

Plenary Keynote Speakers for WMSCI 2022 and its collocated events

Schedule: Time slots of presentations

The time zone indicated in the table is: (GMT-4:00) Eastern Time (US and Canada)

<u>Speaker(s)</u>	<u>Time slot</u>	<u>Keynote Address</u>
Shigehiro Hashimoto Kogakuin University, Japan	Tuesday, July 12, 2022 8:00 AM - 8:35 AM	<i>Multidisciplinary Learning Using Online Networking in Biomedical Engineering</i>
Rusudan Makhachashvili and Ivan Semenist Borys Grinchenko Kyiv University, Ukraine	Tuesday, July 12, 2022 8:40 AM - 9:15 AM	<i>Transdisciplinary Communication as A Meta-Framework of Digital Education</i>
Maurício Vieira Kritz University of Manchester, UK; National Laboratory for Scientific Computing (LNCC), Brazil	Tuesday, July 12, 2022 9:20 AM - 9:55 AM	<i>Global Challenges, Collective Brains</i>
Teresa Langness , Nonprofit Board President at Full-Circle Learning, USA	Tuesday, July 12, 2022 1:00 PM – 1:35 PM	<i>The Impact of Convictions on Interlocking Systems</i>
Russell Jay Hendel Towson University, USA	Tuesday, July 12, 2022 1:40 PM - 2:15 PM	<i>A Trans-disciplinary Approach to Refereeing</i>
James M. Lipuma and Cristo E., Yáñez-León New Jersey Institute of Technology, USA	Tuesday, July 12, 2022 2:20 PM - 2:55 PM	<i>Collaborative Convergence: Finding the Language for Trans-Disciplinary Communication to Occur</i>
Ekaterini Nikolarea , University of The Aegean, Lesvos, Greece,	Wednesday, July 13, 2022 8:00 AM – 8:35 AM	<i>Trans-Disciplinary Communication: So Simple but So Difficult! Four Case Studies to Meditate Upon</i>
Pawel Poszytek Foundation for the Development of the Education System, Poland	Wednesday, July 13, 2022 8:40 AM - 9:15 AM	<i>Bridging the Gap Between the World of Education and the World of Business via Standards to Develop Competences 4.0 at Universities</i>
Andrejs Čirjevskis , RISEBA University of Applied Sciences in Business, Arts, and Technology, Latvia	Wednesday, July 13, 2022 9:20 AM - 9:55 AM	<i>The Discourse on Foresight and Valuation of Explicit and Tacit Synergies in Strategic Collaborative Ventures</i>
Richard S. Segall University of Arkansas at Litte Rock, United States	Wednesday, July 13, 2022 1:00 PM - 1:35 PM	<i>Using Artificial Intelligence and Data Visualization for Current Interdisciplinary Applications: Including Business, Urban, Biomedical, and Others</i>
Fr. Joseph Laracy and Thomas Marlowe Seton Hall University, USA; Susu Nousala , Kaunas University of Technology, Lithuania; Creative Systemic Research Platform, Switzerland and Katherine Herbert , Montclair State University, USA	Wednesday, July 13, 2022 1:40 PM - 2:15 PM	<i>Route Maps for Effective and Sustained Transdisciplinary Communication</i>

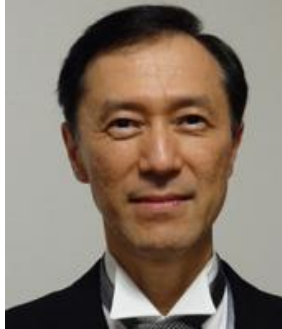
<p>Mohammad Ilyas Florida Atlantic University, USA</p>	<p>Wednesday, July 13, 2022 2:20 PM - 2:55 PM</p>	<p><i>Augmented Intelligence for Advancing Healthcare</i></p>
<p>Justyna Pokojaska University of Warsaw, Poland</p>	<p>Thursday, July 14, 2022 8:00 AM - 8:35 AM</p>	<p><i>The Role of Language in Scientific Persuasion</i></p>
<p>Matthew Schigur, University of Arkansas Grantham, USA and Risa Blair, Purdue University Global, USA</p>	<p>Thursday, July 14, 2022 8:40 AM - 9:15 AM</p>	<p><i>The New Normal in Online Classrooms: An Empirical Study of the Impact of COVID 19 on Students, Professors, and Administration in Higher Education</i></p>
<p>Suzanne Lunsford Wright State University, USA</p>	<p>Thursday, July 14, 2022 9:20 AM -9:55 AM</p>	<p><i>Interdisciplinary Collaborative Effort to Assist All Students in STEM Fields</i></p>
<p>Shahabedin Sagheb & Katie Walkup, Virginia Tech, USA and Robert A. Smith, The Boeing Company and Virginia Tech, USA</p>	<p>Thursday, July 14, 2022 1:00 PM – 1:35 PM</p>	<p><i>University-Industry Collaboration in Project-Based Research and Education Environments</i></p>
<p>Robert Cherinka and Joseph Prezzama The MITRE Corporation, United States</p>	<p>Thursday, July 14, 2022 1:40 PM - 2:15 PM</p>	<p><i>Implementing a Data Strategy That Can Support Impactful Decision Making Amid Ever-Changing, Complex Business Environments</i></p>
<p>Jasmin (Bey) Cowin, USA/Germany Touro University, USA</p>	<p>Thursday, July 14, 2022 2:20 PM - 2:55 PM</p>	<p><i>A Chain of Worlds: Metaverses as the Clavis Aurea?</i></p>

Plenary Keynote Addresses Program

Tuesday, July 12, 2022

Multidisciplinary Learning Using Online Networking in Biomedical Engineering

Tuesday, July 12, 2022 / 8:00 AM - 8:35 AM



Professor Shigehiro Hashimoto, Japan

President of the Society of Life Support Engineering (Japan), Professor of Kogakuin University (Former Councilor and Former Dean, Faculty of Engineering, Former Associate to the President), Doctor of Engineering and Doctor of Medicine, Research Area: Biomedical Engineering.

Dr. Shigehiro Hashimoto now is a professor of Biomedical Engineering, Faculty of Engineering, Kogakuin University, Tokyo, Japan. He got his Bachelor of Engineering in Mechanical Physics (1979), and Master of Engineering at Tokyo Institute of Technology (1981), Tokyo, Doctor of Medicine at Kitasato University (1987), Sagamihara, and Doctor of Engineering at Tokyo Institute of Technology

(1990), Tokyo.

Hewas Research Associate in School of Medicine (1981-1989), and Assistant Professor in School of Medicine (1989 -1994), at Kitasato University, Associate Professor in the Department of Electronics (1994-2001), and Professor at Osaka Institute of Technology (2001-2011). He also was the Creator of the first Department of Biomedical Engineering in Japan at Osaka Institute of Technology (2005) and Director of its Medical Engineering Research Center (2005-2011). He was Associate to President and Dean of Admissions Center (2012-2018), Dean, Faculty of Engineering (2019-2021) at Kogakuin University, Tokyo. He experienced internship in Research Center for Artificial Heart in Free University in Berlin (1977). He is the author of the books of “Polydimethylsiloxane, Structure and Applications (2020)”, “Introduction to Biosystems Engineering (1996)”, “Introduction to Bio-measurement Engineering (2000)”, and “Introduction to Biomechanical Engineering (2013)”. His present researches focus on bio-cellular mechanics using micro-machined flow channel.

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<http://www.mech.kogakuin.ac.jp/labs/bio/>

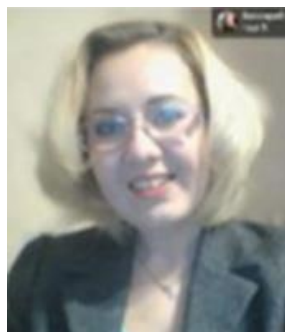
Abstract

Multifaceted thinking is important to tackle global issues for a sustainable society. It is difficult to select useful information from big data with one-sided thinking. In this keynote, the presenter takes as an example the controversy related to “vaccines” and “masks” in pandemics. Online is useful under the control of infectious diseases. Face-to-face group meetings make it easy to interrupt group activities for individual activities. Online meetings are considering various ideas as an alternative to face-to-face meetings. The field of biomedical engineering includes faculties and students from diverse backgrounds. “Cross-cultural exchange” is also useful for multifaceted experiences. With the keyword “life support technology”, Japanese academic society and Thai university conducted online networking for information exchange. The academic society is working to encourage students. The university is developing new fields. Information exchange is

expected to lead to further development in complex fields. It is expected to lead to the development of human resources who can deal with global problems.

Transdisciplinary Communication as a Meta-Framework of Digital Education

Tuesday, July 12, 2022 / 8:40 AM - 9:15 AM



Professor Rusudan Makhachashvili, Ukraine

Borys Grinchenko Kyiv University, Head of Romance Languages and Typology Department.

Professor Rusudan Makhachashvili is Doctor Habilitated, English and Spanish major, Head of Romance Languages and Typology Department of Borys Grinchenko Kyiv University, Ukraine. Editor in Chief of the Journal "Synopsis: Text. Context. Media". Main academic interests: interdisciplinary studies in Liberal Arts, digital education, digital humanities, digital literacy development, cognitive and communicative linguistics. European Commission Horizon 2020 Grant Evaluation Expert. Exemplary published works: Linguophilosophic

Parameters of English Innovations in Technosphere (UK 2015), Models and Digital Diagnostics Tools for the Innovative Polylingual Logosphere of Computer Being Dynamics (Peter Lang, Berlin, 2020), ICT Tools and Practices for Final Qualification Assessment in the Framework of COVID-19 Lockdown (Poland, 2020), Digital Distance And Blended Learning Quality Assessment In Oriental And European Languages University Programs: Regions Of Ukraine Survey Study (Japan, 2021).



Professor Ivan Semenist, Ukraine

Borys Grinchenko Kyiv University, Head of Oriental Languages and Translation Department.

Professor Ivan Semenist, Doctor Habilitated, English and Chinese major, Head of Oriental Languages and Translation Department, Head of Ukrainian National Association of Teachers of Chinese, Borys Grinchenko Kyiv University, Ukraine. Editor in Chief of Ukrainian Journal of Sinology Studies. Main academic interests: oriental studies, interdisciplinary studies in Liberal Arts, digital learning, digital literacy development, oriental languages, cultural and linguistic-literary ties of Ukraine with the countries of the East. Exemplary published works:

Modern Chinese Society -New Perspectives: New research between China and Ukraine scientists (Social Sciences Academic Press, China 2017), Japan's New Role In The World: The Discussion Of Early 1990's (Ukraine 2016), ICT Tools and Practices for Final Qualification Assessment in the Framework of COVID-19 Lockdown (Poland, 2020), Digital Distance And Blended Learning Quality Assessment In Oriental And European Languages University Programs: Regions Of Ukraine Survey Study (Japan, 2021).

Abstract

Dynamic transformation of the knowledge economy, enhanced by Industry 4.0/5.0 development and rise of the networked society in the Digital Age, emergency digitization of all social communicative spheres due to pandemic measures have imposed dramatic changes onto transdisciplinary overlap in different areas of human knowledge and experience, induced by the cross-sectorial job market demands of university level education, curriculum design and learning outcomes.

The Covid-19 pandemic induced amplified digitalization measures in the higher education sphere. This end-to-end digital shift in the educational processes (communication, content, outcomes and outputs, skills) heralded the introduction of meta-disciplinary dimensions of learning – digital, hybrid and, blended. These meta-disciplinary dimensions can be considered conduits of vertical (endocentric) and horizontal (exocentric) transdisciplinary of digital education as a communicative system.

Applied trans-disciplinary lens of the phenomenological approach contributes to the solution of holistic modeling of processes and results of updating models and mechanisms of the highly dynamic communication system of education in the digital environment as a whole and its individual formats at the beginning of the XXI century in particular.

The innovative nature of communication in the field of acquiring new knowledge in the global digital environment is determined by the phenomenological consolidation of substantive (ontological, pre-suppositional/cognitive) characteristics of the macrostructure of communication in statics and end-to-end dynamic interaction of formal and semantic constituents and technological (digital) tools. The paradigm of innovation of educational communication in the digital realm (as a multidimensional, complex, dynamic system) is defined as the most comprehensive quantitative and qualitative terms of linguo-cognitive actualization of being, determined by a number of qualifying conditions of its emergence, existence and development. The inquiry results allow to provide a transdisciplinary synthesis of educational communication paradigm across communicative theory, information theory, philosophy, education and e-learning studies, semiotics, digital humanities.

Trans-disciplinarity, subsequently, is perceived as a transcendent product of merging multiple interconnected knowledge domains. *Transdisciplinarity of innovative educational communication in generalis*, therefore, postulated in this study as a computational framework of interconnected types of disciplinarity. **Meta-disciplinarity** of innovative educational communication is determined through the *digital ambient, content and tools of its implementation*. The digital meta-dimension becomes the source of systemic structuring of innovative educational communication on macro- and micro-levels.

The fundamental transdisciplinarity, that digital procedural transformations imposed on the educational process, is verified by a unified framework of correspondence between the components of a crucial *communicative competence*, comprising of a diverse skillset, and various aspects of *digital competence*, utilized in the educational process as a communicative framework.

The result of a fundamental Technosphere shift in the sphere of Education, induced by the COVID-19 pandemic development and enhanced by continuous iterative digitalization measures, was the need to take quick comprehensive action in order to achieve such desirable results: a) To activate comprehensive transdisciplinary domains and corresponding interdisciplinary skillsets, otherwise latent or underutilized in the educational process; b) To enhance the scope of communication skills beyond the domains traditionally reserved for Arts and Humanities education; c) To boost information and communication technological competence and digital literacy, to meet the requirements of (post)COVID-19 job market and workplace; d) to introduce digital meta-solutions for facilitation of formal and informal educational workflow and communication.

The findings of the comprehensive framework research project ‘TRANSITION’ disclose a wide scope of generalized issues, permeating the social and educational context worldwide: global event horizon and paradigm shifts in the multi-disciplinary trends and meta-dimensions of digital education in the emergency digitization timeframes and beyond; transformative changes and avenues of development of the network society and education as transdisciplinary socio-cultural institution in the digital meta-coordinates; global

experiences, universal/generic challenges, technical advances and specific national gains in quality assurance of digital and hybrid learning in the emergency digitization paradigm.

Global Challenges, Collective Brains

Tuesday, July 12, 2022 / 9:20 AM - 9:55 AM



Dr. Mauricio Vieira Kritz, UK/Brazil

University of Manchester, Faculty of Biology, Medicine, and Health / National Laboratory for Scientific Computing, Petrópolis, Graduate Program on Modelling Knowledge Diffusion.

Dr. Mauricio Vieira Kritz affirms that “Ever since I was attracted to science, I considered specialisation harmful. I entered college aiming physics, switched to mathematics, and ended with majors in mathematical-physics and informatics. While working at the Brazilian Bureau of Censuses, I got a M.Sc. in statistics and sampling. My work also included developing simulators for socio-economic subjects. Adhering to general systems as a firm ground for my thinking was most natural in that context. My PhD work was about computational modelling of physical phenomena, although this term didn’t exist then. Being the leader in a project to computationally model artificial lakes in the Amazon region moved me into an adventurous quest to find simpler ways to describe, investigate, and understand living phenomena. This quest, centered on organisation and information, fuel my thoughts still today. Decades after the Amazon project I became PI to the flooded areas group in a multi-institutional network set to model the Amazon landscape in all dimensions: geo-physical, biotic, and socio-economic. Both projects provided me with the opportunity to visit scientific field sites in the jungle and to work with field ecologists. I have taught short and regular courses since graduation on several subjects and regularly on modelling techniques since 2008.”

Abstract

Humankind faces the imperative to deal with global challenges — climate change, transnational economies, or borderless virus-infections. Some of these challenges stem from the size of or non-linearities in the subjacent phenomenon, while others from its complexity. Most stem from phenomena in the organised complexity class, and fall beyond the intellectual reach of individuals, small groups, or even single scientific disciplines. We can continue doing science centered on individuals, in the way we have been doing so far, and await several decades until enough observations and knowledge are made widely available, or we can critically examine our scientific milieu and re-invent ourselves to become extra-corporeal beings (not a collection of people), essentially multidisciplinary and naturally creative to a higher dimension; like science itself. This talk is about the second possibility. Its arguments draw from intellectual instruments developed by classical system science as well as other sister sciences, novel technologies, and the organisation/information framework used in my regular talk. JG Miller’s functions are also used but need to be refreshed in the light of new knowledge about human brains and interpersonal communication.

The Impact of Convictions on Interlocking Systems

Tuesday, July 12, 2022 / 1:00 PM - 1:35 PM



Dr. Teresa Langness, USA

Nonprofit Board President at Full-Circle Learning.

Dr. Teresa Langness, is an author (50 books), an educational development specialist, and an editor. She is the author of *Nine O'Clock Blue* and Founder of Full-Circle Learning, a project-based integrated education model pioneered in 1992 and applied in 35 countries by 2021. Programs include capacity building for teachers, especially in developing countries, and direct service for educational programs in the US, to help each generation embrace its role as society's humanitarians and change agents. See www.fullcirclelearning.org for details about worldwide programs.

Her book-length works include educational texts, literary historical fiction, poetry and nonfiction. She has participated with conference papers on environmental, sociological, and educational issues. Dr. Langness is content developer for all learning levels, including online course content; staff positions have included in-house education companies. She wrote and published five professional music CDs to support curriculum.

Other publishing credits include *The Writer*, *Seattle Times*, *Rocky Mountain News*, literary journals and other periodicals. Dr. Langness also served as an officer on multiple boards, in the fields of education, environment, human relations, and the public health, including North American Bear Society, Human Relations Forum of Torrance, Health for Humanity, Visions of Unity Project, Nevada County Climate Action Now, CCBB and Baha'i Spiritual Assembly. She is a recipient of various service awards and was nominated for the Yidan prize and the Gustavus Meyerson literary award.

Abstract

What gives a researcher the conviction that a project deserves the time spent collecting data—or does the data itself inspire the research? Conviction, in this context, refers to the confidence that the data will potentially inform or enhance the work in a given field (a system). While objectivity about the collection process itself requires integrity, the decision to apply for funding and move forward require this more elusive sense of commitment.

Discussions about integrity in research assume a universal standard, but only recently have studies examined the varied interpretations of “integrity.” More than a moral code, more than a lack of statistical bias, to most researchers, integrity may imply response to an undefinable sense of “truth.” (Shaw, Satalkar 2018) Today’s constantly changing conditions remain fraught with decisions about topical relevance, questions of bias, and the caution not to act on outdated statistics that confirm our worst assumptions and confuse questions of “truth.” (Rosling 2018)

This presentation draws on research in systems theory, health informatics, environmental science, and transdisciplinary education to define an analog for long-term research projects in which the data itself inspired the conviction to sustain a project with counterintuitive data. Once set in motion, the pattern of sustainability redefined expectations, thus launching parallel research--imitable patterns of hopeful action--in surrounding systems, each driven by new observations and statistics.

A Trans-disciplinary Approach to Refereeing

Tuesday, July 12, 2022 / 1:40 PM - 2:15 PM



Dr. Russell Jay Hendel, USA

Towson University, Dept. of Mathematics, doctoral program at the Spertus Institute for a degree in Jewish studies.

Russell Jay Hendel holds a doctorate in theoretical mathematics from M.I.T., an associateship from the Society of Actuaries, and is in a doctoral program at the Spertus Institute for a degree in Jewish studies. He is currently an Adjunct III faculty member at Towson University, which is a Center of Actuarial Excellence. His research and publication interests include discrete number theory, actuarial science, biblical exegesis, the theory of pedagogy, applications of technology to pedagogy, and the interaction of mathematics and the arts. He regularly reviews papers for the American Mathematical Society and also reviews books for the Mathematical Association of America. Dr. Russell Jay Hendel is a current member of the American Mathematical Society, Mathematics Association of America, and AMIT. He also was Coordinator of Judges for the New York Mathematics Fair, 1995-2018, and has been listed as a noteworthy Educator by Marquis Who's Who. Dr. Russell Jay Hendel teaches actuarial mathematics at Towson University's Center for Actuarial Excellence. He hosts a website, rashiyomi.com, devoted to explaining the literary methods of Rashi a major biblical commentator. He resides in Baltimore, where he is co-president of the local AMIT chapter and is also a member of the AMIT President's Circle. AMIT was named the top educational network in Israel by the ministry of education using both quantitative and qualitative metrics for four consecutive years.

Abstract

Refereeing is a multi-stakeholder activity. The referee must meet the requirements of the journal for whom the referral is being done since the reputation, quality, and integrity of the journal depends on the quality of papers submitted. The referee must meet the requirements of the author since article acceptance is one factor for promotion, tenure, as well as the self-esteem of the author in the author's academic circle.

It turns out that multiple stakeholder activities resulting from verbal discussions occupies a major component of Jewish Law and has its foundations in both the Bible, Talmud, and code of Jewish law. The gossip-slander laws govern all aspects of verbal and written discussions and communications about people, entities, as well as the products of people and entities. There is a continual emphasis on consequences of communication. Truth by itself is not a justification for communication. Major legal works have been written on the subject and foundations have been formed to provide outreach, education, books, and programs.

The gossip-slander laws address several multi-stakeholder situations for example prospective marriages where a person may know something about one of the parties involved or prospective employment situations where a person may know something about one of the parties involved. In such situations, passivity, doing nothing, can be equally unacceptable to over-activity, blaming too much. The slander-gossip laws as developed in the Jewish Law books provides the "checklist" that facilitates dealing with multi-stakeholder situations. This presentation will review the "checklist" as well as its applicability to refereeing.

Collaborative Convergence: Finding the Language for Trans-Disciplinary Communication to Occur

Tuesday, July 12, 2022 / 2:20 PM - 2:55 PM



Dr. James Lipuma, USA

New Jersey Institute of Technology, Director of the Collaborative for Leadership Education, and Assessment Research (CLEAR)

Dr. James Lipuma is a faculty member in the Humanities Department at the New Jersey Institute of Technology and director of the Collaborative for Leadership Education, and Assessment Research (CLEAR).

He holds a BS in Chemical Engineering from Stanford University, an MS in Environmental Policy Studies and a PhD in Environmental Science from NJIT, and a Master of Education in Curriculum and Teaching focused in Science Education from Teachers College, Columbia University. He conducts extensive research in digital learning, curriculum, and instructional design and is currently piloting online converged course delivery methods.

In his role as director, Dr. Lipuma has completed curriculum development, assessment design, program evaluation, and program design and development projects for public schools, universities, the NJ Department of Education, Us Department of Education, and the National Science Foundation. He has also taught more than 5,000 students in more than 200 courses in his 25 years at the New Jersey Institute of Technology. He has completed work on nearly \$6M worth of grants including over \$2.5M as lead Pi or CoPI as well as received over \$250K worth of donations.

Legally blind since nine, Dr. Lipuma appreciates the need for positive change and works to promote broader participation for women and under-represented minorities in Science Technology, Engineering, and Mathematics (STEM) as part of STEMforsuccess.org and other STEM Literacy projects he leads.



Cristo E. Yáñez-León, MSc., USA

New Jersey Institute of Technology, Director of Research, CSLA, Office of Research & Development.

In this role, Cristo manages the logistics of research programs as well as pre- and post-award actions for +100 active grants, overseeing the submission process of +200 proposals per year, serving as a liaison with the Office of Research, the College Dean, 6 departments, and over 110 faculty PIs.

Cristo's experiences have included over 14 years in directive positions. Managing logistics, facilitating organizational development training, designing business innovation plans, and implementing innovation projects for organizations including NJIT, Northern Ocean Habitat for Humanity, Ocean County College, Monterrey Institute of Technology & Higher Education, and the University of Veracruz. Cristo also develops and facilitates courses for the Monterrey Institute of Technology & Higher Education "ITESM" in Latin America for C-Level executives of corporations including: KPMG, Chedraui Inc., Coca-Cola Femsa, PEMEX, Continental, Adelca, SemMaterials, and Adecco among others.

After completing his Master's in Business Administration in 2015 with "Suma cum laude" he was awarded the "Generation Leader EXATEC 2021" title by the Monterrey Institute of Technology & Higher Education. Currently, he is a Ph.D. Graduate Student on Management and Innovation of Institutions, his research areas

are Convergence, Innovation, Broadening Impact and Participation, Strategic Planning, Digital Marketing, and Business Storytelling.

Abstract

The proper study of communication from existing models opens the doors to scientific research that allows exploring language and coding as an integral part of effective communication to generate new models that include Trans-Disciplinary Collaboration. The presenters analyze the factors of communication to describe the application of Trans-Disciplinary Communication.

This presentation aims to define the communication processes and their relationship with language, considering their impact on Trans-Disciplinary Collaboration for innovation.

After conducting a systematic literature review the presenters explored the concepts of communication, functions, language, and Trans-Disciplinary Communication. This led to its application in the convergence research approach as presented in the Collaborative Convergence Pyramid.

Wednesday, July 13, 2022

Trans-Disciplinary Communication: So Simple but So Difficult! Four Case Studies to Meditate Upon

Wednesday, July 13, 2022 / 8:00 AM - 8:35 AM



Dr. Ekaterini Nikolarea, Greece

University of The Aegean, Lesvos, School of Social Sciences, Department of Geography.

Dr. Ekaterini Nikolarea got her BA in English Studies from Greece and her MA and PhD in Comparative Literature from Canada. She was awarded major Canadian Fellowships, Prizes and a Post-Doctoral Fellowship for her contribution to Translation Studies.

Ekaterini has published articles on theatre translation (the most known being “*Performability versus Readability: A Historical Overview of a Theoretical Polarization in Theatre Translation.*” *Translation Journal* 6.4 (October 2002; it can be viewed at <http://translationjournal.net/journal/22theater.htm>), reviewed books and articles and authored two Studies Programs for Applied Linguistics. She taught World Literature, English and Greek (*Koine* and Modern Greek) at Canadian and US Universities, while being in North America.

Since she came back to Greece, Ekaterini has been appointed an ESP (: English for Specific Purposes) and EAP (: English for Academic Purposes) teacher in the School of Social Sciences, and has been teaching ESP and EAP in the Departments of: Geography, Social Anthropology and History, Cultural Technology and Communication, Sociology and Marine Sciences of the respective university.

In her spare time, she does research both on teaching foreign languages (especially, English) at a university level and on theatre translation, publishes articles, reviews articles for international journals, and works as a freelance bi-directional translator and interpreter, when her services are required.

Abstract

This presentation will be a psychological exploration at a metacognitive level why trans-disciplinary communication, although it seems so simple, is so difficult, and is usually avoided.

The presenter will present four case studies from her own experience in teaching ESP/EAP[1] at a non-English University:

1. ESP/EAP teachers' resistance in teaching ESP/EAP at a non-English University using the language of instruction (which different from English; i.e., Greek), when it is required. Their resistance in recognizing and dealing with linguistic asymmetries in two different scientific discourses (e.g., English: Greek) and teaching their students how to handle them, when the latter should transfer the knowledge, they acquire from international bibliographical references written in English to their regular classes which are taught in a language different from English.
2. Students' resistance in recognizing and dealing with linguistic asymmetries in two different scientific discourses (e.g., English: Greek), and, eventually, in storing their knowledge in a bilingual (e.g., English: Greek) Terminological Data Bank (TDB) for their future reference.
3. Academics' resistance in helping their students how to handle difficult bibliographical references written in English, when the former require that the latter make oral presentations of literature written in English in the language of instruction (i.e., Greek).
4. Academics' resistance in showing students how to organize their bibliographical references. This task usually falls upon EAP teachers, who can do their best if they have the knowledge required – that is, what happens when there are mixed bibliographical references where they are not written in the Latin alphabet; for example, in the Greek, Arabic or Cyrillic alphabet?

The presenter will go under the surface of the aforementioned kinds of resistance, discussing how “simplicity” requires getting out our “comfort zone” and explore the “unchartered waters” of “academic uncertainty.” In this sense, she will agree with Steve Jobs that “*Simple can be harder than complex: You have to work hard to get your thinking clean to make it simple. But it's worth it in the end because once you get there, you can move mountains.*”

[1] ESP: English for Specific Purposes; EAP: English for Academic Purposes.

Bridging the Gap Between the World of Education and the World of Business via Standards to Develop Competences 4.0 at Universities

Wednesday, July 13, 2022 / 8:40 AM - 9:15 AM



Dr. Pawel Poszytek, Poland

Foundation for the Development of the Education System, General Director, Member of working groups of the European Commission and the Ministry of National Education of Poland

Paweł Poszytek, PhD, Director General of the Polish National Agency of Erasmus+ Programme. Member of several working groups by the European Commission and the Ministry of National Education of the Republic of Poland, coordinator of the Country profile Project implemented by the Council of Europe. Reviewer of the national core curriculum in foreign language teaching in 2008 and co-author of 2016/2017 curriculum update. Former member of the executive

board of the European Association of Language Teaching and Assessment. Former coordinator of Lingua, European Language Label and eTwinning programmes in Poland and member of the board of the Polish National Agency of Lifelong Learning Programme. Currently, general director of the Foundation for the Development of Education System – Polish National Agency for European Union educational programmes.

Abstract

The author of this article has proved in a separate bibliometric analysis that in most cases the world of education and the world of business use different terminology when discussing the competences needed on the current and future labor market. The former tends to refer to competences of the future while the latter uses the term competences 4.0 more often, which results from binding this phenomenon with the digital transformation and current changes in industry generally called the 4th industrial revolution. The differences in terminology in this respect also refer to the way these competences are defined, although in most cases they refer to three main domains: (1) technical competences; (2) cognitive competences and (3) social competences. Detailed description and definitions of these competences' domains can be found in author's various publications.

On the basis of the above, the research group of the Polish NGO, The Platform for the Industry of the Future, designed the certification system for universities which would like to be labelled as universities that educate for the future and develop the competences of the future among their students. This certification system is based on the following standard: (1) curriculum; (2) internal ecosystem at a university; (3) cooperation with an external ecosystem; (4) the teaching staff and (5) infrastructure at a university. The certification system provides and defines detailed criteria for each element of the standard mentioned above, as well as indicators that measure the fulfilment of these criteria. The elements of the standard, the criteria and the indicators will be discussed in detail during the plenary speech and the subsequent full paper.

The Discourse on Foresight and Valuation of Explicit and Tacit Synergies in Strategic Collaborative Ventures

Wednesday, July 13, 2022 / 9:20 AM - 9:55 AM



Professor Andrejs Čirjevskis, Latvia
RISEBA University of Applied Sciences, Riga.

Dr. Andrejs Čirjevskis is a full professor in Strategic Management at RISEBA University of Applied Sciences (Riga, Latvia). He holds a Ph.D. in economics from Riga Technical University (Latvia). Prof. Čirjevskis's research interests include dynamic capabilities framework, business model innovation, value innovation, and real option valuation. He spoke numerous times at international scientific conferences and meetings. At present, he is a Chairman of the Promotional Council and a Deputy of Chairman of the Professors' council of RISEBA University of Applied Sciences. Before his academic career, he led more

than 10 years executive functions within state-run and privately-run international companies, and he consulted public and private sector organizations.

Abstract

Corporate foresight has a clear and systematic orientation toward the future and presents an ability to reconfigure the corporate resource base by including the resources of collaborators. However, realizing the

value-creating potential of collaborative strategies is very challenging. One of the most important questions in business partners' strategic collaboration is whether their strategies add market value and, thus, create a collaborative synergy. This plenary session presentation aims to develop a conceptual framework useful for scholars and practitioners to the foresight of explicit synergies and value a tacit synergy in strategic collaborative ventures. The presentation is novel theoretical and empirical contributions to foresight an explicit competence-based synergy in collaborative ventures from the resources-based view employing the ARCTIC framework and values a tacit competence-based synergy using simple and compound real options applications. This is the main theoretical contribution of this presentation. The presentation makes also several theoretical and empirical contributions to the intersection between strategic management, international business, and corporate finance disciplines.

Using Artificial Intelligence and Data Visualization for Current Interdisciplinary Applications: Including Business, Urban, Biomedical and Other

Wednesday, July 13, 2022 / 1:00 PM - 1:35 PM



Professor Richard Segall, USA

Arkansas State University, Department of Information Systems & Business Analytics (ISBA), Neil Griffin College of Business.

Dr. Richard S. Segall is Professor of Information Systems and Business Analytics at Arkansas State University in Jonesboro, AR where he also taught for ten years in the College of Engineering & Computer Science Master of Engineering Management (MEM) Program and is Affiliated Faculty of the Environmental Sciences Program and Center for No-Boundary Thinking (CNBT). He is also Affiliated Faculty at University of Arkansas at Little Rock (UALR) where he serves on thesis committees. He has previously served on the faculty of Texas

Tech University, University of Louisville, University of New Hampshire, University of Massachusetts-Lowell, and West Virginia University. His publications have appeared in journals including *International Journal of Fog Computing (IJFC)*, *International Journal of Open Source Software and Processes (IJOSP)*, *International Journal of Information Technology and Decision Making (IJITDM)*, *International Journal of Information and Decision Sciences (IJIDS)*, *Applied Mathematical Modelling (AMM)*, *Kybernetes: The International Journal of Cybernetics, Systems and Management Sciences*, *Journal of the Operational Research Society (JORS)* and *Journal of Systemics, Cybernetics and Informatics (JSCI)*.

He has book chapters in *Research Anthology on Privatizing and Securing Data*, *Encyclopedia of Data Warehousing and Mining*, *Handbook of Computational Intelligence in Manufacturing and Production Management*, *Handbook of Research on Text and Web Mining Technologies*, *Encyclopedia of Information Science & Technology*, and *Encyclopedia of Business Analytics & Optimization*. He has edited 5 published books: [Biomedical and Business Applications using Artificial Neural Networks and Machine Learning](#) published by IGI Global in 2022, [Open Source Software for Statistical Analysis of Big Data](#) published by IGI Global in 2020, [Handbook of Big Data Storage and Visualization Techniques](#) (2 volumes) published by IGI Global in 2018, [Research and Applications in Global Supercomputing](#) published by IGI Global in 2015, and [Visual Analytics and Interactive Technologies: Data, Text and Web Mining Applications](#) published by IGI Global in 2011.

He was a member of the Arkansas Center for Plant-Powered-Production (P3) from 2008 to 2016, and is currently on the Editorial Board of the *International Journal of Data Mining, Modelling and Management*

(IJDDMM) and *International Journal of Data Science (IJDS)*, and served as Local Arrangements Chair of the 2010 MidSouth Computational Biology & Bioinformatics Society (MCBIOS) Conference. His research interests include data mining, text mining, web mining, database management, Big Data, and mathematical modeling. His research has been funded by National Research Council (NRC), U.S. Air Force (USAF), National Aeronautical and Space Administration (NASA), Arkansas Biosciences Institute (ABI), and Arkansas Science & Technology Authority (ASTA).

He is recipient of Session Best Paper awards at the 2008, 2009, 2010, 2011, 2013 and 2016 World Multi-Conference on Systemics, Cybernetics and Informatics (WMSCI) Conferences, and Faculty Awards for Excellence in Research in 2015 and 2019 by Neil Griffin College of Business and University Award for Scholarship (Research) in 2020 at Arkansas State University.

Abstract

Artificial Intelligence (AI) is the science of making intelligence machines that can perceive visual items, recognize voice, and make decisions and predictions, and more. Artificial Intelligence is composed of techniques that includes machine learning, computer vision, fuzzy logic, neural networks and other.

This presentation first provides a brief background of what Artificial Intelligence (AI) is and an overview of its techniques, including the taxonomy and visualization of 29-types of neural networks.

This presentation will then focus on interdisciplinary applications of Artificial Intelligence using neural networks and machine learning for applications to include those for data visualization of: predicting spending of mall customers, restaurant sales, Uber traffic, churn model for bank losing customers, and COVID-19 statistical predictions and detection.

Route Maps for Effective and Sustained Transdisciplinary Communication Wednesday, July 13, 2022 / 1:40 PM - 2:15 PM



Professor Thomas Marlowe, USA

Seton Hall University, Professor Emeritus, Department of Mathematics and Computer Science, PhD in Computer Science and PhD in Mathematics.

Thomas J. Marlowe is Professor Emeritus in the Department of Mathematics and Computer Science at Seton Hall University, where he taught a wide variety of courses in both disciplines for almost 40 year, and where he continues to teach occasionally as an adjunct. Professor Marlowe enjoys working with students and with professional colleagues-almost all his research is collaborative. His professional interests have included, in mathematics, abstract algebra and discrete mathematics; in computer science, programming languages, real-time systems, software engineering, and pedagogy; and in information science, collaboration and knowledge management. His two PhDs are from Rutgers, The State University of New Jersey. He has over 100 publications in refereed conferences and journals in mathematics, computer science and information science, and has been a member on more than 10 Ph.D. thesis and 5 M.S. thesis committees, a member of more than 25 conference program committees, and a reviewer for numerous conferences, journals, and grants. He is the founder of an ongoing professional conference, and has been active with the IIIS and the WMSCI multiconference since 2008.



Fr. Dr. Joseph R. Laracy, USA

Seton Hall University, Department of Systematic Theology & Department of Mathematics and Computer Science.

Father Laracy is a priest of the Roman Catholic Archdiocese of Newark and assistant professor at Seton Hall University. He earned a doctorate from the Pontifical Gregorian University in Rome. Within the field of systemics, Laracy is interested in systems theory (e.g., cybernetics), applied dynamical systems (e.g., modeling with differential equations), and systems engineering (e.g., safety & security engineering). Laracy's principal theological interests are in the intersection of faith & reason and theology & science. A significant part of his research and teaching is focused on placing the Catholic Intellectual Tradition, especially theology, in dialogue with the sciences: formal science (e.g., logic & mathematics), natural science (e.g., astrophysics & evolutionary biology), applied science/engineering (e.g., cybernetics), and medicine (e.g., psychiatry). Laracy's early career interests as a graduate student at the Complex Systems Research Laboratory at MIT concentrated on uncertainty and dynamics in large-scale, complex engineering systems. He looked at key sources of uncertainty, ways to model and quantify uncertainty, and ways to maintain properties such as safety and security as systems change over time. His work was supported by a NASA Ames Research Center Grant (Model-Based Hazard Analysis Research) and an NSF Grant (A Socio-Technical Approach to Internet Security). As an undergraduate engineering student at the University of Illinois, he pursued research to develop a scalable RSA cryptographic co-processor supported by an NSF VIGRE Grant, worked on a software pattern-based fly-by-wire aircraft control system, and served as a teaching assistant for a course on the Physics of Nuclear Weapons, Warfare, and Arms Control. In the course of his studies, he held engineering positions with Lucent Technologies (Wireless Terminal Interoperability Laboratory), Ball Aerospace and Technologies (NASA Deep Impact Mission), and Light Source Energy Services.



Dr. Katherine Herbert, USA

Montclair State University, Center for Computing and Information Science

Dr. Katherine Herbert is associate professor in Computer Science. She is a career bioinformatics and database researcher and educator. She is associate professor of Computer Science and researches scientific database issues. She has interests in Bioinformatics, Cheminformatics, Sustainability and is open to exploring other database concerns.

Her Research interests are Computing in Mathematics, Natural Science, Engineering and Medicine, Databases and Data Mining. Her Scholarly Interests are Bioinformatics, Data Quality, Data Cleaning, Data Integration, Data Mining and Knowledge Discovery, Information Retrieval

Her expertise related to UN Sustainable Development Goals. In 2015, UN member states agreed to 17 global **Sustainable Development Goals (SDGs)** to end poverty, protect the planet and ensure prosperity for all. This person's work contributes toward the following SDG(s):



Professor. Susu Nousala, Lithuania and Switzerland

Kaunas University of Technology (KTU), Lithuania and Creative Systemic Research Platform (CSRP), Switzerland

Dr. Susu Nousala, is a former lecturer at Tongji University (**Shanghai**), Professor with the College of Design and Innovation, former researcher in sustainable design at Aalto University (Finland) and Fellow at SIAL (Spatial Information Architecture Lab), RMIT Design and Social Context, School of Architecture and Design, RMIT University.

A Professor with Design and Innovation (D&I), Tongji University, Founder and Director of Creative Systemic Research Platform, developing systemic project based learning, programs, concepts and practice with international partners. Previously a (“Chitian Scholar”) Professor with Wuhan University of Technology (part time, 2014/15 - 2018), and previously a Senior Research Fellow at Aalto University, Finland. At Aalto, lectured for the “creative sustainability program” (CS), was a course developer and project coordinator for Aalto LABs (a CS project). She has also been awarded an honorary Research Fellow at GAMUT, Faculty of Architecture, Building and Planning, University of Melbourne, Australia (current). Susu has been visiting professor at Chiang Mai University (Thailand) with the faculty of Management, business administration, and was as a co-founder and co-director of Kororoit Institute (KI) Melbourne, Australia (KI is interdisciplinary research of complex and chaotic systems). Susu has been a Research Fellow at RMIT Design and Social Context, managing/researching for National and International research projects. Previous work and training has included art and cultural material conservation practice for various major cultural institutions Australia, England, France, Holland, USA and Singapore. To date she chaired and co-chaired at numerous international symposiums and conferences, is author and co-author for more than 60 refereed journal, conference papers and book chapters. She has received academic and international awards as an invited guest and keynote speaker. She has been successful in working with many multi-disciplinary teams (and securing funding for National/International projects) in many countries including, Australia, New Zealand, Singapore, Malaysia, Indonesia, Thailand, Laos, Vietnam, India, Hong Kong, Taiwan, China, Finland, Denmark, England, France, Germany, Italy, Spain, Switzerland, Central America (Mexico City and other regions) and North America.

Abstract:

Effective communication across disciplines is often difficult, with each discipline having its own perceptions, approaches, terminology, and standards for research and for publication. There are major challenges in both formulation and dissemination. In the latter, important questions or findings are to be disseminated to a broad academic or educated general audience, while in the former, an inter- or trans-disciplinary team or venture is to be created and sustained. Such a team or venture may focus on a problem domain (such as security), on a nascent methodology or technology (such as data analytics), or on an important issue (such as sustainability). Fortunately, there are a number of techniques and approaches that apply to the communication issues across these challenges. In this keynote, we engage the difficulties of transdisciplinary communication, together with some past work of Callaos and others. Particular attend is paid to the challenges in team-building, sustainment, and long-term focus. We suggest approaches for “route maps”—creating our own long-term team focused on building an atlas, guidebook, and route planner for successful transdisciplinary communication.

Augmented Intelligence for Advancing Healthcare

Wednesday, July 13, 2022 / 2:20 PM - 2:55 PM



Professor Mohammad Ilyas, USA

Florida Atlantic University, College of Engineering and Computer Science, Former Dean of the College of Engineering and Computer Science, Member of Global Engineering Deans Council.

Dr. Mohammad Ilyas has been with Florida Atlantic University's College of Engineering and Computer Science since 1983. He has served there in various academic and administrative capacities, including Dean of the College from 2011 to 2017.

He has earned four academic degrees from four different countries; BSc in Electrical Engineering from Pakistan, MS in Electrical Engineering from Iran, PhD in Electrical Engineering from Canada, and PhD in Educational Leadership from USA.

Dr. Ilyas has over 215 publications, including one book, 26 handbooks, and over 190 research articles. He is a life senior member of IEEE, member of Global Engineering Deans Council, and was on Fulbright Specialist list from 2017-2020.

Abstract

Augmented Intelligence (AI) is being integrated in a variety of our daily activities. Healthcare is not an exception and, in fact, will greatly benefit from AI leading to impressive improvements. Although, as with the use of any new innovations, use of AI in healthcare is not without concerns, the benefits are expected to outweigh the concerns. It is also expected that adequate education about AI-related innovations in healthcare and their potential benefits will build trust among consumers and alleviate perceived concerns. For the process to be relatively smooth, it is essential that interdisciplinary dialogue take place between medical professionals, AI experts, engineering professionals, and consumers. This talk discusses the brief history of AI, its potential applications in healthcare, potential benefits that all stakeholders will reap, and potential challenges that we will need to overcome, to fully benefit from using AI in healthcare.

Thursday, July 14, 2022

The Role of Language in Scientific Persuasion

Thursday, July 14, 2022 / 8:00 AM - 8:35 AM



Dr Justyna Pokojńska, Poland

University of Warsaw, Digital Economy Lab.

Dr Justyna Pokojńska is Coordinator of the "Jobs and Skills for the Future" Program at DELab UW. Assistant professor at the Faculty of Sociology of the University of Warsaw. Member of the Program Council of the Polish Civic Congress. Member of the working team at the Polish Ministry of Digitization, in which - in 2018 - she co-created "Assumptions for the AI strategy in Poland". Two-time scholarship holder of the Polish Minister of Science and Higher Education. Passionate about field research. Her research interests focus on the area of digital competences and new professions of the future. She analyzes the

labor market from a female perspective and popularizes the results of her research to combat inequalities and professional stereotypes.

Since 2015, she has been associated with DELab UW, under which she implements projects for partners from the social and economic environment (including the Google, Orange, Women's Entrepreneurship Foundation, Warsaw Banking Institute) combining academic knowledge with a business approach. A host of the broadcast "Efekt Sieci" on the Radio Kampus (also available on Spotify), where she talks about digital transformation and its consequences for the labor market, interpersonal relations and the condition of an individual in the world of new technological challenges. A regular guest of radio and TV programs as well as an author in the Opinions section of Forbes Magazine.

Abstract

Effective transdisciplinary communication, also known as "scientific persuasion", and the ability to convince recipients of your theses, is today the basis for the development of 21st-century science. The ability to go beyond your narrow field of specialization (often purely academic) and to look at the studied issue from the point of view of the interaction partner, the so-called "Other" (see the category of translatability of perspectives in Alfred Schuetz) seems to be the key to building the foundations of true, mature cooperation in the transdisciplinary model (see Pokojńska 2022).

Importantly, in the context of "scientific persuasion" or persuasion in natural, colloquial communication, we do not refer to the essence of truth, we do not look for sources of indisputable meaning and objective categories, the so-called the "pure idea" as Plato would have put it, or the "absolute" mentioned by Spinoza and Hegel. By definition, communication is the art of transmitting **selected** information, important for building a dialogue and the course of interaction, and the very selection and manner of transmitting it - is an individual, subjective attribute, which means that communication is always **"from-author's"**.

According to the vision of Aristotle, "intellectual persuasion" should run according to the adopted rules, based on the ancient unity of Ethos, Pathos, and Logos - so it requires the commonality of moral, aesthetic and linguistic categories.

In the moral decisions (*Ethos*) accompanying communication, we are helped by the thought of Socrates, according to which every spoken message should be sifted through three sieves - truth, goodness and

usefulness. And only a sentence that meets these three criteria at the same time - being consistent with the facts, good in an ethical sense and useful for the recipient - can resonate in the dialogue.

In aesthetic matters (*Pathos*), the key to effective persuasion are skillfully selected means of communication, appropriate linguistic codes taking into account the social context, which not only allows you to construct a message adequate to the circumstances, but also to develop a basis for understanding and sharing meanings.

Finally, **language** (*Logos*), as the basis of communication - in accordance with the theory of speech acts - apart from its descriptive and **causative function** - also has the power to perform reality, create things, states and values (Austin 1993). In discussions about effective communication, it is often forgotten that the use of language is not only a choice of a method of communication, of sharing the vision of a phenomenon that already exists, but also a tool for bringing new values, meanings and truths to things. Perlocutionary linguistic acts make reality, make the world somehow, according to Wittgenstein's thought - what is not named - does not exist (Wittgenstein 1921). Language in communication creates the world, the greater must be the moral maturity of the speaker and his awareness of the impact it has on the listeners and their reality, so that the causative dimension of communication actually serves to build dialogue and common meanings, and not - to set limits in cooperation.

The New Normal in Online Classrooms: An Empirical Study of the Impact of COVID 19 on Students, Professors, and Administration in Higher Education

Thursday, July 14, 2022 / 8:40 AM - 9:15 AM



Matthew Schigur, MBA, PMP, USA

University of Arkansas Grantham, Director and Associate Dean of the College of Business, Management, and Economics.

Matthew Schigur has 22 years of experience in higher education holding positions in academics and in academic administration. Some of the positions he has held are Associate Professor, Assistant Professor, Visiting Professor, adjunct instructor, Chair, Faculty Chair – School of Business, Academic Affairs Specialists, Interim Campus Director, Associate Dean – College of Business, Management, and Economics, and most recently Director of the College of Business, Management, and Economics. Matthew is completing his Doctorate in

Management and Marketing. Matthew also holds master's degrees in Business Administration, Project Management, and Information Systems Management. Additionally, he is a certified Project Management Professional, a certified academic coach, and a certified advanced tutor. Matthew also has over 35 years of experience in consulting and entrepreneurship in business development, strategic management, information technology, business analytics, and project management for both for-profit and non-profit clients.

Abstract

Our educational landscape has forever changed because of COVID-19. We cannot turn the clock back to pre-COVID-19 times. Our higher education institutions and course delivery paradigms have shifted due to the pandemic. Higher education institutions were forced to immediately make changes in alignment with the new normal. However, what were the implications to online higher education institutions, in particular, to the students, professors, and administration? Online institutions were not without their own challenges for revitalization due to the post-pandemic landscape. The scope of our discussion will include student learning, student satisfaction, faculty behavior, and administrative responsibilities. Some of the underlying factors are

mental health, time management, distractions, course quality, faculty training, faculty misbehaviors, technology, work/life balance, economic issues, and management issues. To that end, the post-COVID-19 ecosystem has forever transformed higher education.



Dr. Risa Blair, USA

Purdue University Global, eLearning Instructional Designer, Education Management, Instructional Associates, Director of HR and Operations.

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. She has exceptional skills in facilitating content delivery to meet the needs of the client. She is a strong proponent of utilizing real world experience and technology to promote and reinforce learning, as well as to meet required outcomes. She is easily able to deliver technical content to non-technical audiences. Quality Matters

trained online course reviewer.

Interdisciplinary Collaborative Effort to Assist All Students in STEM Fields

Thursday, July 14, 2022 / 9:20 AM - 9:55 AM



Professor Suzanne Lunsford, USA

Wright State University.

Dr. Suzanne Lunsford is a 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. Suzanne Lunsford has a large experience in relating and integrating research, education and real life problem solving. She 1) has a systemic perspective of academic activities and 2) frequently has shown how the level of education may be increased when it is related to her research activities. This allowed her to increase the educational dimension in her teaching activities, which (in her case) are not reduced to a mere instructional process. The latter is necessary, but not sufficient in Education, including Higher Education. Research may be taken as a means for inquiry-based learning, especially if it is oriented to solve real life problems. This is what Dr. Lunsford has been doing for many years. (Additional note added by the conference organizers, because it is highly related to her plenary keynote address).

Abstract

There is a need to train more Science, Technology, Engineering, and Mathematics (STEM) majors due to a shortage of scientists in fields of study such as Chemistry. In the USA, for example, struggles to encourage and train more students with disabilities are underrepresented and underserved as STEM majors in chemistry have been a challenge. National statistics in the science and engineering workforce show only 7% of graduate students in science and engineering were persons with disabilities. One reason cited for the disparity of students with disability graduating in STEM field of study are the inadequate education offered to assist and meet the needs of students with disabilities (Bruyere, 2000). Our goal at Wright State University is meeting the needs of all our students to succeed in our chemistry program by an engaging and hands-on learning technique. American competitiveness (Golshani, 2005), is critical to narrow the gap and provide the needed training for students with disabilities to succeed in STEM fields of study. It is vital for IBL (inquiry-based learning) mode of chemistry to be delivered in the lab and classroom to meet the students' needs to understand the content accordingly. CLASS (Creating Laboratory Access for Science Students) with disabilities was a program that has enhanced student learning and assisted our students with disabilities, 2004. In our curriculum, we focus on the following items:

- Networking/strengths /challenges
- Researching interest/learning styles
- Assistive technology
- Field trips to industry/career exploration
- Collaborative research
- Setting short and long range goals for STEM career

The novel techniques of engaging chemistry activities/labs for our students with disabilities will be discussed which assist in our students learning while meeting real-world technology needed in industrial setting with multidisciplinary content.

University-Industry Collaboration in Project-Based Research and Education Environments

Thursday, July 14, 2022 / 1:00 PM - 1:35 PM



Shahabedin Sagheb, Eng, USA

Virginia Tech's Calhoun Honors Discovery Program.

Shahabedin (Shahab) Sagheb is an assistant collegiate professor within Virginia Tech's Calhoun Honors Discovery Program. Shahab develops and teaches project-based learning studio courses in the program. As a technology designer, his program of research is on developing hybrid digital-physical systems by augmenting objects and humans in Virtual Reality, Augmented Reality, and Mixed Reality settings. His most recent work emphasizes the simulation of tactile sensations of handling fluids in virtual environments. Results of this research have been published in top tier ACM conferences UIST and TEI.



Dr. Katie Walkup, USA

Virginia Tech's Calhoun Honors Discovery Program.

Dr. Katie Walkup is PhD in Rhetoric and Composition from the University of South Florida and Collegiate Assistant Professor of Communication for Sociotechnical Systems within Virginia Tech's Calhoun Honors Discovery Program. Her programmatic research focuses on the role of technical communication within interdisciplinary project-based learning. Her research has also been published in *Technical Communication Quarterly* and *Communication Design Quarterly*.



Dr. Robert A. Smith, USA

Boeing Company and Virginia Tech, Calhoun Honors Discovery Program

Dr. Robert A. Smith is a Boeing Senior Technical Fellow and is currently the Distinguished Professor of Practice for the Calhoun Honors Discovery Program at Virginia Tech where he is developing advanced complex problem solving frameworks for collaborative sociotechnical innovation developments. He is a technical leader for strategy, avionics and remote sensing applications in Boeing Research & Technology for missile defense, space exploration, and satellite systems. He leads academic and industry collaboration in educational and workforce development efforts. He has received recognition from the

Undersecretary of Defense for his Workforce Development activities and briefed Congressional committees.

Abstract

Industry-academic partnerships provide useful opportunities for research and education. University faculty and industry professionals benefit from each other's expertise gained through complementary avenues of knowledge production. In this plenary keynote presentation, we discuss a model for developing collaborative knowledge. We formalize this approach to strong collaboration by discussing opportunities and challenges in the development of cross-sector partnerships. We explore three elements that have led to our success in implementing a transdisciplinary research and education environment. We discuss: 1) Coalition of the willing; or providing a flexible programmatic structure that allows participation of stakeholders to the extent that they choose; 2) Co-creation; or developing structure, content, and visioning as an on-going activity with stakeholders; 3) Communication; or establishing clear and continuous avenues for discussing and addressing improvement areas. We ground the foundation of this model of transdisciplinary collaboration in our experience from the partnership between Calhoun Honors Discovery Program at Virginia Tech and the Boeing Company.

Implementing a Data Strategy That Can Support Impactful Decision Making Amid Ever-Changing, Complex Business Environments

Thursday, July 14, 2022 / 1:40 PM - 2:15 PM



Dr. Robert Cherinka, USA

MITRE Corporation, Distinguished Chief Engineer, Software Engineering Innovation Center at MITRE.

Dr. Robert Cherinka is the Chief Engineer of the Software Engineering Innovation Center for the MITRE Corporation. His expertise is in software, systems and process engineering, with a focus toward software quality and agile development technologies. Bob earned a Ph.D. and M.S. in Computer Science from Old Dominion University, Norfolk, Virginia, and a B.S. in Computer Science in 1987 from the University of Pittsburgh. Bob served 6 years as a software engineer in the US Air Force, before joining MITRE in 1993.



Mr. Joseph Prezzama, Msc., USA

MITRE Corporation, Group Leader for the Joint Operations Southeast, Tampa office of the MITRE Corporation, MS Software Engineering.

In 1996 he earned a Master of Science in Software Engineering from Monmouth University, Eatontown, New Jersey. Prior to that, he earned a Bachelor of Science in Electrical Engineering from Trenton State College, Ewing, New Jersey.

Abstract

The emerging landscape of using business intelligence and augmented analytics to help drive business value for organizations is changing the way we handle data. This is driving a need for organizations to identify data strategies, governance, workforce, and technologies to automate data tagging, formatting, manipulation, and federating in this new, complex environment. We discuss how the implementation of a new data analytic environment fostering situational awareness and combined with a mission or business context, can better support impactful decision making. We highlight how enhanced analytics can be useful in providing intelligent and more accurate insights that directly impact decisions. We discuss some of the benefits and challenges associated with their adoption at length and will provide examples highlighting potential ways to mitigate some of these challenges.

A Chain of Worlds: Metaverses as the Clavis Aurea?

Thursday, July 14, 2022 / 2:20 PM - 2:55 PM



Dr. Jasmin (Bey) Cowin, USA/Germany

Assistant Professor and TESOL Practicum Coordinator, Touro University, Graduate School of Education, TESOL/BLE Department.

Dr. Jasmin (Bey) Cowin is a Fulbright Scholar; Assistant Professor and TESOL Practicum Coordinator at Touro University, Graduate School of Education; project coordinator for access and equity in digital literacy for Computers for Schools Burundi; co-Chair of the Technology Enhanced Language Learning SIG 2022 conference, elected member of the CALL-IS Steering Committee for the TESOL International 2023 Electronic Village, and past conference chair of the 51st NYS TESOL conference, 2021.

Dr. Cowin also served as an Editorial Board member of the Journal of Systemics, Cybernetics, and Informatics for its special issue "Trans-Disciplinary Communication; TESOL expert and Train the Trainer for the Future Horizons Foundation for Translation, Training, and Development in Sanaa, Yemen. She served Rotary as the retired Chair of the Rotary Club of New York United Nations International Breakfast Meetings and past President and past Rotary Assistant Governor for New York State for District 5.

Recent presentations focused on: The Metaverse: Layers, Applications, and Terminology, Leading Forward: Distributed Ledger Technologies for Education and Government Institutions, The Power of Trustless Immutability and The Future of Higher Education and Extended Reality: The Next Normal: Metaverse, Virtual Beings, AI cloning for the World Higher Education Ranking Summit (WHERS), Dubai, UAE.

Dr. Cowin brings over twenty-five years of experience as an educator, technology specialist and institutional leader. As an Education Policy Fellow at the EPFP™ Institute, Columbia University/Teachers College, she became part of a select group of strategic leaders analyzing trends regarding effective educational policy and leadership with a focus on preparing qualified educators for the complexities of 21st-century classrooms. Her extensive background in education, the Fourth Industrial Revolution, augmented and virtual reality simulation training, Green and Black Swan market shifts, not-for-profit leadership, and commitment to education as a basic human right provide her with unique skills and vertical networks locally and globally.

Abstract

Widely discussed, debated and often misunderstood, metaverses are emerging with the aura as a clavis aurea, Latin for golden key. This keynote explores educational uses of metaverses, their positive potential and darker side. Metaverses coupled with the artificial intelligence age will usher in a new era of education through pedagogical, didactic, and technological shifts. Digital environments such as metaverses and augmented digital reality technologies will open new, increasingly personalized worlds of learning while enabling diverse learning and skill acquisition within globally shifting teacher, learner and learning cultures. This trajectory into 3D spaces and online learning ultimately changes educator and learner knowledge and skill requirements. Companies are asking their workforce to demonstrate Fourth Industrial Revolution skill sets such as life-long autonomous self-directed learning, networked thinking, personal agility, and creativity together with advanced digital skills to strengthen collaborative and communicative forms of work. In turn, these new skills sets will require 21st Century didactic options for teaching and learning processes. The keynote will close with a foray into the upcoming digital age as either a place of universal access and enlightenment or a death star trapping personal learning data from metaverses for big data harvesting and personalized tracking by global companies.