiener Institute for Social Science Documentation (WISDOM)

Keynote Address

From Science I to Science II:
Major Changes in the Science Landscapes

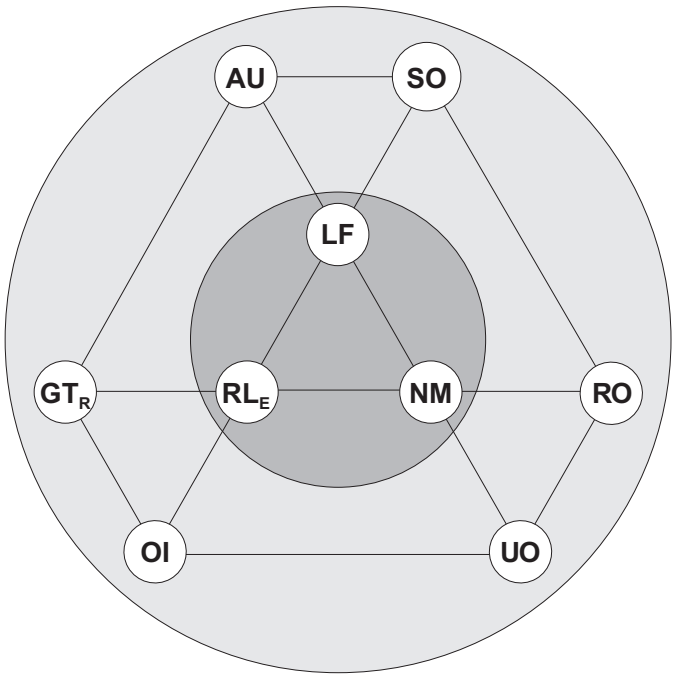
Abstract

The presentation will be focused on a series of three volumes under the title "The New Science of Cybernetics. The Evolution of Living Research Designs". Volume I on "Methodology" was published in 2008, Volume II on "Theory" is currently being published and Volume III on "Explorations" will be presented on the occasion of Heinz von Foerster's 100th birthday in November 2011 at the 5th International Heinz von Foerster Conference.

The new science of cybernetics can be understood as a successor to Heinz von Foerster's "second-order cybernetics" which was promoted by him and his research group during the late 1960s and 1970s. Second-order cybernetics was never presented in a coherent and comprehensive way whereas the new science of cybernetics has been developed in a concise manner, including relevant curricula and suitable organizational profiles.

The main themes of the talk will be centered on the theoretical core of NSC on the one hand and on the two modes of NSC on the other hand. These two modes follow along different directions of significant increases of self-reflexive research, namely first along the direction of second-order operations of first-order research outputs and, second, along the line of recombinant operations of scientific operations themselves.

The subsequent figure highlights the elements of NSC which can be viewed as a network with a common core, common designs (left side), an application part (Mode I) of second-order operations (upper part of Figure 1) and an operation-based part (Mode II)(right side of Figure 1)



AU: Autology
LF: Laws offForms
SO: Second-order operation
GT_R: Generative and triadic relations
RL_E: Recursive eigenforms
RO: Recombination operations
OI: Operator inclusion
UO: Unity of operation
NM: Non-trivial machine (with trivial machines special case)

Figure 1
The Basic Components of the New Science of Cybernetics

Short Bio

From 1997 to 2001, Karl H. Müller was head of the Departments of Political Science and Sociology at the Institute for Advanced Studies (IHS) in Vienna. Currently, he is head of WISDOM (Wiener Institute for Social Science Documentation and Methodology), Austria's infra-structural centre for the social sciences and President of the Heinz von Foerster Society. His main research interests range from issues in complex modeling within the social sciences and from interdisciplinary analyses of innovation processes in science, technology and economy to the history and the current potential of inter- and transdisciplinary research, to the frontiers of second order cybernetics and radical constructivism or to the newly emerging risk-potentials for contemporary societies in general.

His recent publications reflect these various interests, namely *Market Expansion and Knowledge Integration. Double Movements within Modernity* (Frankfurt:Campus-Verlag 1999), *Socio-Economic Models and Societal Complexity. Intermediation & Design* (Marburg:Metropolis-Verlag 1998), *Advancing Socio-Economics* (together with J. Rogers Hollingsworth and Ellen Jane Hollingsworth) (Lanham: Rowman&Littlefield 2002), *An Unfinished Revolution? Heinz von Foerster and the Biological Computer Laboratory 1958 – 1976* (Wien:edition echoraum 2007) (together with Albert Müller), *Gordon Pask, Philosopher Mechanic. An Introduction to the Cybernetician's Cyberrnetician* (Wien:edition echoraum 2007)(together with Ranulph Glanville), *The New Science of Cybernetics. Towards the Evolution of Living Research Designs. Vol. I. Methodology* (Wien:edition echoraum 2008), *Modern RISC-Societies. Towards a New Paradigm for Societal Evolution* (Wien:edition echoraum)(together with Ivan Svetlik *et al*.) and *The New Science of Cybernetics. Towards the Evolution of Living Research Designs. Vol. II. Theory* (Wien:edition echoraum 2011, published in August 2011).

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General Plenary Session: Wednesday, July 20th, 2011

1:10 PM – 3:30 PM

Dr. Jeremy Horne

President-emeritus,
Southwest Area Division, American Association
for the Advancement of Science: AAAS, USA

Keynote Address

Is Reality digital or analog?

Abstract

Reality is presented to us both in a digital and analog manner, the first as evidenced by the findings about the nature of space and sub-atomic entities, and the latter by the uncertainties at the quantum level. It is not sufficient to regard reality, our universe, simply as both but dialectically, one in terms of the other. The most fundamental law of understanding is that we apprehend something in terms of what it is not. We need contradiction to discern anything. Our understanding is process based and has deep historical roots extending back more than 4500 years. In modern times, scientists have relied upon Cartesian reductionism to discern the nature of our world, but deduction also is inherently dialectic, relying upon induction for its integrity. Logic, itself, is the language of innate order in the universe, but its digital aspect is bi-valency that describes what digital physicists have found to be the case in our reality. Evidence is in the form of how the syntax of the binary system and relationships within it reflect what happens here.

Such has major implications for us in the form of inherent computations, phenomena as illusions, and complexity arising from simplicity.

Short Bio

Dr Jeremy Horne is President-emeritus of the Southwest Area Division of the American Association for the Advancement of Science: AAAS. He currently retired in San Felipe, Baja, California (Mexico) doing research and writing in the areas of Logic as the language of innate order in the universe, which is an ongoing 40 year project.

Dr Horne taught many graduate courses in political science and technology, delivered many presentations on the philosophy of scientific methods for the American Association for the Advancement of Science (AAAS) and Quantum Mind conferences, has been reviewer for various journals about the structure and process in binary space, consciousness studies, systems, theory, and philosophy of science, and Documentation Systems Developer, for White Sands Missile Range in New Mexico.

Dr. Horne is member of several professional organizations such as The American Association for the Advancement of Science, (AAAS, the World's largest general scientific society) where he was President of its Southwest Area Division; Bioelectromagnetics Society; Institute of Electrical and Electronics Engineers where he is a voting member of Fiber Optic Technical Advisory Group.

Dr. Jeremy Horne earned his Ph. D. in Philosophy at University of Florida, Gainesville; His Master of science in Political Science at New Haven, CT, and his Bachelor in Art in International Relation at Johns Hopkins University, Baltimore, He has been a member of the Phi Kappa Phi, National Academic Honor Society, and his name was included in several Who's Who directories.

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General Plenary Session: Wednesday, July 20th, 2011

1:10 PM – 3:30 PM

Professor Mario Norbis,

Quinnipiac University, USA
School of Business

Keynote Address

The Multi-Dimension of Security and Risk Assessment

Abstract

In the last ten years security has replaced quality and efficiency as the main paradigm in everyday life. It has gained a role in every area of modern life, from government to private individuals, from finances to personal identity, from transportation to baking operations and from food to information management to mention only some. In this work the author presents a framework trying to identify the forms in which security is presented, the main actors and decision makers associated with it and most relevant issues as well as their interrelationship from multiple perspectives. Areas of strength and those in needs for improvement will be discussed and questions will be posted regarding what could be expected in the future.

Short Bio

Professor Norbis currently teaches at Quinnipiac University. Because of his comprehensive experience, versatility, and interdisciplinary research he was included, at Quinnipiac University**,** in different faculty listings such as: Management Faculty List, Biomedical Sciences Faculty List, Modern Languages Faculty List, Mathematics Faculty List, etc.

Professor Norbis earned his Ph.d. at University of Massachusetts- Amherst, and his B.S. in Chemical Engineering at University of Uruguay, Montevideo, Uruguay. He has taught at Universidad Central de Venezuela, University of Massachusetts. He was Invited Professor at HEC-Paris and ESC-Rennes, France. His industrial experience includes the oil industry (Shell Oil) and manufacturing. Professor Norbis has published in areas as diverse as operations and the supply chain, knowledge management, international business education and university polices.

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General Plenary Session: Thursday, July 21st, 2011

7:30 AM – 10:05 AM

Dr. Leonid Perlovsky

Harvard University, USA
School of Engineering and Applied Sciences, Visiting Scholar
The Air Force Research Laboratory, Principal Research Physicist

Keynote Address

Science and Spirituality: A Philosophical-Scientific-Mathematical Approach

Abstract

"Every one who is seriously involved in the pursuit of science becomes convinced that a spirit is manifest in the laws of the Universe." This Einsteinian statement remains outside of science. Still, understanding of the mind mechanisms today came close to explaining spirituality from scientific point of view.

The talk tells why imaginations with closed eyes are vague. Imaginations are created by mental representations, memories. Perception occurs when imaginations match retinal images of surrounding objects. This matching is driven by the knowledge instinct (KI). KI drives growth of the mind, higher mental abilities of abstract symbolic thinking; it causes emotions of the beautiful and sublime, and for evolution of cultures. In the mind there is a hierarchy of representations. At the "bottom" there are simple objects, higher up are situations, general and abstract concepts; every "higher" concepts unifies contents of lower levels. At the top are concepts unifying our entire knowledge; we perceive them as the meaning and purpose of our existence. The talk will present experimental data demonstrating that mental representations are inherently vague and unconscious; higher concepts are even more vague and unconscious. This is why the very existence of the meaning of life is in great doubt. When we feel that we have understood these highest representations a bit better or our belief in their existence got a bit firmer, we feel the emotion of the beautiful. In parallel with the concepts of understanding the meaning and purpose, we have concepts of behavior needed to realize the beautiful in our life. When we feel that we have understood these behavioral concepts a bit better or our belief in their existence got a bit firmer, we feel the emotion of spiritually sublime.

The talk discusses, why despite of the vagueness of these highest representation, we can discuss them crisply and clearly. How language interacts with cognition? Language is also represented in the mind by memories-representations. In parallel with cognitive hierarchy, there is a parallel hierarchy of language. Kids can learn language representations (words, phrases, etc.) for the entire hierarchy by the age of five. It is possible because language exists in the shrouding language "ready-made." But learning of concepts-

representations requires real life experience guided by language. So we can talk logically and clearly about all contents of the culture. But many abstract cognitive representations are vague and barely accessible to consciousness. Our understanding of the highest concepts of meaning never can become fully conscious, yet they are extremely important for concentrating will, for survival, and for achieving higher goals.

Science explains that beautiful and sublime are not final notions. It follows from Gödel theory, that mechanisms of the highest aspirations of human spirit are not reducible to finite statements. They involve computations exceeding in complexity all elementary interactions in the Universe in its entire lifetime and therefore choices of beautiful and sublime involve more information than is available in the Universe. A possibility of these choices is called a miracle in traditional language.

Contents of models of beautiful and sublime are unconscious; they do not belong to our consciousness. They are "collective," outside of consciousness. Consciousness does not control them, *they* control our consciousness. Therefore, we feel them as a source of agency outside of ourselves. In traditional language it is called God.

C. Jung wrote that schism between science and religion points to a psychosis of contemporary collective psyche; survival of culture demands repairing of this schism. Now, that a scientific understanding of spiritual is becoming possible, the schism might be overcome.

Short Bio

Dr. Leonid Perlovsky is Visiting Scholar at Harvard University, Technical Advisor and Principal Research Physicist at the Air Force Research Laboratory. His research interests include computational intelligence and neural networks; mathematical modeling of the mind and brain including higher cognitive functions, consciousness, emotions; abilities for beautiful, sublime, music; evolution of languages, cognition and cultures. He serves as Program Manager for DOD Semantic Web program and for several research projects. From 1985 to 1999 Chief Scientist at Nichols Research, a $0.5 B high-tech organization, leading the corporate research in intelligent systems, neural networks, sensor fusion, and data mining; previously, Professor at Novosibirsk University and New York University. He participated as a principal in commercial startups developing tools for natural language text understanding, biotechnology, and financial predictions. His financial company predicted the market crash following 9/11 a week before the event, apparently detecting illegal Al Qaeda trades, and later helped SEC tracking the perpetrators. Dr. Perlovsky delivered invited keynote and plenary talks, tutorial lectures at conferences and Universities worldwide; published about 60 papers in refereed scientific journals, 250 papers in conferences, authored 10 book chapters and three books, "Neural Networks and Intellect," Oxford University Press 2001 (currently in the 3rd printing); "Neurodynamics of Higher-Level Cognition and Consciousness" (co-author R. Kozma), Springer 2007' "Sapient Systems" (co-author R. Mayorga), Springer 2007. He leads an IEEE NNTC Task Force on The Mind and Brain, serves as Chair IEEE Boston Computational Intelligence Chapter, on several IEEE Committees, Organizing Committees for WCCI'06, IJCNN'07, Program Co-Chair for IJCNN'09, Program and General Chair for several IEEE conferences, Assistant Editor for "Transactions on Neural Networks," Editor-at-large for "Natural Computations," Editor-in-Chief for "Physics of Life Reviews." He is interviewed on Radio and TV about workings of the human mind. Dr. Perlovsky received prestigious National and International awards, including several Best Paper awards, IEEE Distinguished Member Award, Boston Section 2005; Dr. Charles E. Ryan Memorial Award for outstanding in-house scientific efforts and achievement 2007, Air Force Research Laboratory; International Neural Network Society Gabor Award, 2007; McLucas Award 2007 (the top scientific US Air Force award).

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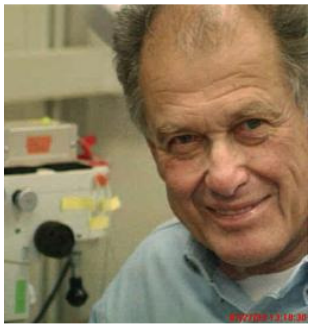

Professor Jerome Pine

California Institute of Technology: Caltech, USA,
Professor of Physics, with a laboratory in the Department of Biology
Co-director of the Caltech Pre-college Science Initiative (CAPSI)

Keynote Address

Active Learning in Science and Engineering Instruction

Abstract

Student engagement is very important if instruction is to create long lasting learning that is deep and goes beyond fact-based recall. Many educators have now realized that passively attending lectures is not as effective as hands-on experiences and project based challenges. A variety of illustrative examples will be described, for students from elementary school to the university.

Short Bio

Jerry Pine is a physicist who does research in neuroscience and science education and teaches physics and neurobiology at Caltech. He has been involved in precollege education since the 60's, when he was involved in development of the original Elementary Science Study hands-on curriculum. He is Director of the Caltech Precollege Science Initiative (CAPSI) established in 1991. (For more information see www.capsi.caltech.edu) CAPSI originally worked in partnership with the Pasadena Schools to create a hands-on inquiry science program for grades K-6 which became a national model. CAPSI also created innovative science curricula for inservice and preservice K-12 teacher education, and now has an active Research Division centered on studies of K-12 science education. It has developed a new grades 7-10 science curriculum based on student investigations. He is a consultant to science education reformers in the U.S. and abroad, and serves on a number of advisory boards and committees. He was a member of the Working Group on Teaching for the National Science Education Standards.

The Pinelab has pioneered in the development of multielectrode arrays for studies of neuron networks in vitro. The present work of the lab is centered on the use of caged neuron arrays for studies of the development and plasticity of neural networks.

Jerry Pine earned his undergraduate degree from Princeton and his graduate degrees from Cornell.

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7:30 AM – 10:05 AM

Professor Alec Yasinsac

University of South Alabama, USA
Dean of the School of Computer and Information Sciences
Co-Founder of The Center for Security and Assurance in Information Technology (C-SAIT)

Keynote Address

A Look at Insiders and Insider Threats

Abstract

Insider attacks are particularly insidious threats to information system's integrity. Traitors that misuse the trust that is placed in them often have system access that facilitates malicious acts themselves and their subsequent cover-up efforts. In this talk, we define what it means to be an insider and we identify several classes of insiders. We also discuss an approach to minimizing the insider threat by opting to transfer ownership, rather than granting access to, information resources.

Short Bio

Professor Yasinsac is Dean of the School of Computer and Information Sciences, in The University of South Alabama (USA). He comes to USA from Florida State University, where he was an associate professor of computer science, and Co-founder and Co-Director of the SAIT laboratory (Center for Security and Assurance in IT). He has operational experience in software development, information systems management, network engineering, and information security, having spent active duty tours in Japan, Korea, North Carolina, California, and Virginia. He has been funded by the National Science Foundation, Department of Defense, the Army Research Office, the Florida Department of State, and several industrial partners. He has taught nearly a hundred college courses in mathematics, computer science, and information security.

He began teaching at Florida State in 1999 after a 20-year career as an officer in the U.S. Marine Corps. Dr. Pat C. Covey, senior vice president for academic affairs at USA, affirmed that Professor Yasinsac "is an experienced educator with an impressive background in research and teaching." USA President Gordon Moulton, founding dean of USA's School of Computer and Information Sciences, said the appointment of an educator and researcher with Yasinsac's extensive experience is a testament to the school's growth and national reputation for excellence. Under his leadership, USA's School of Computer and Information Sciences will continue to make leading-edge contributions both nationally and at home in the Mobile community. "Computers and information technology have never been more important to our economy and society, and we are pleased to have a leader of Dr. Yasinsac's caliber as we continue to educate new generations of professionals for these crucial fields," said Moulton.

Professor Yasinsac is a member of numerous program committees, including the 2008 Association for Computing Machinery Conference on Computer and Communications Security, the 3rd International Conference on Availability, Reliability and Security, the 2nd International Conference on Information Systems Security, and the Institute of Electrical and Electronic Engineers Information Assurance Workshop. He also serves as program committee chair for the Systematic Approach to Digital Forensic Engineering Workshop 2008, is a senior member of the IEEE, and a member of the ACM, the U.S. Policy Committee of the ACM, and the IEEE Computer Society.

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1:10 PM – 3:30 PM

Professor Ranulph Glanville

President of The American Society for Cybernetics
The Royal College of Art, UK; RMIT University, Australia

Keynote Address

The benefits of the difficult

Abstract

A number of "difficult" areas, such as wicked problems and undecidable questions, will be introduced and explored. These are normally considered problematic because they cannot be solved, sometimes because they are contradictory, sometimes because they are so structured that they are, in principle, insoluble. I will argue that, far from being a difficulty, this can sometimes actually be a positive benefit.

Short Bio

Ranulph Glanville is professor of Architecture and Cybernetics at the Bartlett, UCL; of Research Design at St Lucas, Brussels and Ghent; of Research in Industrial Design Engineering, The Royal College of ARt, London; and Adjunct professor of design research at RMIT University, Melbourne. He has published more than 300 works, and has an art and design practice. He is on the editorial board of 7 journals and is an officer of 5 societies, including fellow, vice president and president elect of the American Society for Cybernetics. He has 2 PhDs and a DSc: his 1975 cybernetics PhD has been selected by the British Library as one of 6000 key predigital PhDs, to be digitized.

He has published extensively in all four fields. He has taught in universities around the world. Although he took early retirement from a full time post in the UK he currently holds posts at UCL, London, UK, where he is a Professor of Architecture and Cybernetics, Sint Lucas Brussels and Gent, where he is Professor of Architectural Research, and Professor and senior visiting Research Fellow at the Royal Melbourne Institute of Technology University, Melbourne, Australia. He travels the world advising universities as a professor of odd jobs. He has consulted in a variety of areas from a mental health hospital to a bank and from universities to the creation of CAD systems for designers. He was awarded a DSc, recognising his research in cybernetics and design.

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General Plenary Session: Thursday, July 21st, 2011

1:10 PM – 3:30 PM

Dr. Ham Chan
Southern Polytechnic State University, USA
Program Director of the Mechatronics Engineering
University of Central Florida, USA

Keynote Address
Development of an Electronic Ground Support System for NASA's Payload Transfer Operations:
A Case Study of a Multidisciplinary Work in the Space Shuttle Program

Dr. Felix Soto-Toro
Kennedy Space Center, NASA, USA
University of Central Florida, USA
Polytec University of Orlando, USA

Keynote Address
Development of an Electronic Ground Support System for NASA's Payload Transfer Operations:
A Case Study of a Multidisciplinary Work in the Space Shuttle Program

Abstract

Space shuttle Atlantis was launched from Kennedy Space Center on July 8, 2011, the final flight of the 30-year shuttle program. The system development and its technical supporting had required intensive multidisciplinary works for all scientists and engineers involved in the program. As a case study of such multidisciplinary works, development of a portable Electronic Ground Support System for NASA's payload transfer operations is presented. A self-calibrating, simple, robust, centrally operated portable electronic system was developed in order to automatically measure and correct coordinate offsets between spacecraft payload trunnions and their support during ground-based payload transfer. This study shows how a data acquisition system will be used to enhance the overall system performance by integrating fast calculation of the next move command and closed loop control of the operation. The implementation of this

electromechanical system minimizes the risk during these hazardous operations and decreases the cost of payload transfer processing.

Short Bios

Dr. Chan Ham is currently the Program Director of the Mechatronics Engineering at the Southern Polytechnic State University and a joint faculty with the Department of Mechanical, Materials and Aerospace Engineering, University of Central Florida (UCF). He served as the director of Maglev program at the Florida Space Institute from 2002 to 2009, and director of Space System Programs at NASA/FSGC (Florida Space Grant Consortium) in 2009. He has also been involved in the development of diverse space systems such as spacecraft and Mars surface support equipment. He has published over 70 peer-reviewed journal and conference papers, and his research projects were funded by NASA, US Air Force, and industries. His main research interests are developments of space systems, mechatronics, and maglev application systems.

Dr. Soto-Toro has over 24 years of NASA design engineering and project management. In particular, he worked with the NASA Shuttle, Space Station and Payload Operation and Processing as a project manager for Ground Support Equipment. He also spent two years at the Johnson Space Center (JSC) where he served as a Communications Systems engineer and as the Constellation Space Suit Technical Assistant during the requirements development phase. He is currently working for the Engineering Development's Ground Electrical and Electronics Systems Branch at the Kennedy Space Center where he co-leads efforts to qualify all electrical ground systems equipment for use in the new NASA space program. He currently serves as the Spacecraft Processing Element lead for all electrical subsystems. Additionally, he serves as an Adjunct Faculty for the Polytec University of Orlando in the Engineering department and the University of Central Florida's Mechanical, Materials and Aerospace Engineering Department.

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1:10 PM – 3:30 PM

Dr. Susu Nousala

University of Melbourne, Australia
Research Fellow
GAMUT (Australasian Centre for the Governance and Management of Urban Transport),
Faculty of Architecture, Building and Planning,.

Keynote Address

Knowledge Networks:
Between Connecting Islands and Building Clusters

Dipl.-Math Norbert Jastroch

MET Communications GmbH, Germany
Managing Director

Keynote Address

Knowledge Networks:
Between Connecting Islands and Building Clusters

Abstract

Since the synergetic effects of sharing knowledge appear to receive growing attention, two major paradigms emerged for the establishment of knowledge networks. Firstly, the focus of the creation of links between knowledge domains long since isolated, highlighting cross-fertilization potentials for knowledge augmentation. Secondly, the purpose for boosting knowledge exploitation that created formations of domain specific clusters, capable of promoting and assembling different organizational strengths in one region.

These models, sometimes in a blended version, are meant to underpin structures capable of facilitating the exchange and transfer of knowledge. Within this context, with this presentation

we want to discuss a number of functional aspects of knowledge networks to the specific nature of knowledge as a resource, and highlight the relevance of taking into view the role of human actors.
Thoughts presented here came out of our jointly working on collaborative software development issues together with Thomas Marlowe, Vassilka Kirova, Mojgan Mohtashami, and Cyril Ku.

Short Bios

Currently, **Dr. Susu Nousala** is Research Fellow at SIAL (Spatial Information Architecture Lab), RMIT Design and Social Context, School of Architecture and Design, RMIT University and Research Fellow GAMUT (Australasian Centre for the Governance and Management of Urban Transport), Faculty of Architecture, Building and Planning, University of Melbourne.

Her areas of research interest include embedded practice, tacit knowledge networks (complex adaptive systems) understanding the value and transference of tacit knowledge in socio-technical networks and complex systems. She is also involved in the development and coordination of a research group focusing on the theory, ontology and management of organizational knowledge. To date she is the author and co-author of over 20 refereed journal and conference papers, as well as book chapters. She has been successful in managing and securing funding for several National and International grants and projects.

She earned her Ph. D. at the Aerospace Mechanical & Manufacturing Engineering, RMIT University.

Norbert Jastroch is head of MET Communications, Germany, a consulting company focused on knowledge and innovation management and business process engineering. Prior to this, he was working with General Electric Information Services in several consulting and marketing positions. He earned the academic degree Diplom-Mathematiker from Justus-Liebig-University, Gießen, Germany.

As from 2004, he has been teaching at Ludwig-Maximilians-University, München, Institute for Information, Organisation and Management, and at the University of Applied Sciences, Frankfurt a. M., Computer and Engineering Sciences Department. His main areas of research are in knowledge management, in engineering of inter-enterprise systems and in collaborative work applications.

Norbert Jastroch contributed a number of scientific papers on knowledge management and inter-enterprise systems engineering to international conferences. He served as workshop and session chair at the IST 2006 conference of the European Commission, DG Information Society and Media, in Helsinki, and the 14th International Conference on Concurrent Enterprising, Lisbon, in 2008. By appointment of the European Commission, he has acted as project reviewer for European research projects within the framework programme for research and development of the European Union. He also served as reviewer to a number of international conferences like ICEME, IMETI, KES, KGCM, MEI.

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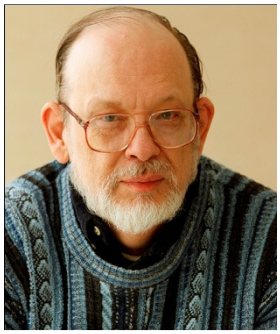

Professor Thomas Marlowe

Seton Hall University, USA
Department of Mathematics and Computer Science
Program Advisor for Computer Science
Dr. in Computer Science and Dr. in Mathematics

Keynote Address

The Johari Window Becomes a Crystal Palace — Collaboration, Knowledge, and Intellectual Property

Abstract

The Johari Window is a traditional model and metaphor for knowledge sharing in the training domain. Although it has largely been superseded in that field, it is still used in modeling interpersonal communication. Even so, the Johari Window remains a simple but powerful representation for two-way communication and availability of information.

As the arena of communication and cooperation becomes richer, there is value in revisiting early models. But the model needs to be enhanced, acquiring additional dimensions, structures, and facets, until, in the domain of inter-organizational collaboration producing intellectual property, it requires a full-fledged architectural Crystal Palace. This presentation surveys some of these aspects, and takes initial steps toward a useful training/orientation view of knowledge sharing in the collaborative domain

Short Bio

Professor Thomas J. Marlowe is Program Advisor for Computer Science, have been a member of the Department of Mathematics and Computer Science at Seton Hall University for over 30 years, and have taught a wide variety of courses in both disciplines.

Professor Marlowe enjoys working with students and with professional colleagues-- almost all his research is collaborative. His professional interests include in mathematics, abstract algebra and discrete mathematics; in computer science, programming languages, real-time systems, and software engineering, and in information science, collaboration and knowledge management. The connection between graphs and algebraic structures is a recurrent theme.

Professor Marlowe has Ph.D. in Computer Science, from Rutgers, The State University, and a Ph.D. in Mathematics from Rutgers, The State University.

Professor Marlowe has many Publications and Academic Distinctions. He has over 70 publications in refereed conferences and journals in mathematics, computer science and information science. Some of the more recent and more significant include:

- T.J. Marlowe, N. Jastroch, V. Kirova, M. Mohtashami, “A Classification of Collaborative Knowledge,” Special Session on Collaborative Knowledge Management, Workshop on Knowledge Generation, Communication and Management (KGCM 2010), to appear, June 2010.
- T. J. Marlowe, V. Kirova, “High-level Component Interfaces for Collaborative Development: A Proposal”, Journal of Systemics, Cybernetics, and Informatics, 7 (6), pages 1-6, 2009.
- Rountev, S. Kagan, T. J. Marlowe, “Interprocedural Dataflow Analysis in the Presence of Large Libraries”, Proceedings of CC 2006, 216, Lecture Notes in Computer Science 3923, 2006.
- S. P. Masticola, T. J. Marlowe, B. G. Ryder, "Multisource Data Flow Problems", ACM Transactions on Programming Languages and Systems, 17 (5), 777 -803, September 1995.
- D. Stoyenko, T. J. Marlowe, "Polynomial-Time Program Transformations and Schedulability Analysis of Parallel Real-time Programs with Restricted Resource Contention", Journal of Real-Time Systems, 4 (4), 1992.
- T. J. Marlowe, B. G. Ryder, "Properties of data flow frameworks: A unified model", Acta Informatica, 28 (2), 121 -164, 1991.

Professor Marlowe is member of more than 10 Ph. D. thesis and 5 M.S. thesis committees, member of more than 20 conference program committees, and reviewer for numerous conferences, journals, and grants. He is the founder of an ongoing professional conference, and co-founder of a new workshop on collaboration

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7:30 AM – 10:05 AM

Professor Shigehiro Hashimoto

Kogakuin University, Japan
Doctor of Engineering & Doctor of Medicine
Biomedical Engineering,
Department of Mechanical Engineering

Keynote Address

Role of Bridge-Curriculum for Multidisciplinary Courses: Application to Biomedical Engineering

Abstract

In a university curriculum with a credit system, each course is usually handled by one individual teacher alone. This is convenient to offer "Place of a free doctrine". The cooperation between subjects is not enough, on the other hand, when each teacher discretely takes each class by the each one's judgment. It is difficult for student to understand the relation between subjects. This kind of system cannot guarantee the sustained improvement of the entire curriculum.

A bridge-curriculum with rotational experimental projects has been designed for a sustained improvement of a curriculum in a multidisciplinary area. In the system, each course is taken by multiple teachers. A professor takes charge of the part, which should be bridged to another course. A constant communication between courses is guaranteed in the system. The contents of each course have been continuously reviewed with variation of discipline in the system.

1) Two or more professors take charge in every course at an omnibus style. A student meets two or more teachers in any class.
2) A key professor is in charge to arrange the entire syllabus and to decide the evaluation method to give students a credit for the subject, collecting the contents from the related professors.
3) Through the communication between courses by class-inspection and by discussion between professors, each professor proposes the content of the contribution part to the key professor.
4) A professor takes charge of the part, which should be bridged to another subject. For example, the professor “B” of “Introduction to Medicine” takes charge of a statistics part of “Medical Information Processing” and the electrocardiogram part of “Bio-measurement Engineering”.
5) Several lessons are taken by guest speakers from institutions or from industry for the topics

or for the application part.

The system of “Rotational Experimental Projects” enables polishing the ability of design, communication, presentation, and teamwork, simultaneously, as well as supplying the advisory system for students’ learning.

1) Each lecturer takes charge of an experimental project. The contents of the experimental project relates to that of lecture.
2) Each experimental project includes many elements of learning: planning, designing, instrumentation, teamwork, analyzing, modeling, explanation, and presentation.
3) Each small group of students goes the rounds of every experimental project one by one.
4) The rotational experimental project provides a good opportunity to touch materials and to meet with application of fundamental subjects, which have been learned in the lecture.

The system is working well to improve the curriculum of a multidisciplinary area. “Biomedical Engineering Field” will be shown as the example of multidisciplinary field: mechanics, electronics, materials, informatics, biology, medicine, etc.

Short Bio

Professor Shigehiro Hashimo is Doctor of Engineering (from Kitasato University in 1987) and Doctor of Medicine (from Tokyo Institute of Technology in 1990). His research and teaching activities were basically done at the Department of Biomedical Engineering, Osaka Institute of Technology. Now he is teaching at Kogakuin University**,** Japan. Among his research interests are Effects of shear flow on erythrocytes destruction and thrombus formation, Effect of magnetic field on cells, Cells measurement, Application of Cultured Muscle Cells on Medical Engineering.

Professor Shigehiro Hashimoto is Author of the Books: "Introduction to Biosystems Engineering (1996)" and "Introduction to Biomedical Measurement Engineering (2000)" He has many publications in journals and conference proceedings.

Professor Shigehiro Hashimoto was Director of the Medical Engineering Research Center, 2005-2011, and full professor at Osaka Institute of Technology, 20012011. He was Rsch. Assoc. Kitasato University, 1981-1989, Asst. Prof. Kitasato University, 1989-1994, Assoc. Prof. Osaka Institute of Technology, 1994-2001, Chair. Prof. Dept. of Electronics, Information, & Communication Engineering, Osaka Institute of Technology, 2004, Chair. Prof. Dept. of Biomedical Engineering, Osaka Institute of Technology, 2005

He was awarded with the grant: Academic Frontier from the Japanese Ministry of Education, Culture, Sports, Science and Technology

Professor Shigehiro Hashimo is member of IEEE, Medical and Biological Engineering, Biomaterials, Artificial Organs, Mechanical Eng., Electronics Information and Communication Eng., Surgical Soc., Thoracic Surgery, and Life Support Technology

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7:30 AM – 10:05 AM

Dr. Marta Szabo White

Georgia State University, USA
Director of
The Study Abroad in Transition Economies and
The Business Mediterranean Style

Keynote Address

Academic Globalization:
Cross-Cultural Research and Transnational Education

Abstract

In this plenary keynote address, the marriage of cross-cultural research and transnational education will be presented. The emphasis will be placed on two pivotal questions: Does one's professional lens create similarities more dominant than culture; and does English evoke responses significantly different from those of one's native language.

We will show that cross-professional rather than cross-cultural differences are more paramount in assessing communication differences. Regardless of culture, persons involved in business are characterized primarily by linear-active modes of communication, and persons involved in non-business activities typically employ more multi-active/hybrid and less linear modes of communication. The pivotal question for academic globalization remains: Given ICE (InterCultural Edge), are we in a better position to assess and predict leadership, negotiating styles, and communication behaviors, all of which are central to transnational education and cultivating global business leaders.

We will show that previous works on the subject can be transcended along four salient dimensions:
1] Invoking the individual as the unit of analysis;
2] Establishing that a professional mindset is a stronger influence on communication style than is culture alone;
3] Introducing the next-generation cross-cultural assessment tool, i.e. ICE.
4] Finally, can ICE catapult cross-cultural literacy to the next level of robustness?

Short Bio

Dr. White is the Program Director for both the Study Abroad in Transition Economies [China/Russia/South Africa] and for the Business Mediterranean Style: Study Abroad in Greece & Turkey Program. She is also the Director of the Robinson Honors Program and the Director of Robinson Business Learning Community.

Internationally, Dr. Marta Szabo White has lectured at The RONALD H. BROWN INSTITUTE for SUB-SAHARAN AFRICA and the UNIVERSITIÉ PANTHÉON-SORBONNE. She is the recipient of several teaching awards, including the 2004 Outstanding Teacher at Georgia State University, the 1999, 2003 and 2009 J. Mack Robinson College of Business Faculty Recognition Award for Outstanding Teaching, the 2002 Board of Advisors Teaching Excellence Award, the 2002 International Education Excellence Award, the 2005 Master Teacher Certificate Award and the nomination for the 2008 J. Mack Robinson College of Business Faculty Recognition Award for Outstanding Teaching.

In addition to striving for excellence and innovation in the practice of teaching, many of her contributions to the scholarship of teaching stem from her collaborations with the Duke CIBER, which have resulted in the publication of several Cross-Cultural Negotiation Simulations; the implementation of the ALBION in China simulation in Singapore, detailed in a 2004 Special Issue of Global Business Languages; and more recently, her role as ICE Teaching Consortium Advisor, the dissemination of CultureActive [pioneered by Richard Lewis] and ICE [initiated by Duke], both cross-cultural assessment tools grounded in the LMR [Linear-active, Multi-active, and Reactive] framework. Other research interests include strategy/structure/performance linkages.