

General Framework and Plenary Keynote Speakers of the Collocated Conferences
The 8th International Multi-Conference on Complexity, Informatics and Cybernetics: IMCIC 2017
The 8th International Conference on Society and Information Technologies: ICSIT 2017
The 7th Ibero-American Conference on Complexity, Informatics and Cybernetics
Séptima Conferencia Iberoamericana de Complejidad, Informática y Cibernética: CICIC 2017

Orlando, Florida USA – March 21 - 24, 2017

Tuesday, March 21st, 2017

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

10:00 AM – 12:00 PM: **Participatory Workshop**

Speaker: **Professor T. Grandon Gill**, University of South Florida, USA,
“*Developing and Using Cybersecurity Discussion Case Studies*”, NSF-
SaTC Funded Workshop

12:00 PM – 1:00 PM Lunch (on your own)

1:00 PM – 3:00 PM **Tutorial**

Professor Boris Stilman, University of Colorado at Denver, USA,
“*Discovering Mysteries of Opposing Games*”

3:00 PM – 3:30 PM Coffee Break

3:30 PM – 4:30 PM **Conversational Session:**

Co-chairs: **Dr. Ashton T. Sperry**, Ronin Institute for Independent
Scholarship, USA and **Dr. Nagib Callaos**, International Institute of
Informatics and Systemics (IIS), USA “*Reinventing Academia? Why?
How?*”

4:30 PM – 5:30 PM **Conversational Panel:**

Panelists: **Dr. Risa**, Kaplan University, USA and **Dr. Tina M. Serafini** ,
Kaplan University, USA, “*Competency-Based Education On-Line: Is it a
To-Do-List or a Way to achieve Meaningful Outcomes?*” **Being a
conversational panel, each attendee may have the role of a panelist.**

5:30 PM – 6:30 PM **Conversational Panel:**

Panelists: **Professor T. Grandon Gill**, University of South Florida,
USA, **Dr. Suzanne Lunsford**, Wright State University, USA, and **Dr.
Nagib Callaos**, International Institute of Informatics and Systemics
(IIS), USA, “*Integrating Research, Education, and Real Life Problem
Solving: Transforming R&D into Innovation and Relating Research and*

Consulting” Being a conversational panel, each attendee may have the role of a panelist.

** Participants in conversational participative sessions or participatory panels will have the opportunity to write position or reflection papers related to the topics discussed in the respective session. These papers might be published in the post-conference proceedings, with no additional charge, as invited papers, after going through internal editorial review. The deadline for these papers will be 21 days after the conference is over. One of the objectives of these conversational sessions is to provide a learning process through the sharing of ideas, experiences, opinions, and knowledge, via inter-disciplinary communication. This learning might generate, in turn, position or reflections papers that should be, in our opinion, included in the proceedings of the conference, because a) they are part of its consequences and the information and knowledge that was shared through it, and b) they might, in turn, generate more inter-disciplinary communication.*

Conference participants who attend the whole workshop and/or tutorial will receive an attendance certificate signed by its speaker and/or facilitator.

Wednesday, March 22nd, 2017

8:00 AM – 12:00 PM and 1:00 PM – 6:00 PM

Registration

7:40 AM – 10:05 AM **Plenary Session** of all Collocated Events (with complementary plated breakfast for the attendees to this plenary session)

Session Co-chairs: **Professor T. Grandon Gill**, University of South Florida, USA and **Dr. Suzanne Lunsford**, Wright State University, USA

7: 55 AM – 8:55 AM Keynote Speaker: **Professor Boris Stilman**, University of Colorado at Denver, USA, “*Turning Idea into Real World Systems: Personal Experience*”

8:55 AM – 9:20 AM Keynote Speaker: **Drs. Robert Hammond**, University of South Florida, USA and Syniverse Technologies, USA, “*Experts Informing Experts*”

9:20 AM – 9:45 AM Keynote Speaker: **Professor T. Grandon Gill**, University of South Florida, USA, “*Educational Innovation: Bridging Academic Research and Practice via Interdisciplinary Business Doctorate for Executives*”

9:45 AM – 10:05 AM Q&A

10:10 AM – 12:20 PM Breakout Sessions

12:20 PM – 1:30 PM Lunch (on your own)

1:30 PM – 3:30 PM **Plenary Session** of all Collocated Events

Session Co-Chairs: **Professor Dennis Bialaszewski** Indiana State University, USA and **Professor Rolf Dornberger**, University of Applied Sciences, Northwestern Switzerland

1:30 PM – 2:05 PM Keynote Speaker: **Professor Rolf Dornberger**, University of Applied Sciences, Northwestern Switzerland, “*Internet of Things – Some Thoughts and Showcases*”.

2:05 PM – 2:40 PM Keynote Speakers: **Dr. Erik Stilling**, Louisiana Public Defender, USA and **Dr. Peter Smit**, Crisis Support Team, Netherland, “*Technical Innovation and User Feedback*”

2:40 PM – 3:15 PM Keynote Speaker: **Professor Steinar Killi**, Oslo School of Architecture and Design, Norway, “*Apposite Methodology for More Effective Educational Processes*”

3:15 PM – 3:30 PM Q&A

3:30 PM – 4:00 PM Coffee Break

4:00 PM – 6:30 PM Breakout Sessions

7:00 PM – 8:30 PM **Welcome Reception: Buffet Dinner.**

Thursday, March 23rd, 2017

8:00 AM – 12:00 PM and 1:00 PM – 6:00 PM **Registration**

7:40 AM – 10:05 AM **Plenary Session** of all Collocated Events (with complementary plated breakfast for the attendees to this plenary session)

Session Co-Chairs: **Professor Detlev Doherr**, University of Applied Sciences, USA, and **Dr. Bernard Wallner**, University of Vienna, Austria

8:00 AM – 8:35 AM Keynote Speaker: **Professor Tomas Zelinka**, Czech Technical University in Prague, Czech Republic, “*Information Exchange in the Dynamically Developing Ad-Hock Vehicles Networks*”

8:35 AM – 9:10 AM Keynote Speaker: **Dr. John Motloch**, Ball State University, USA, “*Big History Understanding of Complexity, Informatics and Cybernetics*”

- 9:10 AM – 9:45 AM Keynote Speaker: **Dr. Bernard Wallner**, University of Vienna, Austria, “*Higher Education Should Nurture Students’ Creativity*”
- 9:45 AM – 10:05 AM Q&A
- 10:10 AM – 12:20 PM Breakout Sessions for IMCIC and ICSIT 2017
- 10:10 AM – 12:15 PM Plenary session for CICIC 2017 (In Spanish/Portuguese)
- Moderadores: **Dra. Fátima Consuelo Dolz De Moreno**, Universidad Mayor de San Andrés, La Paz, Bolivia y **Prof. Edgar Serna M.** Corporación Universitaria Remington, Colombia.
- 10:10 AM – 10:40 AM Ponencia Plenaria: **Dr. Jesús Salvador Vivanco Florido**, Universidad Autónoma de Aguascalientes, México, “*Estrategias Financieras y Fiscales para Incrementar la Sustentabilidad de las Micro y Pequeñas Empresas (Caso México)*”
- 10:40 AM – 11:10 AM Ponencia Plenaria: **Dra. Fátima Consuelo Dolz De Moreno**, Universidad Mayor de San Andrés, La Paz, Bolivia, “*Educación Virtual para Diferentes Niveles y Enfoques Educativos*”
- 11:10 AM – 11:40 AM Ponencia Plenaria: **Prof. Edgar Serna M.** Corporación Universitaria Remington, Colombia, “*Ingeniería – Filosofía – Ciencia: Complejidad de una Relación Histórica*”
- 11:40 AM – 12:10 PM Ponencia Plenaria: **Dra. María Lourdes López López**, Universidad Autónoma de Sinaloa, México, “*Innovación Educativa: La Reconstrucción del Perfil del Tutor Universitario, Una Propuesta Para Posgrado*”
- 12:10 AM – 12:20 PM Preguntas y Respuestas
- 12:20 PM – 1:30 PM Lunch (on your own)
- 1:30 PM – 3:30 PM **Plenary Session** of all Collocated Events
- Session Co-Chairs: **Professor Dennis Bialaszewski** Indiana State University, USA, and **Professor John Coffey**, University of West Florida, USA,
- 1:30 PM – 2:05 PM Keynote Speaker: **Professor Dennis Bialaszewski** Indiana State University, USA, “*Information Systems for the Future: A Global Perspective*”

- 2:05 PM – 2:40 PM Keynote Speaker: **Dr. Michael Von Kutzschenbach**, University of Applied Sciences, Northwestern Switzerland, “*And then a Miracle Occurs ...*” - *Engaging the Challenge of Operationalizing Theories of Success in Digital Transformation*
- 2:40 PM – 3:15 PM Keynote Speaker: **Professor John Coffey**, University of West Florida, USA, “*No Warranty Express or Implied: Why do We Have so many Problems with the Computer Systems that Pervade our Lives?*”
- 3:15 PM – 3:30 PM Q&A
- 3:30 PM – 4:00 PM Coffee Break
- 4:00 PM – 6:30 PM Breakout Sessions

Friday, March 24th, 2017

- 8:00 AM – 12:00 PM **Registration**
- 7:45 AM – 10:05 AM **Plenary Session** of all Collocated Events (with complementary plated breakfast for the attendees to this plenary session)
- Session Co-Chairs: **Professor Suzanne Lunsford**, Wright State University, USA and **Professor Detlev Doherr**, University of Applied Sciences, Offenburg, Germany.
- 8:00 AM – 8:35 AM Keynote Speaker: **Professor Suzanne Lunsford**, Wright State University, USA, “*Green Technology, A Global Aspect Needed for Growing a Technological Economy*”
- 8:35 AM – 9:10 AM Keynote Speaker: **Professor Detlev Doherr**, University of Applied Sciences, Offenburg, Germany, “*Humboldt's Sketch of Nature in Terms of Interconnectedness and Variety*”
- 9:10 AM – 9:45 AM Keynote Speaker: **Dr. Ashton T. Sperry**, Ronin Institute for Independent Scholarship, USA, “*Finding Knowledge in the Messiness of Scientific Practice*”
- 9:45 AM – 10:05 AM Q&A
- 10:10 AM – 12:20 PM Breakout Sessions
- 12:20 PM – 1:20 PM Lunch (on your own)
- 1:20 PM – 3:30 PM **Plenary Session** of all Collocated Events

Session Co-Chairs: **Professor Suzanne Lunsford**, Wright State University, USA, and **Dr. Risa Blair**, Kaplan University, USA

- 1:20 PM – 2:20 PM Keynote Speaker: **Professor Boris Stilman**, University of Colorado at Denver, USA, “*Intelligent Warfighting: Protecting Peace with Ultimate Defense*”
- 2:20 PM – 2:45 PM Keynote Speaker, **Drs. Jim Stikeleather**, University of South Florida, USA, “*Complexity: The Domain of the Engaged Scholar*”
- 2:45 PM – 3:10 PM Keynote Speaker: **Professor Lorayne Robertson**, University of Ontario Institute of Technology, Canada, “*Plenary Address Topic: (Assistive) Technology at the Point of Instruction*”
- 3:10 PM – 3:30 PM Q&A
- 3:30 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 8th International Multi-Conference on Complexity, Informatics and Cybernetics: IMCIC 2017

The 8th International Conference on Society and Information Technologies: ICSIT 2017

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Séptima Conferencia Iberoamericana de Complejidad, Informática y Cibernética: CICIC 2017

Participatory Workshop – Tuesday March 21st, 2017, 10:00 PM- 12:00 PM



Professor T. Grandon Gill

University of South Florida, USA

Academic Director of the Doctorate in Business Administration

Editor-in-Chief of *Informing Science*

Editor of the *Journal of IT Education*

Founding Editor of Journal of Information Technology Education

Participatory Workshop

“Developing and Using Cybersecurity Discussion Case Studies”

NSF-SaTC Funded Workshop

Intended Participants: Conference participants, specifically 1) faculty and doctoral students interested in using the case method, developing discussion and research cases, and employing cybersecurity discussion cases in the classroom and online and 2) executives and managers who have an interest in participating in case development or in using case discussions in cybersecurity training.

The Case Method: The case method is an interactive teaching method that involves using a detailed description of a real world decision situation to stimulate an in-depth classroom discussion, typically lasting 75 to 90 minutes. The principal pedagogical objective of the approach, which was originally developed and refined at *Harvard Business School*, is to help students improve their *judgment under conditions of considerable uncertainty and ambiguity*. As such, the case studies developed to support these discussions rarely have a “right” answer and the actual outcome associated with a particular decision tends to be less important than the process through which the decision was reached.

Workshop Objectives: The workshop is intended to provide participants with an introductory look at the case method, with a particular emphasis on its application to cybersecurity situations. Topics to be covered will include:

- *Types of case studies and their application:* The term “case study” means many things to different people. A framework for understanding the various types of case studies and their appropriate uses will be introduced.
- *Facilitating case discussions:* Using cases as an instructional medium. Participants will be given the opportunity to engage in a discussion of an abbreviated case.

- *Developing discussion cases:* The steps in the process of developing a discussion case will be examined, both from the case writer's and organization's perspective.
- *Publishing discussion cases:* Outlets for publication of peer-reviewed discussion cases will be examined, as well as other outlets through which cases can be distributed. The existing collection of cybersecurity cases will be reviewed.

Acknowledgement: The materials developed for the workshop are being funded as part of a 2-year project that was funded by the *Secure and Trustworthy Computing (SaTC)* program of the U.S. *National Science Foundation* (NSF Award #1418711, "EDU: Developing Open Authentic Case Studies for a MS in Cybersecurity Capstone Course") specifically intended to develop case studies for use in a cybersecurity curriculum. Any opinions, findings, and conclusions or recommendations expressed in this material provided or presented in the workshop are those of the facilitator(s) and do not necessarily reflect the views of the National Science Foundation.

Short Bio

Dr. Grandon Gill holds an AB (cum laude) from *Harvard College* and an MBA (high distinction) and DBA from *Harvard Business School*. He teaches introductory and intermediate courses in programming for undergraduates and also teaches case method capstone courses in the MIS undergraduate, MS-MIS and Executive MBA programs. He has also taught a variety of IT courses during his tenure at USF, from computer systems concepts to doctoral case methods. He received USF's Excellence in Undergraduate Teaching Award in 2007 and 2013.

Dr. Gill has published or edited more than 40 case studies, most recently for the *Journal of IT Education: Discussion Cases*. His recent book, *Informing with the Case Method*, has been the basis of workshops in the U.S. and around the globe. Thus far in 2013, venues have included the *NSF TUES PI Conference* in Washington D.C., *RMIT: Vietnam* in Ho Chi Minh City, the *United Nations Staff College* in Turin, Italy, and at the *3rd International Symposium on Integrating Research, Education, and Problem Solving (Special Track on Case Methodologies)*, Orlando Florida.

Dr. Gill is passionate about using technology as a teaching tool and has studied distance learning, strategy, and practice, alternative course designs, and tools for course development and delivery, all under the general heading of informing science. His research in this area has been published in many journals, including *Informing Science*, *Decision Sciences Journal of Innovative Education*, the *Journal of Information Systems Education*, *eLearn*, and the *Journal of IT Education*. He has also published multiple times in *MIS Quarterly*, the MIS discipline's leading journal—his most recent article considering the MIS fields from an informing science perspective. His academic service includes stints on the editorial boards of six journals. He is currently Editor-in-Chief of *Informing Science: the International Journal of the Emerging Transdiscipline* and the *Journal of IT Education: Discussion Cases*. He serves as a Governor and Fellow of the Informing Science Institute.

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Tutorial – Tuesday March 21st, 2017, 1:00 PM- 3:00 PM



Professor Boris Stilman

**University of Colorado at Denver, USA
Computer Science and Engineering**

Chairman & CEO at STILMAN Advanced Strategies

Plenary Tutorial

“Discovering Mysteries of Opposing Games”

Short Description

Linguistic Geometry (LG) is a type of game theory that permits solving a class of opposing games by constructing (not searching) the solution and this way avoid combinatorial explosion. LG serves as a foundation for the development of multiple intelligent defense systems in the USA and abroad. The tutorial consists of two parts:

- The first part includes brief introduction to the LG Game Construction for solving real world defense problems (with a short movie). I will introduce participants to the construction of the Abstract Board Games and LG Hypergames including construction of the abstract board, abstract pieces, and relations of reachability.
- The second part includes theoretical account into the LG Game Solving. I will introduce participants to the so-called No-Search Approach in LG. It will include step-by-step explanation of the major result in LG, which shows that LG generates optimal solutions for a class of opposing games without search and demonstrates construction of those solutions. I will initiate the Terminal Set Expansion, i.e., expansion of the subsets of terminal states into “bubbles,” the larger sets of states. For each of the states from those bubbles I will determine a strategy leading to the respective terminal states. Then, we will realize that the bubbles of states permit to decompose the whole game state space into subspaces. This decomposition will be implemented via constructing a visual model called a State Space Chart. This Chart will serve as a strategic “geographical map” of the state space by providing guidelines for “travel” from state to state. Then I will utilize this Chart for constructing classes of potential strategies for all the opposing sides and for pruning those classes that cannot be implemented for a given problem. Subsequent application of the non-pruned potential strategies will lead to construction of the optimal solution – the only real strategy existing in this problem.

Eight narrated movies on past LG projects can be downloaded from <http://www.stilman-strategies.com> (click to “Demos”). A brochure “Linguistic Geometry Tools: LG-PACKAGE” can be downloaded from <http://www.stilman-strategies.com/movies/LG-PACKAGE.pdf>. A short bio of Dr. Stilman can be found at <http://www.stilman-strategies.com> (click on “Personnel”). Even more details can be found at www.stilman-strategies.com/bstilman (click on “RESUME”).

Short Bio

Professor Boris Stilman (Ph.D. in Computer Science and Ph.D. in Electrical Engineering, National Research Institute for Electrical Engineering, Moscow, 1984; M.S. in Mathematics, Moscow State University, 1972) is the company's Chairman & CEO and a Founder of STILMAN. Since 1991, Boris has been a Professor at the University of Colorado at Denver (UCD). Dr. Stilman is the originator of Linguistic Geometry (LG), a new type of game theory, which resulted from his research over the last 30 years. He is an internationally known scientist in the field of Artificial Intelligence. He made fundamental contributions in the areas of higher-dimensional multi-agent concurrent games, game constructors, and software development environments. He has published several books and contributions to books, over 160 journal and conference papers. The first scholarly book on LG, "Linguistic Geometry: From Search to Construction", by Dr. Stilman was published in February of 2000. Boris has given numerous invited presentations and tutorials on LG all around the world and organized major national and international research meetings. Dr. Stilman has been a recipient of numerous research awards. In the 70s and 80s, he received substantial grants from the former USSR Academy of Sciences, Control Data Corp. (USA), Universities of Mannheim and Dortmund (West Germany). Dr. Stilman is a recipient of all the top research awards at UCD, the 1998 Researcher of the Year, the 1997 Chancellor's Lecturership Award, and the 1997 Research Fellowship Award. His research on LG was supported by substantial grants from the Air Force Office of Scientific Research (AFOSR, through Phillips Laboratory), Department of Energy (DOE, through Sandia National Laboratories), Defense Advanced Research Projects Agency (DARPA) through Rockwell Science Center (RSC). His role as the world leader in LG was the key to getting US contracts for STILMAN from DARPA, Joint Forces Command (JFCOM), Missile Defense Agency (MDA), Air Force, Army, Navy, Boeing, Rockwell, as well as international contracts from Ministry of Defence (UK), BAe SYSTEMS (UK) and Fujitsu (Japan). Dr. Stilman has led a number of national projects in the former Soviet Union, government-funded projects at UCD in the USA, and all the government and commercial projects developed by STILMAN.

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Conversational Session – Tuesday March 21st, 2017, 3:30 PM- 4:30 PM



Dr. Ashton T. Sperry

Ronin Institute
for Independent Scholarship, USA
Research Scholar
Philosophy of Science, Decision and Game
Theory, and Logic



Dr. Nagib Callaos

Founding President of the IIIS, USA
Former Dean of Research and Development
of the University Simon Bolivar, Venezuela

Conversational Session

“Reinventing Academia? Why? How?”

Short Abstract

The tenure-track faculty position is the gold-standard for pursuing a career in scholarly research. But it is not a path that works for everyone. Higher education produces more PhDs than there are academic jobs to employ them. It is a waste of human capital. Some fields provide jobs in private industry for those with advanced degrees, but to contribute to someone else’s research. Some academics take an extended break for health reasons, to have a family, or to reassess goals. All paths have generally meant leaving academia forever. This conversational session will discuss the reasons, drawbacks, and benefits of pursuing independent scholarship, and how one can pursue independent scholarship comparable to that found in academia. The format is an open discussion among attendees.

Short Bios

Dr. Ashton T. Sperry (Ph.D., the University of Missouri) is a Research Scholar at the Ronin Institute for Independent Scholarship. He specializes in the philosophy of science, decision and game theory, and logic. His primary research is on the development of an account of scientific explanation, which includes the complexity of nonlinear dynamic systems, and on the development of an account of bounded rationality for decision and game theory. His research is found in peer-reviewed journals.

Dr. Nagib Callaos (PhD, The University of Texas at Austin) is the founding president of the IIS and the founding president of the Journal of Systemics, Cybernetics, and Informatics (JSCI). He is former Dean of Research and Development of the University Simon Bolivar and was the founding presidents of several organizations on research, development, and technological innovation, e.g. The Foundation of Research and Development of the University Simon Bolivar, the founding president of the Venezuelan Fund for Technological Innovations (created by presidential decree), The founding president of the Venezuelan Association of Executives in Patents and Copyrights, etc. His main research and professional activities were in the area of Systemic Methodologies of Information System Development, Group Decision Support Systems, and Action-Research mainly via Operations Research. He tutored more than 100 undergraduate and graduate theses and produced more than 100 research papers and reflection articles.

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Conversational Panel – Tuesday March 21st, 2017, 4:30 PM- 5:30 PM



Dr. Risa Blair

Kaplan University, USA
eLearning Instructional Designer
Education Management
Instructional Associates
Director of HR and Operations



Dr. Tina M. Serafini

Kaplan University, USA
School of General Education
Previously in the School of Information Systems & Technology
T.M. Serafini & Associates, LLC
Corporate Trainer & Curriculum Developer, SME

Conversational Panel

***“Competency-Based Education Online:
Is it a To-Do-List or a Way to Achieve Meaningful Outcomes?”***

Short Abstract

Competency-based education is the ‘buzz’ at the moment in distance education! Higher-education institutions are drawn to develop competency-based programs and their course delivery strategies are presented as something new. It does not seem new! Think about correspondence schools, as far back as the 1700’s (if not further), the learners prepared and sent their papers, projects, and tests back to their teachers or tutors (Brighton School of Business and Management, 2012). When learners could achieve “X” or prove “Y” or build “Z”, they could move forward with the next phase of their education. Are we not doing exactly the same thing in today’s competency-based education programs? Competency-based education only works with learners who are committed, engaged, and have a strong drive to achieve success. This is nothing new. Successful students need 80% attitude and 20% aptitude. Online learners need to be self-motivated and effective time managers. The number one reason students fail online programs is that they are not prepared for online study life! They falsely assume that online programs are “easy.” Many learners cannot

manage their time and lack the required self-motivation and/or self-discipline. There needs to be planned accountability for self-paced learners to achieve meaningful goals and required deadlines. So, who does the competency-based education model serve in distance education? Is it the learners or the colleges and universities? Group projects, interacting with other learners, and engaging with professors provides a learner with a rich educational experience. Learners are more engaged in situational learning, active learning, and group projects with measureable progress in their fields. Key to this progression is the underlying theme of the promotion of lifelong learning. We learn from listening, we learn from interacting, and we learn from our experiences. Learning is not done in solitude or in a vacuum! If learners are able to effectively complete the to-do-list, have they achieved meaningful outcomes? So, the debate begins...

Reference: Brighton School of Business and Management (2012). The ultimate history of distance learning: timeline from 1700-2012. URL: https://www.brightonsbm.com/wp-content/uploads/distance_learning_infographic_small.jpg

Short Bios

Dr. Tina M. Serafini is a global corporate trainer, and curriculum designer/consultant for T.M.Serafini & Associates, LLC. In addition to Dr. Serafini's educational background in multi-disciplinary programs and leadership, she also has over seventeen years experience in business and over twenty-five years of service on community and statewide boards. Some of her strengths include: assessment of processes, curriculum development, project management, negotiations, team building and training, strategic planning, and working with global professionals. Over twelve years as a professor, Dr. Serafini developed the ability to assess complex situations, apply reasonable solutions, lead university committees, and develop teams. She also has over six years experience leading curriculum development projects and/or as a subject matter expert in the communications, customer service/sales, education, healthcare, and information technology fields. Commitment to staying current with new technologies, hardware, and software applied in distance learning. Special interests in adult learners, using emerging modalities, and developing interactive methods to engage learners.

Current research Interests include: teaching multiple generations in the online environment, using technology to foster learning in online classes, and exploring differences/similarities in education and training.

Commitment to staying current with new technologies, hardware, and software applied in distance learning. Special interests in adult learners, using emerging modalities, and developing interactive methods to engage learners.

Dr Risa Blair is Passionate leader and trainer with extensive experience in higher education and corporate settings, including project management, curriculum development and delivery for face-to-face and online settings. Exceptional skills in facilitating content delivery to meet the needs of the client. Strong proponent of utilizing real world experience and technology to promote and reinforce learning, as well as to meet required outcomes. Easily able to deliver technical content to non-technical audiences. Quality Matters trained online course reviewer.

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Conversational Panel – Tuesday March 21st, 2017, 5:30 PM- 6:30 PM



Professor T. Grandon Gill

University of South Florida, USA
Academic Director of the
Doctorate of Business
Administration
Editor-in-Chief of *Informing
Science*
Editor of the *Journal of IT
Education*
Founding Editor of Journal of
Information Technology Education



Dr. Suzanne Lunsford

Wright State University, USA
Professor of Chemistry
An electrochemist and an
internationally established chemical
educator.
Author and Director of Several project
of Integrating Research, Education,
and Real Life Problem solving in the
Area of Chemistry



Dr. Nagib Callaos

President of the International
Institute of Informatics and
Systemic, USA
Former Dean of Research and
Development of the University
Simon Bolivar, Venezuela
Founding Editor in Chief of the
Journal of Systemics, Cybernetics
and Informatics

Conversational Panel

Applications of Case Studies in the Integration of Research, Education, and Real Life Problem Solving

Abstract

There is a growing academic and societal need for the integration of academic activities among themselves and with Society, including private and public sectors. An increasing number of academics have noticed the importance of integrating Research, Education, and Problem Solving (IRESP) among themselves and with societal and corporate real life problems. Information and Communications Technologies enabled different ways of supporting these kinds of integration processes. Informing Science is at the heart of academic activities (research, education, and consulting).

An increasing number of **specific** projects showed to be effective in achieving this kind of integration. What it is probably lacking is a **general** methodology that can support the conception, design, and effective implementation of this kind of projects. We strongly believe that case study methods can be applied to conceive methodologies for this kind of projects as well as for the **transference** of effective design and implantation of this kind of projects into other new projects in the same discipline or in any other disciplines, i.e. among different disciplinary culture. If this is true then it might also be possible to conceive a methodology for this kind of transference between different cultures and socio-economic contexts.

The objective of this conversational session is to open an inter-disciplinary and inter-cultural dialogue. Dr. Gill is a renowned scholar, practitioner, and expert in the Case Method. Dr. Suzanne Lunsford conceived and effectively implemented several specific projects in IREPS in the area of Chemistry, and Dr Nagib Callaos also conceived and implemented IRESP projects in Information Systems Development and Software Engineering for about 30 Years. Dr. Callaos also the conceptual co-designer of a general methodology in information systems development which process was supported by informal case studies or report after a project had been finished. After each **specific** application of the designed **general** systemic methodology a collaborative study was made, called post-project analysis of the respective developing process and a synthesis of improvements were made in the continual redesign of the methodology. Consequently, the equivalent of **implicit** case studies was being done in order to continue the process of continuously designing and redesigning the referred methodology. Consequently, could the **explicit** application a chain of case studies support the design of a methodology for IRESP? Could this methodology allow the transference of successful experience in one discipline be transferred to other discipline? Could an effective methodology support a cross-cultural effective transference?

Short Bios of the Co-Chairs and Facilitators

T. Grandon Gill is a professor of Information Systems & Decision Sciences and the Academic Director of the new Doctor of Business Administration program at the *Muma College of Business* of the *University of South Florida*. His MBA and DBA degrees are from Harvard Business School. He is a leading researcher in the transdisciplinary field of Informing Science, and is Editor-in-Chief of *Informing Science: The International Journal of an Emerging Transdiscipline*. He is internationally known for his research in the development and use of case studies and is currently working on a grant with the National Science Foundation to develop discussion case studies relating to cybersecurity. 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. Professor T. Grandon Gill has also extensive experience in case method research, as well as in writing cases for classroom use and facilitating case discussions. His MBA and DBA are both from Harvard Business School, where the case method originated. He is author of the book *Informing with the Case Method* (2011, Informing Science Press) and recently became the founding editor of *Journal of Information Technology Education: Discussion Cases*, a publication outlet for case studies in the MIS, IT and informing science fields

Dr. Suzanne Lunsford is professor at Wright State University and is an electrochemist and an internationally established chemical educator. She has been working with colleagues from *international* universities on how to integrate interdisciplinary science labs to meet the needs of the 21st century. Her research work for over two decades has been developing novel sensor electrodes (modified electrochemically) to detect common neurotransmitters to detecting common heavy metals Lead, Cadmium, Mercury and toxic metal Indium at low concentrations utilizing electrochemistry techniques such as cyclic voltammetry, square wave anodic stripping voltammetry, and differential pulse voltammetry. The electrochemical techniques and modified electrodes are examined further by such techniques as Scanning Electron Microscopy, Atomic Force Microscopy, Fourier Transform Infrared Spectroscopy and Raman Spectroscopy to confirm the electrode surface interactions and stability analysis of the sensor(s) developed to assist our students with a variety of analytical instrumentation techniques. She has received over 1 million dollars in external funding for her international and local educational inquiry-based science research programs at Wright State University.

Dr. Nagib Callaos is the founding president of the IIIS and the founding president of the Journal of Systemics, Cybernetics, and Informatics (JSCI). He is former Dean of Research and Development of the University Simon Bolivar and was the founding president of several organizations on research, development, and technological innovation, e.g. The Foundation of Research and Development of the University Simon Bolivar, the founding president of the Venezuelan Fund for Technological Innovations (created by presidential decree), The founding president of the Venezuelan Association of Executives in Patents and Copyrights, etc. His main research and professional activities were in the area of Systemic Methodologies of Information System Development, Group Decision Support Systems, and Action-Research mainly via Operations Research. He tutored more than 100 undergraduate and graduate theses and produced more than 100 research papers and reflection articles.

Related to the topic of this conversational session he has been continuously designing and redesigning (for about 35 years), via research and consulting, more effective methodologies for information/informing system development, which effectiveness depends of including ethos, pathos, and logos to the in the context of a combination of systemic and traditional systematic analysis, design, and development methodologies. A synthesis of what he has achieved in this methodological area can be found at <http://www.iiis.org/nagib-callaos/Toward-Systemic-Notion-of-Methodology-Practical-Consequences.pdf>. With regards to the cybernetic relationships implicitly or explicitly should exist between episteme and techne, science and engineering, in the context of their industrial and societal insertion can be found at <http://www.iiis.org/nagib-callaos/engineering-and-meta-engineering/engineering-and-metaengineering.pdf>. This kind of insertion is necessary for integrating research and consulting as well as for the Ethos, Pathos and Logos of both episteme and techne, research and consulting, theory and practice, the integration of Science and Engineering/Technology. This, in turn, has strong consequences in the Ethos, Pathos and Logos in Higher Education.

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Séptima Conferencia Iberoamericana de Complejidad, Informática y Cibernética: CICIC 2017

Plenary Session – Wednesday, March 22nd, 2017, 7:55 AM- 8:55 AM



Professor Boris Stilman

University of Colorado at Denver, USA

Computer Science and Engineering

Chairman & CEO at STILMAN Advanced Strategies

Keynote Address

“Turning Idea into Real World Systems: Personal Experience”

Short Abstract

In the USA, many research-oriented start-ups are the university spin-offs. I will describe the process of creation, survival, and subsequent take-off of such companies on example of STILMAN Advanced Strategies, the company created in 1999 based on my research in Artificial Intelligence and Game Theory. Intelligent software tools developed at STILMAN for the US Army are currently considered vital for the US national defense. I will compare roles of investors, competitive government contracts, large businesses, and foreign sources in obtaining working capital for small companies. I will describe the US government system of competitive awards, especially, in defense, including SBIR (Small Business Innovation Research) as well as those from the federal agencies such as DARPA (Defense Advanced Research Agency), AFRL (Air Force Research Laboratory), etc. I will provide details of the relationship of a university and spin-off businesses. I will pay special attention to the role of customers in developing new problem domains, theoretical ideas, and turning those ideas into working systems.

Short Bio

See above: The Plenary Tutorial “*Discovering Mysteries of Opposing Games*” is also delivered by Professor Boris Stilman

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Plenary Session – Wednesday, March 22nd, 2017, 8:55 AM - 9:20 AM



Drs. Robert Hammond

Syniverse Technologies, USA

Senior Business Leader

Doctorate in Business Administration at the University of South Florida, USA

Previously Business Transformation Principal at Microsoft

Keynote Address

“Experts Informing Experts”

Short Abstract:

Informing is the core of change and communication. This session examines conceptual schemes that illuminate the intrinsic challenges of Experts Informing Experts. Expert status exists on multiple levels in Academic – Business, Consulting – Business, Academic – Business, and interactions within Business and Academy informing activities. Concepts from Informing Science in Complex Systems and Cognitive Science are applied to practitioner scholar research being used to inform sales managers planning a sales transformation.

Hammond Bio

Rob Hammond is a practitioner scholar with over 30 years of experience with some of the world’s most iconic global companies including Microsoft, Motorola, Sprint, and General Dynamics. Rob is a doctoral candidate at the Muma College of Business, University of South Florida, with expected graduation in 2017. Building on his experience in sales, marketing, product, and engineering Rob’s research seeks to explain the actors and processes that impact sales transformation with the goal of creating Transformed Sustainable Sales Organizations.

Short Bio

Rob Hammond is a practitioner scholar with over 30 years of experience with some of the world’s most iconic global companies including Microsoft, Motorola, Sprint, and General Dynamics. Rob is a doctoral candidate at the Muma College of Business, University of South Florida, with expected graduation in 2017. Building on his experience in sales, marketing, product, and engineering Rob’s research seeks to explain the actors and processes that impact sales transformation with the goal of creating Transformed Sustainable Sales Organizations. Rob holds two master’s degrees, an MBA from the Lake Forest Graduate School of Management in Lake Forest, Illinois, and a Master of Science in Engineering from West Coast University in Irvine, California. Rob began his academic journey with undergraduate degree in electrical engineering from Purdue University in West Lafayette, Indiana. Rob also holds five patents.

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Séptima Conferencia Iberoamericana de Complejidad, Informática y Cibernética: CICIC 2017

Plenary Session – Wednesday, March 22nd, 2017, 9:20 AM – 9:45 AM



Professor T. Grandon Gill

University of South Florida, USA

Academic Director of the Doctorate in Business Administration

Editor-in-Chief of *Informing Science*

Editor of the *Journal of IT Education*

Founding Editor of *Journal of Information Technology Education*

Plenary Keynote

“Educational Innovation: Bridging Academic Research and Practice via Interdisciplinary Business Doctorate for Executives”

Short Abstract

Recently, a small number of U.S. research universities have introduced terminal business degrees that specifically target working executives. These degrees focus on learning to apply research methods to business problems with the expectation that candidates will remain in practice after they receive their degrees. Because complex business problems demand interdisciplinary solutions, these programs diverge significantly from their disciplinary Ph.D counterparts. Rather than training doctoral students as apprentices seeking to acquire the skills of the academic research craft, these executive students are viewed as long term partners who need to develop a research skill set that complements, rather than duplicates, that of their professorial counterparts. The presentation looks at the design of some of these programs—many of which are intentionally constructed to break down academic silos—and reports on the first year of the newly launched DBA program at the University of South Florida.

Short Bio

See above: The Plenary Workshop: “*Developing and Using Cybersecurity Discussion Case Studies. NSF-SaTC Funded Workshop*” delivered also by Professor Grandon Gill

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Plenary Session – Wednesday, March 22nd, 2017, 1:30 PM – 2:05 PM



Professor Rolf Dornberger

University of Applied Sciences, Northwestern Switzerland

Head of Institute for Information Systems

Head of Competence Center "New Trends & Innovation"

Deputy of the head of Institutes at the School of Business

Plenary Keynote

"Internet of Things – Some Thoughts and Showcases"

Short Abstract

The "Internet of things" (IoT) is simultaneously cause and effect of technological innovations. Strong cybernetic loops are exponentially increasing among the "Internet of things" and technological innovations. Technological innovation enabled processes of design and implementation of what is called IoT, which in turn is enabling more applications via technological innovations. IOT Analytics (<https://iot-analytics.com/top-10-iot-project-application-areas-q3-2016/>) identified at least 640 actual enterprise of IoT projects, by means of mining hundreds of homepages. They identified the "top 10 IoT application areas – based on real IoT projects". These areas are: Connected Industry, Smart city, Smart energy, Connected Car, Smart Agriculture, Connected Building, Connected Health, Smart Retail, Smart Supply Chain, and others (Smart Parking, Smart Homes, etc). This provide context to plenary address of Professor Rolf Dornberger, who has a large experience, information and knowledge regarding University-Industry Cooperation: and the New contribution of The university of applied Science (Northwestern Switzerland) to the Development of Regional Innovation in general and including LoT, and who organized a recent Symposium on Sino-Swiss Cooperation of Universities of Applied Sciences, on Nov.29, 2016. (www.fhnw.ch/business/sino-swiss-symposium/05_RolfDornberger.pdf)

Short Bio

Prof. Dr. Rolf Dornberger holds a Diploma and a PhD in Air- and Aerospace Engineering from the University of Stuttgart, Germany. Additionally, he did selected courses of studies in economics and business administration and university teaching didactics. He worked in industry in the field of energy, software, IT, and airline business in different management functions. In 2002, he re-joined academia as a professor for Business Information Systems and is Head of the Institute for Information Systems, School of Business, University of Applied Sciences and Arts Northwestern Switzerland. His current research interests are computational intelligence, evolutionary computation, Internet of things, robotics, human-machine interfaces, software engineering, as well as innovation management and learning didactics.

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Plenary Session – Wednesday, March 22nd, 2017, 2:05 PM – 2:40 PM



Dr. Erik Stilling

**Louisiana Public Defender, USA
Founder of the Information and Technology
Management Division
Taught and researched Communications and
Technology Theories and applied new
technologies in Louisiana and California**



Dr. Peter Smit

**Crisis Support Team, Netherland
Guest lecturer on risk and crisis at the
Hague University
Chair of the Department of Crisis and
Issue Management Logeion, the
professional organization for
communications professionals**

Keynote Address

“Technical Innovation and User Feedback”

Short Abstract:

Presenters discuss the various models of Communication and Public Relations and the necessity of Feedback in the process of communication and its relation to early Informatics and Cybernetics in Western Science and Innovation. Innovation can have a darker side; the concept of *disemployment* is discussed as well as the responsibility of the innovator in the process of Disemployment. Possible solutions to Disemployment which capitalize on the strengths and talents of the recently disemployed are considered.

Short bios

Dr. Erik Stilling, Information & Technology Management Officer, Louisiana Public Defender Board, is the founding Information and Technology Management Officer since 2008. At LPDB, Dr. Stilling implemented a statewide case and financial management data collection system with over 1200 trained users. He conceived and deployed a real-time analytics system feeding back

digested information to local offices for data-driven decision-making using information from the data collection system. Dr. Stilling was a pioneer in videoconferencing and distance education technology in Louisiana and California beginning in 1995. He earned the B.A. in Communications from Loyola-New Orleans and Ph.D. from the University of Tennessee-Knoxville.

After his studies in psychology (University of Utrecht) and mass communications (University of Amsterdam: Msc) **Dr. Peter Smit** (1960) taught journalism and public relations at the school of journalism at HU, University of applied sciences Utrecht for seven years. He headed the communications department of that university and was a manager of public relations. In 2000 Peter started a firm in public relations and is self-employed ever since. He specialized in crisis communications and complex issues. Peter served as spokesperson for Mayors and aldermen in crises situations and issues as diverse as air quality, energy, public housing, urban and rural development, and health care. He founded the crisis support team in 2012 and is a chair of the crisis communications and issues management of Logeion the professional organization for communications professionals. He was a guest lecturer at the University of Tennessee and more recently at the Hague University. He innovates in his field of expertise by creating mindmaps for different crisis situations.

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Plenary Session – **Wednesday, March 22nd, 2017, 2:40 PM – 3:15 PM**



Professor Steinar Killi

Oslo School of Architecture and Design, Norway

Center of Design Research

Direct Digital Manufacturing

Plenary Keynote

“Apposite Methodology for More Effective Educational Processes”

Short Abstract

This talk will present a designerly process towards different methods developed for the product design education. Some of the topics covered will be a more lean education model; "just in time teaching, just in need learning". Short examples from 20 years of iterating towards these methods will be visualized and discussed.

Short Bio

Dr. Steinar Killi is a full professor at the Oslo School of Architecture and Design, he has a MSc in materials and a PhD in product design. Killi has over the last 20 years developed the largest 3D printing laboratory in Norway and have contributed to the 3D printing community through articles and presentations worldwide. He received the DINO award in 2008. Professor Killi serves in several scientific committees and as a reader for several journals. Parallel to his research, Dr. Killi has taught industrial design on bachelor, master and PhD levels for more than 20 years

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Plenary Session – Thursday, March 23rd, 2017, 8:00 AM – 8:35 AM



Professor Tomas Zelinka

**Czech Technical University in Prague, Czech Republic,
Vice-Dean of the Faculty of Transportation Sciences
Among the present research interests: Smart Cities & Villages**

Plenary Keynote

*“Information Exchange in
Dynamically Developing Ad-Hock Vehicles Networks”*

Short Abstract

Telecommunication systems designs mostly adopt one of two following alternative approaches. In the first alternative designers minimize performance expectations with goal to reduce system architecture complexity. In the other case architect accepts the full system complexity, sometimes with even overestimating expectations. Subsequent systems implementations lead in the first case to future system evolution and in the other case to the reductions of unneeded functionalities. In representative number of cases early stages systems reduction released reasonable conditions for their future penetration. However, initially reduced system parameters can cause genetic system limits with no potential to resolve it in the system future development. Such situation was already identified in area of vehicles ad hock networks information exchange where recent communication strategies reached genetic limits of globally accepted telecommunication system and the new trends will most probably lead to its heterogeneous symbiosis with another much more robust telecommunications system.

Short Bio

Education:

Professor of Informatics at the Czech Technical University (CTU) in Prague,
PhD in Experimental Physics at the Czechoslovak Academy of Sciences,
Master degree in Cybernetics and Computer Sciences at the Czech Technical University in Prague.

Employment:

2005 - Czech Technical University in Prague

Lectures - basic and advanced lectures in area of communications sciences, specific telecommunication solutions for the Intelligent Transport Systems (ITS), telecommunications services management etc.,

R&D - theoretical background of the specific telecommunications solutions dedicated for the ITS, Electronic Fee Collection (EFC) acting as well as the national representative in ISI/CEN, ETC systems Value Added Services (VAS), vehicle On Board Units architecture, ITS and its security requirements etc.

1993 – 2005 Communications business

New products R&D, business development for products like VSAT data services or IP based (VoIP) alternative solution for the global voice communications networking designed for countries of the CEEMEA region, working with EuroTel / Nextel / Global One (i.e. Sprint Int., France Telecom, Deutsche Telekom) etc.,

And simultaneously acting as the external teacher and mentor at the Faculty of transport sciences of the CTU in Prague

1976 – 1993 Geophysical Institute of the Czechoslovak Academy of Sciences

Experimental laboratory and observatory methods in geophysics, studies of the variations and drift of the Earth magnetic field, data communication solutions within international geomagnetic observatory system (INTERMAG),

Computer modeling of magnetic material structures with on-line laboratory identification, laboratory study of the magnetic properties of rocks,

1972 – 1976 Industrial R&D

Automatic control systems for the technological processes – CNC (Computer Numerical Control), Data communications and computer based control in the heavy technological processes,

Published above 120 scientific papers, monographs, books and University textbooks in physics, informatics, ITS, transport telematics and telecommunications.

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Plenary Session – Thursday, March 23rd, 2017, 8:35 AM – 9:10 AM



Professor John L. Motloch

Ball State University, USA

Director of Land Design Institute

Co-Founder of the Sustainable Communities Institute

Plenary Keynote

“Big History Understanding of Complexity, Informatics and Cybernetics”

Short Abstract

This talk takes a Big History view to understand complexity, informatics and cybernetics. Through this lens, it presents Big Science, complex adaptive systems, CAS operational modes, and current massive CAS change as indicators of emergence and transformational behavior. Presentation calls for complex adaptive system management and co-design through collaboration among the full diversity of human and non-human intelligences, from ecological to digital. It speaks to emerging new potentials for the sciences of complexity, informatics and cybernetics in this unique time in Big History as humanity shifts from opaque decisions and hierarchical messaging to transparent network conversations and deep collaborating with complexity.

Short Bio

Professor John L. Motloch is architect and landscape architect focused on systems, interconnectivity, complexity, and visioning futures where humanity fully-participates in the complex adaptive system (CAS) we help create. Appreciates, and is committed to, sustaining the deeply interconnected metabolic behaviors of the CAS humanity inherited. He seeks to re-empower the deep interconnectivity that regenerates fully functional complex adaptive systems. Works with communities to envision futures where people thrive by unlocking complexity and provisioning in ways that optimize potential of their local and regional energy-water-food nexus. Professor Motloch is focused on interconnecting the full diversity of human and non-human intelligences, and using complex system co-design processes and new tools and techniques for interconnecting the full diversity of intelligent assets and the Internet of Things with new circular economy potentials.

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Plenary Session – Thursday, March 23rd, 2017, 9:10 AM – 9:45 AM



Professor Bernard Wallner

University of Vienna, Austria

Department of Anthropology and

Department of Behavioral Biology

Co-leader of the working group Anthropological Economics & Demography

Plenary Keynote

“Higher Education Should Nurture Students’ Creativity”

Short Abstract

Discussions on quality management in higher education lack mostly a significant variable, namely to “educate students to be creative or seek for innovation”. One crucial explanation could be researcher per se think they represent a community of highly creative people. This might be true because creativity can be seen as a fundamental natural feature of universities. However, Thomson Reuters reveals that the richest countries have the most innovative universities. Evolutionary biology shows that creative behavior of *homo* represents a key feature developed under selective processes. Therefore, higher education has the obligation to nurture creativity in the education of academics.

Short bio

Bernard Wallner is professor of comparative anthropology at the Department of Behavioural Biology and adjunct professor at the Department of Anthropology, University of Vienna, Austria. His research is concentrated on individual stress reactions effected by environmental and social stressors. Physiological stress is analyzed on behavioral, physiological respectively endocrine and molecular biological levels in humans, monkeys, and rodents. Bernard is a founding member of the Austrian Research Center of Primatology and a member of the New York Academy of Sciences. He teaches courses in primatology and comparative anthropology and earned his PhD in Behavioral Endocrinology.

CICIC 2017 Plenary Session (In Spanish)

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Séptima Conferencia Iberoamericana de Complejidad, Informática y Cibernética: CICIC 2017
Sesión Plenaria – Jueves 23 de marzo, 2017, 10:10 AM – 10:40 AM



Dr. Jesús Salvador Vivanco Florido

Universidad A. de Aguascalientes, México

Miembro del Cuerpo Académico Consolidado “Gestión de la Pequeña y Mediana Empresa”

Miembro del Sistema Nacional de Investigadores, Nivel I

Ponencia Plenaria

“Estrategias Financieras y Fiscales para Incrementar la Sustentabilidad de las Micro y Pequeñas Empresas (Caso México)”

Brece Resumen

Siendo las MiPymes la columna vertebral de la economía en muchos países por su alta contribución en el PIB, que llega a ser del 66% en algunos países de Latinoamérica, se ha buscado la forma de lograr su sustentabilidad y permanencia en el mercado, dado su alto índice de mortalidad que en los primeros 5 años de operación llega a ser del 80% de las Mipymes que inician operaciones y se considera que las estrategias Financieras y Fiscales pueden contribuir en la sustentabilidad de las Mipymes ya que estrategias como formar parte de la formalidad fiscal permite a las Mipymes tener acceso a créditos, apoyos así como subsidios por parte de fondos de gobierno e instituciones bancarias privadas, apoyándolas con capacitación de empleados de manera gratuita y con capital para infraestructura que les permita crecer y fortalecer su capacidad productiva, por lo que basado en la literatura revisada se concluyó que la participación de las Mipymes en la formalidad fiscal representa una ventaja competitiva importante para lograr su sustentabilidad y desarrollo en el mercado.

Breve CV

Jesús Salvador Vivanco Florido.- Doctor en administración del programa DIA Sede: San Luis Potosí (Doctorado Interinstitucional en Administración). Profesor de tiempo completo en la Universidad A. de Aguascalientes de 1999 a la fecha, miembro del Cuerpo Académico Consolidado “Gestión de la Pequeña y Mediana Empresa”, Miembro del SNI Nivel I, desde 2014, cuento con el perfil PROMEP de 2007 a la fecha, Mis líneas de investigación, son Cultura Organizacional y Pymes con enfoque en finanzas; Cuento con tres libros publicados 2 en España y 1 en México, sobre mis líneas de investigación; Pymes y Cultura Organizacional; actualmente dirijo 2 tesis de doctorado y 4 de maestría sobre mis líneas de investigación; He publicado artículos en Inglés, Francés y Español en diversas revistas indexadas, en España, Francia, Estados Unidos y México, sobre los temas de mis líneas de investigación.

CICIC 2017 Plenary Session (In Spanish)

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Sesión Plenaria – Jueves 23 de marzo, 2017, 10:40 AM – 11:10 AM



Dra. Fátima Dolz De Moreno

Universidad Mayor de San Andrés, Bolivia
Decana Facultad de Ciencias Puras y Naturales
Directora del Instituto de Investigaciones en Informática
Fundadora de Unidad de Postgrado de la Carrera de Informática

Ponencia Plenaria

"Educación Virtual para Diferentes Niveles y Enfoques Educativos"

Breve Resumen

En esta ponencia se presenta brevemente algunos trabajos realizados al respecto de Educación Virtual en diferentes niveles educativos, pues analizada la problemática educativa en Bolivia, y específicamente en comunidades indígenas se ha desarrollado algunas propuestas aplicando educación virtual. Así, se muestra el trabajo de *CONSTRUCCIÓN Y VALIDACIÓN DE MODELO DE GARANTÍA DE CALIDAD EN EDUCACIÓN VIRTUAL PARA COMUNIDADES INDÍGENAS*, que se aplica a educación no formal. También se muestra el trabajo realizado en el marco del Proyecto *EDUCACION BASADA EN COMPETENCIAS CON COMPONENTE VIRTUAL*, el cual plantea un marco de desarrollo de competencias para introducir el modelo de enseñanza basada en competencias, a través de Objetos de Aprendizaje que respondan al enfoque, abarcando educación superior con componente virtual, con la misma propuesta en nivel de educación secundaria y asimismo en institutos técnicos. Cada uno de estos trabajos con sus propuestas, ha sido validado en sus respectivos ámbitos educativos.

Breve CV

La Dra. Fátima Dolz De Moreno es Docente Emérito, Dra. En Informática, y Mg. en Educación Virtual y en Ciencias de la Computación. Ha tenido las siguientes *contribuciones al desarrollo científico y/o Puestos Docencia*

- Modelo de educación virtual para comunidades indígenas de Bolivia
- Garantía de calidad en educación virtual para pueblos indígenas
- Capacitación en TIC's en población de tumupasa (proy. idh)
- Validación de modelo de aseguramiento de calidad para educación virtual en comunidades indígenas
- Tutora de 135 trabajos de investigación (55 tesis de grado y 80 proyectos de grado)
- Fundadora de unidad de postgrado de la carrera de informática
- Rectora de la organización elecciones autoridades rectorales Universidad Mayor de San Andrés
- Decana facultad de ciencias puras y naturales
- Directora del instituto de investigaciones en informática
- Docente investigadora carrera de informática en la Universidad Mayor de San Andrés

CICIC 2017 Plenary Session (In Spanish)

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Sesión Plenaria – Jueves 23 de marzo, 2017, 11:10 AM – 11:40 AM



Professor Edgar Serna M.

Corporación Universitaria Remington, Colombia
Director Científico del Instituto Antioqueño de Investigación
Universidad Autónoma Latinoamericana

Ponencia Plenaria

***“Ingeniería – Filosofía – Ciencia:
Complejidad de una Relación Histórica”***

Breve Resumen

Hace casi tres siglos la humanidad inició una de las más importantes revoluciones de su historia y que estaba destinada a modificar el contexto del planeta: la Revolución Industrial. El resultado fue una producción nunca antes vista de descubrimientos científicos que alimentó el desarrollo de las culturas, y cuya escala hizo palidecer lo que se había alcanzado en siglos anteriores. Los cambios fueron radicales y alteraron todos los aspectos de la vida del hombre, pero uno de los más sorprendentes impactos se materializó en la transformación del modo de pensar de las personas y en las tendencias que orientaron el pensamiento subsiguiente. A partir de entonces, la vida industrializada aceleró los deseos humanos por satisfacer sus necesidades, pero, mientras algunos aspectos se enriquecieron y revolucionaron, otros se mantuvieron estáticos y, en ciertos casos, anularon algunas funciones vitales del cerebro. Pero todo esto no se dio por casualidad, fue la sumatoria de una serie de acontecimientos acumulados en la historia y producto de una simbiosis compleja entre Ingeniería – Filosofía – Ciencia, que hoy continúa presente en el desarrollo de la humanidad.

Breve CV

Ingeniero de Sistemas, Magister en Ingeniería del Software, Doctor en Pensamiento Complejo y Científico Computacional Teórico. Con 15 años de experiencia en la industria como líder de proyectos en Sistemas de Información y como Arquitecto de Sistemas, y Profesor Universitario e Investigador con más de 30 años de trayectoria. Sus áreas de investigación son las Ciencias Computacionales, la Gestión del Conocimiento y el Pensamiento Complejo, alrededor de las cuales ha publicado diversos libros y artículos, y participado con ponencias y conferencias en eventos nacionales e internacionales. Es Profesor Asociado en la Corporación Universitaria Remington y la Universidad Autónoma Latinoamericana, Investigador Senior en el Sistema Nacional de Ciencia y Tecnología de Colombia, y Director Científico del Instituto Antioqueño de Investigación.

CICIC 2017 Plenary Session (In Spanish)

The 7th Ibero-American Conference on Complexity, Informatics and Cybernetics
Séptima Conferencia Iberoamericana de Complejidad, Informática y Cibernética: CICIC 2017
Sesión Plenaria – Jueves 23 de marzo, 2017, 11:40 AM – 12:10 AM



Dra. María Lourdes López López

**Universidad Autónoma de Sinaloa, México.
Facultad de Contaduría y administración y Escuela de Ciencias
Económicas y Administrativas**

Ponencia Plenaria

***“Innovación Educativa: La Reconstrucción del Perfil del Tutor
Universitario, Una Propuesta Para Posgrado”***

Breve Resumen

El perfil del tutor universitario en el posgrado, juega un papel importante desde la perspectiva de un Programa Institucional de Tutorías de la Universidad Autónoma de Sinaloa (PIT-UAS), en México, donde ostenta una visión contrastante para las demandas de la sociedad del conocimiento, porque solo se centra en generar y brindar soluciones en aspectos específicamente escolares, donde la asociación entre dos actores limita la innovación y generación de conocimiento. Lo anterior nos conduce en primer lugar a la confirmación de que existe una falta de claridad en los planteamientos del PIT-UAS para los programas de posgrado, por lo tanto, es imperativo su inclusión y desarrollo en el PIT, y segundo, es una necesidad imperiosa de plantear la tutoría en el posgrado como uno de los ejes transversales contribuidores en la formación integral del estudiante desarrollada en competencias abiertas y transferibles en redes del conocimiento para confrontarse a una multitud de situaciones complejas e inciertas en la sociedad actual y para ello es esencial poseer un perfil de tutor o tutora. Sírvase este artículo que denote la contribución a la construcción de un perfil realizado que refleja la totalidad de manera holística y dialéctica bajo una naturaleza descriptiva, interpretativa y evaluativa de los procesos de construcción de un perfil de tutor o tutora de posgrado.

Breve CV

Formación profesional: Lic. en Contaduría Pública, Maestría en Auditoría, Doctorado en Estudios Fiscales. Docente de asignaturas en las áreas contables, fiscales y administrativas en la Universidad Autónoma de Sinaloa (UAS). Participación en eventos académicos regionales, nacionales e internacionales., miembro de la REMINEO, AC desde 2010, Integrante del catálogo de investigadores de programa DELFIN, Académico Certificado en Contaduría Pública por ANFECA, Miembro del Sistema Sinaloense de Investigadores y Tecnólogos (INAPI). Integrante del grupo multidisciplinario: Desarrollo Regional, MiPyMes, Educación y Gobierno. Maestra de asignatura en la Facultad de Contaduría y administración (FCA), y en la Escuela de Ciencias Económicas y Administrativas (ECEA) de la Universidad Autónoma de Sinaloa (UAS), México.

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Séptima Conferencia Iberoamericana de Complejidad, Informática y Cibernética: CICIC 2017

Plenary Session – Thursday, March 23rd, 2017, 1:30 PM – 2:05 PM



Professor Dennis Bialaszewski

**Indiana State University, USA
Management Information Systems
Scott College of Business
President of Alpha Iota Mu**

Plenary Keynote

“Information Systems for the Future: A Global Perspective”

Short Abstract

Dr. Bialaszewski has seen many changes in direction in the field of Information Systems since he taught his first college class in 1972. The introductory course has changed from programming in BASIC and programming logic to a stress on application software to a move towards Open Source software. It appears that vendors had a very large influence on the direction of the curriculum. Movements such as the OLPC and PPlan Ceibal have attempted to take the curriculum in another direction. With the widespread use of Open Source operating systems such as LINUX there is less fear of using Open Source software. GOOGLE and AMAZON use LINUX on their multitude of servers. Universities and companies are always trying to cut costs while not sacrificing quality. In this session we will look at the future of Information Systems from a Global Perspective.

Short Bio

Dennis has been involved with International Academy for Information Management (IAIM) for several years and has served as its President and also Program Chair for the IAIM Conference (New Orleans). He has also served the organization as CoEditor of the Journal of Education for MIS for four years. Dennis received his Ph.D. from SUNY at Buffalo. He is a past recipient of the New York State Chancellor’s Award for Excellence in Teaching. He was Chairperson in the Department of Systems and Decision Sciences of Indiana State University for a period of 10 years. He was instrumental in developing the MIS major at I.S.U. He received a grant to build the first computer lab offered to business students at Indiana State University. Dennis has more than 90 publications and is a member of several professional/academic organizations. He has written the text INFORMATION SYSTEMS FOR THE FUTURE – 2nd edition (ISBN 9781465242201) and is in the process of completing the text AN INTRODUCTION TO GOOGLE DRIVE WITH APPLICATIONS (ISBN 9781465269027). He also serves on multiple journal review boards.

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Plenary Session – Thursday, March 23rd, 2017, 2:05 PM - 2:40 PM



Dr. Michael Von Kutzschenbach

University of Applied Sciences, Northwestern Switzerland

Institute for Information Systems

Research on Learning for Sustainability

Plenary Keynote

“And Then a Miracle Occurs ...” - Engaging the Challenge of Operationalizing Theories of Success in Digital Transformation

Short Abstract

Businesses face numerous critical challenges and rely on managerial competence to respond successfully to them. These responses are called “theories of success” because they purport to be a recipe for achieving the desired outcome. As the limitations of human cognitive capacity are well documented, there is a need for new ways of thinking that clearly lay out the basis of these theories of success. Systems thinking is one approach that contributes to this in two important ways. First, it clarifies the nature of the causal relationships in the problem context. Second, by presenting a clearly specified model of the theory, communication with other stakeholders is improved, thus increasing the likelihood of a better result.

Short Bio

Dr. Michael von Kutzschenbach is a lecturer and senior Researcher at the Institute for Information Systems at the University of Applied Sciences and Arts Northwestern Switzerland (FHNW).

Since 2011, Dr. von Kutzschenbach has been responsible for managing international transdisciplinary research and consulting projects on innovation, digital business transformation management, and sustainability.

With over 15 years’ experience as an academic and consultant, he provides clients with postgraduate education, and does research and consulting work in the interaction of digital transformation and sustainability, especially in the areas of organizational learning and systems thinking in an increasingly “digital world.”

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Plenary Session – Thursday, March 23rd, 2017, 2:40 PM - 3:15 PM



Professor John Coffey

University of West Florida, USA

Computer Science Department

Research Scientist at

Florida Institute for Human and Machine Cognition

Plenary Keynote

"No Warranty Express or Implied: Why Do We Have so many Problems with the Computer Systems that Pervade our Lives?"

Short Abstract

Computer systems, large and small, are everywhere. From the 100+ electronic control units in a modern car to mobile devices to tablets and desktop computers to petabyte databases that are mined for information, computers pervade our lives. When any factor in our lives becomes so pervasive, a range of problems will certainly follow ranging from basic frustration and inconvenience, to lost productivity, to losses due to using the devices apart from problems with the devices themselves, to loss of life. This presentation explores the unique role of computers in our lives from the perspective of their complexity, limits on our ability to ensure that systems are built without errors, tradeoffs inherent in the design of computer systems, and what can be done about these problems.

Short Bio

Dr. John W. Coffey holds a B.S. in Psychology from the College of William and Mary (1971), a B.S. in Systems Science (1989), an M.S. in Computer Science/Software Engineering (1992), and an Ed.D. with an emphasis in Computer Science (2000) from the University of West Florida (UWF). He was one of the first members of the Institute for Human and Machine Cognition (IHMC) and he has worked with that organization for many years. He has been in the Department of Computer Science at the University of West Florida since 1992, starting as a Lecturer and working his way up to his current rank of Professor. He has published a total of more than 100 refereed journal articles, book chapters, technical reports, and conference proceedings. His research interests include knowledge elicitation and representation, web services, and Service Oriented Architecture, advanced technology for education, and computer science education.

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Plenary Session – Friday, March 24th, 2017, 8:00 AM – 8:35 AM



Dr. Suzanne Lunsford

Wright State University, USA

Professor of Chemistry

Keynote Address

“Green Technology: A Global Aspect Needed for Growing a Technological Economy”

Short Abstract

The globalization of higher education in the U.S. should be embraced and not feared to meet the needs of an economic uncertainty. The use of the Green Technology with the aspect of recycling materials to nanoparticle materials to create a novel new product will be applied in this global research project. Our keynote presentation will discuss how to evaluate a problem and find a solution involving aggregates to nanoparticle sensor applications for future possible industrial uses related to the global academic competition with Green Technology

Short Bio

Dr. Suzanne Lunsford is professor at Wright State University and is an electrochemist and an internationally established chemical educator. She has been working with colleagues from *international* universities on how to integrate interdisciplinary science labs to meet the needs of the 21st century. Her research work for over two decades has been developing novel sensor electrodes (modified electrochemically) to detect common neurotransmitters to detecting common heavy metals Lead, Cadmium, Mercury and toxic metal Indium at low concentrations utilizing electrochemistry techniques such as cyclic voltammetry, square wave anodic stripping voltammetry, and differential pulse voltammetry. The electrochemical techniques and modified electrodes are examined further by such techniques as Scanning Electron Microscopy, Atomic Force Microscopy, Fourier Transform Infrared Spectroscopy and Raman Spectroscopy to confirm the electrode surface interactions and stability analysis of the sensor(s) developed to assist our students with a variety of analytical instrumentation techniques. She has received over 1 million dollars in external funding for her international and local educational inquiry-based science research programs at Wright State University.

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Plenary Session – Friday, March 24th, 2017, 8:35 AM - 9:10 AM



Professor Detlev Doherr

University of Applied Sciences, Germany

Dean of the Bachelor Degree Programs

Head of the Institute of Continuing Academic Education

**Director of the Steinbeis Transfer Center of Information Technologies,
Offenburg**

Keynote Address

“Humboldt's Sketch of Nature in Terms of Interconnectedness and Variety”

Short Abstract

Alexander von Humboldt, the German scientist and discoverer of nature, is regarded as the pioneer of ecology, which he described as the interrelationship of the animated and inanimated world as dynamic processes. He contributed to a scientific worldview and defined the basis for the concept of sustainability and sustainable developments. Even after 200 years Humboldt's writings are gaining increasing attention because of his efforts to comprehend nature within the context of interaction and dynamic processes. We accept the views of Alexander von Humboldt to discover the internal forces and the interconnectivity of nature as modern concepts of representative knowledge bases and semantic web structures. But we are stuck with the automatic evaluation of information and creation of digital knowledge by computers. We have got theoretical models and statistical approaches, analytical solutions and numerical results, but we cannot find resilient algorithms as solution finders for the global questions even in the scientific view of nature as one whole, where everything is interconnectedness!

Short Bio

Dr. Detlev Doherr is Professor in Informatics and Geoinformatics of the University of Applied Sciences Offenburg, Germany, since 1990. He received the degrees of diploma and Dr. rer. nat. from the University of Göttingen, Germany in 1983. After an employment at the German Rock salt and Potash industry, where he developed a Geographical Information System for mining and exploration together with IBM, he serves as Professor in Offenburg beginning in 1990. In 1992 he founded the Steinbeis-Transfer Center of Information Technology in Offenburg, which is part of the German Steinbeis- Stiftung. Since 2001 he is working in the fields of digital libraries, Internet portals and virtual environments. He has more than 20 years experiences in developing of Internet based information systems combined with knowledge bases and artificial intelligence. His current interests include knowledge based computing, information technology, and history of natural sciences.

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Plenary Session – Friday, March 24th, 2017, 9:10 AM - 9:45 AM



Dr. Ashton T. Sperry

Ronin Institute for Independent Scholarship, USA

Research Scholar

Philosophy of Science, Decision and Game Theory, and Logic

Keynote Address

“Finding Knowledge in the Messiness of Scientific Practice”

Short Abstract

Science is messy in practice. Very incomplete models of the world are churned through an inductive process of fits and starts. How can science provide any knowledge, given our inability to arrive at accurate representations the world? I argue that there is virtue found in the messiness. Many different representations can act as models, rather than having a narrow specification. Models can be mere data summaries, sketches of explanations missing unspecified details, conjectures of how physical processes might work, while disregarding the actual processes, or more complete explanations. Scientific knowledge is a property of the variety of representations, analogous to how patterns emerge and error is mitigated with the inclusion of more data. The variety of representations is integral to justifying our inferences to the best explanation.

Short bio

Ashton T. Sperry (Ph.D., the University of Missouri) is a Research Scholar at the Ronin Institute for Independent Scholarship. He specializes in the philosophy of science, decision and game theory, and logic. His primary research is on the development of an account of scientific explanation, which includes the complexity of nonlinear dynamic systems, and on the development of an account of bounded rationality for decision and game theory. His research is found in peer-reviewed journals.

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Plenary Session – Friday, March 24th, 2017, 1:20 PM- 2:20 PM



Professor Boris Stilman

University of Colorado at Denver, USA

Computer Science and Engineering

Chairman & CEO at STILMAN Advanced Strategies

Keynote Address

“Intelligent Warfighting:

“Protecting Peace with Ultimate Defense”

Short Abstract

Linguistic Geometry (LG) is a type of game theory scalable to solving complex real world problems that are considered intractable by conventional approaches. Modern applications of LG, related to the US national defense, generate, in real time, courses of action that are highly creative and even exceed the level of those developed by human commanders. Currently, the U.S. Army is adopting the LG software to a wide spectrum of defense systems around the world. This talk will consist of two historical surveys:

- In the first survey, going backward in time, I will review defense applications of LG, from modern battles to the ancient ones. I will introduce participants to several advanced applications of LG, especially those developed for DARPA and US Army and to major experiments utilized those applications. I will also establish link between LG and legendary ancient battles of Alexander the Great and Hannibal. I will introduce the hypothesis that LG is one the ancient algorithms based directly on the Primary Language of the human brain crucial for development of human intelligence.
- In the second survey, going forward in time, I will cover development of LG beginning from the famous Turk Chess “Robot” to the chess program PIONEER to the foundation of STILMAN Advanced Strategies. Within this survey, I will introduce participants to the groundbreaking results in solving chess endgames and positions and to the elements of the theory of LG with the focus on the hierarchy of pictorial constructs, a trajectory, a zone, and a translation, represented as a hierarchy of formal languages.

Short Bio

See above: The Plenary Tutorial “*Discovering Mysteries of Opposing Games*” is also delivered by Professor Boris Stilman

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Plenary Session – Friday, March 24th, 2017, 2:20 PM- 2:45 PM



Drs. Jim Stikeleather

**University of South Florida, USA
PhD Candidate and Scholar Practitioner
Former Chief Innovation Officer at Dell**

Keynote Address

“Complexity: The Domain of the Engaged Scholar”

Short Abstract

DBAs, the emerging class of engaged practitioner scholars of business, live in a world of wicked problems which are difficult or impossible to solve because of incomplete, contradictory, or changing requirements; which are difficult to recognize; which are multi and transdisciplinary in nature; and made up of many diverse and autonomous components which are interrelated, interdependent, with many interconnections, but must be studied as a unified whole. Support for such research in the academic world is strikingly narrow and tenuous. Will it evolve intellectually, in practice and structurally to support needed disciplinary integration and relevance to praxis?

Short Bio

Jim Stikeleather is a practitioner scholar with over 40 years' experience in large companies such as Harris, Honeywell, GTE, Perot Systems, MeadWestvaco and Dell along with starting multiple companies including one which reached 36th on the Inc. 500. Jim is a doctoral candidate at the Muma College of Business, University of South Florida, with expected graduation in 2017. He just recently left the role of Chief Innovation Officer at Dell to dedicate more time to his research on a positive theory of the role and responsibility of business in society and potentially deriving new models of enterprise and enterprise governance.

Jim has a BS in Computer Science from Texas Christian University and an MBA from the University of South Florida. He holds two patents, has authored and contributed to multiple books and articles on technology, innovation and analytics. He is an HBR blogger and speaks internationally.

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Plenary Session – Friday, March 24th, 2017, 2:45 PM - 3:10 PM



Dr. Lorayne Robertson

University of Ontario Institute of Technology (UOIT), Canada

Former Assistant Dean in the Faculty of Education

Former Director of the Graduate Programs in Education

Keynote Address

“(Assistive) Technology at the Point of Instruction”

Short Abstract

Learning theory has been substantiated in research, but much of this research was completed before the emergence of online learning. Surprisingly, online learning theory provides support for differentiated learning in multiple ways, providing new spaces and opportunities for learning. Exploring the historic and legal definition of the provision of "the least restrictive environment" for learners with special needs reveals that communication is a central concept for differentiated learning. Recent policy has been introduced in Ontario, Canada which encourages teachers to consider that differentiated instruction is the right of every learner. This parallels similar pedagogical trends in Australia. The theory and pedagogy behind the Ontario policy change to differentiate "the content, process, and assessment for all" connects strongly to the theory of universal design for learning (US) and enabled classrooms (Australia). There are policy gaps, however, surrounding how technology at the point of instruction can support all learners, and, in particular, those learners who have been identified as having special needs. It is worthy of note that these gaps parallel the disconnects between how learning is happening outside of school and within school. Evidence is growing that solutions to these multiple issues are within the reach but will require transformative thinking for elementary, secondary, and tertiary institutions.

Short Bio

Dr. Lorayne Robertson is an Associate Professor, former Assistant Dean in the Faculty of Education, and former Director of the Graduate Programs in Education at the University of Ontario Institute of Technology (UOIT). Her main Research areas include:

- . Body image, critical health literacy
- . Critical media literacy / digital literacies
- . E-learning in K-12 and Higher Education
- . Technology leadership in schools

Dr. Robertson offers research support to several national organizations in Canada who support girls' health including NEDIC, the national e-health repository for information on eating disorders. She is an advocate of critical body literacy which she defines as follows: "Critical body literacy is a set of skills and understandings related to health that can be gained by students and teachers if they are open to the notion that health means more than size and shape, and how health is defined and determined is constructed socially in ways far more complex than individual choice" (Robertson, 2013).

She was the primary investigator for a KNAER project, Mobilizing Key Body-Positive Health Literacy Curriculum Messages Grades 4 to 9. One of the ways Dr. Robertson's project mobilized knowledge was by creating a web site: teachbodyimage.org. The website has mini-lessons and short teaching units based on research on body image and critical body literacy (Robertson & Thomson, 2012), and it also provides research summaries to help teachers address body image in developmentally-appropriate ways, as well as a wealth of information for parents and teacher, which includes support materials designed to build protective and resilience in students to help them to resist societal pressures to match an unrealistic media ideal.