

# Plenary Keynote Speakers for IMCIC 2023 and its collocated events

## Schedule: Time Slots of Plenary Presentations and Dialogues

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>
<b>Professor Shigehiro Hashimoto</b> Kogakuin University, Japan	Tuesday, March 28, 2023 8:00 AM - 8:35 AM	<i>“Cross-cultural Online Networking Based on Biomedical Engineering to Motivate Transdisciplinary Communication Skills”</i>
<b>Professor Rusudan Makhachashvili and Professor Ivan Semenist</b> Borys Grinchenko Kyiv University, Ukraine	Tuesday, March 28, 2023 8:40 AM - 9:15 AM	<i>“Transformative, Transdisciplinary, Transcendent Digital Education: Synergy, Sustainability, and Calamity”</i>
<b>Dialogue Moderators: Professor Rusudan Makhachashvili and Professor Ivan Semenist</b> Borys Grinchenko Kyiv University, Ukraine	Tuesday, March 28, 2023 9:20 AM - 9:55 AM	<i>Dialogue on “Transformative, Transdisciplinary, Transcendent Digital Education: Synergy, Sustainability, and Calamity”</i>
<b>Dr. Pawel Poszytek</b> Foundation for the Development of the Education System, Poland	Tuesday, March 28, 2023 1:00 PM – 1:35 PM	<i>“Social Competences as a Prerequisite of Digital Transformation in Education”</i>
<b>Professor Mohammad Ilyas</b> Florida Atlantic University, USA	Tuesday, March 28, 2023 1:40 PM – 2:15 PM	<i>“Smart Cities: Challenges and Opportunities”</i>
<b>Gerard Ward</b> University of Auckland, New Zealand	Tuesday, March 28, 2023 2:20 PM - 2:55 PM	<i>“Using Transdisciplinary Panels to Accelerate Solutions for the Industrial Internet of Things (IIoT) Data Risk Management”</i>
<b>Dr. Masaaki Kunigami</b> Tokyo Institute of Technology, Japan	Wednesday, March 29, 2023 8:00 AM – 8:35 AM	<i>“Interdisciplinary Approaches to Learning Informatics”</i>
<b>Dr. Risa Blair</b> Purdue University Global, USA	Wednesday, March 29, 2023 8:40 AM – 9:15 AM	<i>Plenary Keynote Dialogue on: “Pros and Cons of ChatGPT: The Language Model Developed by OpenAI”</i>
<b>Professor Thomas Marlowe and Dr. Fr. Joseph Laracy</b> Seton Hall University, USA	Wednesday, March 29, 2023 9:20 AM - 9:55 AM	<i>“Assessing Multi-Modal Communication as Transdisciplinary Communication”</i>

<p><b>Professor Kuldeep Rawat</b> Elizabeth City State University, USA</p>	<p>Wednesday, March 29, 2023 1:00 PM - 1:35 PM</p>	<p><i>“Mentoring, Research, and Education: Three Tenets of an Effective Model to Build Diversity in STEM Workforce”</i></p>
<p><b>Professor Anastassis Kozanitis</b> University of Quebec in Montreal, Canada</p>	<p>Wednesday, March 29, 2023 1:40 PM - 2:15 PM</p>	<p><i>“Open AI: Threats and Opportunities for our Higher Educational Systems”</i></p>
<p><b>Dialogue Moderator:</b> <b>Professor Anastassis Kozanitis</b> University of Quebec in Montreal, Canada</p>	<p>Wednesday, March 29, 2023 2:20 PM - 2:55 PM</p>	<p><i>Dialogue on “Open AI: Threats and Opportunities for our Higher Educational Systems”</i></p>
<p><b>Dialogue Moderators:</b> <b>Dr. Jeremy Horne</b> President-Emeritus of the Southwest Area Division of AAAS, USA and <b>Dr. Nagib Callaos</b> International Institute of Informatics and Systemics, USA</p>	<p>Wednesday, March 29, 2023 4:30 PM - 5:00 PM</p>	<p><i>Dialogue on “Ethical and Meta-Ethical Peer Reviewing”</i></p>
<p><b>Professor Chieko Nakabasami</b> Toyo University, Japan</p>	<p>Thursday, March 30, 2023 8:00 AM - 8:35 AM</p>	<p><i>“Interdisciplinary Education - Integration Between Intellect and Emotion”</i></p>
<p><b>Dr. Areej ElSary</b> Zayed University, United Arab Emirates</p>	<p>Thursday, March 30, 2023 8:40 AM - 9:15 AM</p>	<p><i>“Transforming Education with ChatGPT: An Innovative AI Teaching Tool for Advancing Holistic Development in Student”</i></p>
<p><b>Dialogue Moderator:</b> <b>Dr. Areej ElSary</b> Zayed University, United Arab Emirates</p>	<p>Thursday, March 30, 2023 9:20 AM - 9:55 AM</p>	<p><i>Dialogue on “Transforming Education with ChatGPT: An Innovative AI Teaching Tool for Advancing Holistic Development in Student”</i></p>
<p><b>Dr. Lorayne Robertson</b> Ontario Tech University, Canada</p>	<p>Thursday, March 30, 2023 1:00 PM – 1:35 PM</p>	<p><i>“Reclaiming the Sandbox: Teaching Diversity in the Canadian Context”</i></p>
<p><b>Dr. Erin Ryan</b> Kennesaw State University, USA</p>	<p>Thursday, March 30, 2023 1:40 PM - 2:15 PM</p>	<p><i>“Bridging the Gap: Communicating to Increase the Visibility &amp; Impact of Your Academic Work”</i></p>
<p><b>Dialogue Moderator:</b> <b>Dr. Erin Ryan</b> Kennesaw State University, USA</p>	<p>Thursday, March 30, 2023 2:20 PM - 2:55 PM</p>	<p><i>Dialogue on “Bridging the Gap: Communicating to Increase the Visibility &amp; Impact of Your Academic Work”</i></p>

# Plenary Keynote Addresses Program

**Tuesday, March 28, 2023**

## **Cross-Cultural Online Networking Based on Biomedical Engineering to Motivate Transdisciplinary Communication Skills**

Tuesday, March 28, 2023 / 8:00 AM - 8:40 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, Councilor, and Dean, Faculty of Engineering of 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.

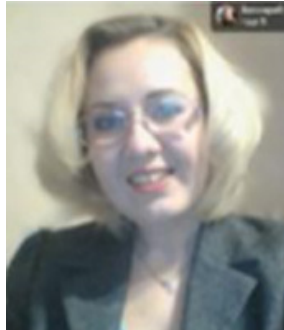
He was a Research Associate in School of Medicine (1981-1989), and Assistant Professor in School of Medicine (1989 -1994), at Kitasato University, Associate Professor in the Department of Electronics (1994- 2001), and Professor at Osaka Institute of Technology (2001-2011). He also was the Creator of 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. shashimoto@cc.kogakuin.ac.jp <http://www.mech.kogakuin.ac.jp/labs/bio>

### **Abstract**

It is not possible to understand the whole with only a specialized field. The content is not always correctly conveyed to non-specialists. In this study, based on students’ awareness of preparing for the future under a pandemic, understanding of the utility of masks against infectious diseases, and the transition of students’ daily behavior under a pandemic, a student group activity was carried out with the theme of “designing tools and systems to contribute to social life in pandemic”. In addition, to motivate students to improve their transdisciplinary communication skills, cross-cultural online networking was carried out based on biomedical engineering as a multidisciplinary field.

## **Transformative, Transdisciplinary, Transcendent Digital Education: Synergy, Sustainability, and Calamity**

Tuesday, March 28, 2023 / 8:40 AM - 9:20 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 Kiyv 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 Kiyv 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, and, later, due to warfare, 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 emergency and sustainable digitalization changes in the higher education sphere heralded the introduction of pervasive dimensions of learning – digital, hybrid and, blended. These dimensions can be

considered the 3T coordinates ambient of digital education: *transformation, transcendence, transdisciplinarity*. These dimensions are conduits of vertical (endocentric) and horizontal (exocentric) transdisciplinarity of digital education as a cohesive system.

Applied trans-disciplinary lens of the *synergetic approach* contributes to the solution of holistic modeling of processes and results of updating patterns and mechanisms of the highly dynamic self-sustainable and self-evolving system of education in the digital environment as a whole and its individual formats in particular. The transformative factors of the emergency and sustainable digitization in education are structured as attractors and repellents of educational development as a cohesive system.

Emergency digitization in education as a source of transformative end-to-end change is perceived through the lens of *calamity theory* that allows to identify and classify the ways in which education as a system can undergo sudden large changes as one or more of the variables that control it are changed continuously. Emergency digitization stages are perceived as *bifurcation points* of the educational system sustainable development.

The variables, that trigger and sustain systemic change in emergency digital education are connected to the concept of *trans-disciplinarity*, perceived as a transcendent product of merging multiple interconnected knowledge domains. *Transdisciplinarity of emergency digital education* is, therefore, postulated in this study as a computational framework of interconnected types of disciplinarity. *Meta-disciplinarity of emergency digital education 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 system on macro- and micro-levels. The *meta-framework* of education is, thus, approached as a *conceptual matrix of endocentric and exocentric transdisciplinarity of digital tools, skills, content and interactive aims*.

The fundamental transdisciplinarity, that digital procedural transformations imposed on 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 and wartime digitization paradigm.

## **Dialogue on Transformative, Transdisciplinary, Transcendent Digital Education: Synergy, Sustainability, and Calamity**

Tuesday, March 28, 2023 / 9:20 AM - 10:00 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 Kiyv 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**

The purpose of any Dialogue in this conference is to support co-learning via agreement and disagreement. Agreement enhances our understanding because it usually provides more context; which, by definition, extends the meaning of what is agreed upon. Disagreement triggers our critical thinking which also may enhance our understanding.

As a contribution to the oral dialogue, Dr. Nagib Callaos made some initial questions to the participants in this dialogue and their subcontextual comments. Any participant may also contribute to the dialogue, by making questions and providing arguments.

This dialogue is mainly related to the notions of transformative, transdisciplinary, and transcendent Education; which may briefly be described as going, respectively, **across and beyond** educational forms and methods; educational disciplines; and immediate experiences and acquired knowledge.

Transformative education involves going beyond traditional educational forms and methods to bring about significant changes in individuals and society. Transdisciplinary education involves going beyond disciplinary boundaries to integrate multiple fields of knowledge and perspectives. Transcendent education involves going beyond immediate experiences and acquiring knowledge to connect with deeper truths, meanings, and values. *Do these three kinds of education relate to each other in a synergic whole? Do they co-regulate and/or co-reinforce each other? Are they a cybernetic whole? Does this whole have synergies?*

The 3T coordinates ambient of digital education (Technology, Teaching, Technique) provide support and may accelerate the transformative, transdisciplinary, and transcendent Education. This would be achieved by providing a range of digital tools and strategies that enable personalized learning, collaboration, and global connections. And vice-versa transformative, transdisciplinary, and transcendent education can support the integration of Technology, Teaching, and Technique. *Is that Correct?* This is because they

emphasize innovative and personalized teaching and learning, collaboration across disciplines, and connecting learning to societal issues and values. This approach encourages the development of new teaching strategies, diverse pedagogical approaches, and the use of technology as a tool to enhance teaching and learning. *Do you agree? If not why?*

The above reciprocal support, between the 3T and the 3TRANS- indicates that both 3s may have cybernetic relationships between them with their respective co-regulative and co-reinforcing loops. *Do you agree?* Hence 1) the high probability of *synergies* and emergent properties of the complex system formed by the 3T and the 3TRANS, 2) the resulting evolving complex system that would support *Sustainability*, and 3) the increased creation of variety internal to cybernetic evolving 3T/3TRANS system, that allow more adaptability and, hence, more probability of facing affectively unexpected *Calamities*. The adaptability is the result of the First Law of Cybernetics; which Ross Ashby translated to the highly transdisciplinary phrase “*only variety absorbs variety*”. *Do you agree with the above three conclusions? In any case, Why?*

## **Social Competences as a Prerequisite of Digital Transformation in Education**

Tuesday, March 28, 2023 / 1:00 PM - 1:40 PM



### **Dr. Pawel Poszytek, Poland**

*Director of Foundation for the Development of the Education System, Member of working groups of the European Commission and the Ministry of National Education of Poland, Director of Erasmus+ and ESC National Agency Official Delegate WorldSkills.*

Paweł Poszytek, PhD, DSc., Director General of the Foundation for the Development of the Education System, Director of the National Agency of the Erasmus+ Programme and the European Solidarity Corps. Member of advisory and consultative groups to the European Commission. Between 2005 and 2007 member of the board of EALTA, a European association for quality

improvement in language proficiency testing.

Coordinator of the Country Profile project implemented by the Council of Europe. Since 2014, expert of the Horizon 2020 programme. Author of articles on management and language education published in Poland and abroad, including by renowned publishers such as Cambridge University Press, Multilingual Matters and MDPI. Author of the book *The Competences 4.0 as Facilitators in the Realisation, Management and Sustainability of Erasmus+ Projects in the Times of the COVID-19 Pandemic*, published in 2021. From 2016 to 2021 member of governmental Polish-Ukrainian Board of Youth Exchange. Member of the Scientific Council of the International Institute for Interdisciplinary Studies, USA. Member of the Working Group for Artificial Intelligence of the GovTech programme at the Chancellery of the Prime Minister of Poland. WorldSkills Poland Official Delegate and deputy chairman of the Mazovia Regional Council for Future Industry.

Doctorate in humanities in the discipline of linguistics in 2007 at the University of Warsaw and habilitation in social sciences in the discipline of management and quality in 2022 at the Silesian University of Technology.

Musician, composer, author, and member of the Society of Authors ZAiKS.

## Abstract

In the era of high technologies, artificial intelligence and automation of various processes in production and services sectors, digital transformation is a must not only for companies but universities as well. In both cases, the same procedures apply. According to various sources effective digital transformation must refer to three areas: (1) the product or services delivered, (2) internal communication within an organization and (3) external communication with possible clients or simply with a broader ecosystem. The first area can refer to on-line courses, virtual labs, virtual campuses, etc., whereas the last two ones mean effective communication between students, academic staff, or administration as well as the communication with individuals or institutions from outside an organization with the use of technologies. In these two cases not only digital competences are required but first of all social competences connected with the ability to communicate, maintain contacts and the ability to adapt quickly to new situations and challenges if required. The research shows that especially in the times of pandemic when technology compensated the lack of possibility to cooperate in traditional ways, the social competences alongside with the digital ones turned out to be crucial in successful functioning of educational processes.

## Smart Cities: Challenges and Opportunities

Tuesday, March 28, 2023 / 1:40 PM - 2:20 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 235 publications, including one book, 26 handbooks, and over 210 research articles. He is life senior member of IEEE, Fellow of IIIS, member of Global Engineering Deans Council, and was on Fulbright Specialist list from 2017-2020.

## Abstract

The concept of smart cities has received a significant interest recently among researchers. United Nations reports that more than half of the world population currently lives in urban environment and is estimated to increase to about 70% by 2050. This trend needs serious attention by governments to create solutions that will make sure that their citizens will continue to have sustainable and improved quality of life style. Smart cities use all the available technologies to achieve that goal and improve the efficiency of operations.

This massive undertaking of making existing cities smart and building new smart cities, comes with many opportunities as well as some challenges. Digitization of services, smart operations, and connectivity are



essential parts of a smart city. Smart cities will certainly promote cohesive, connected, healthier, and happier communities. This presentation will elaborate the opportunities and challenges in moving the smart cities concept forward.

## **Using Transdisciplinary Panels to Accelerate Solutions for the Industrial Internet of Things (IIoT) Data Risk Management**

**Tuesday, March 28, 2023 / 2:20 PM - 3:00 PM**



### **Gerard Ward, New Zealand**

*Information Security Consultant and PhD Candidate at The University of Auckland.*

Gerard is an information security practitioner who consults to the industry, including technical assessments for Cyber Insurance Underwriters on how their policies respond to the particulars of Cyber incidents. He is also completing a PhD in Information Systems at The University of Auckland, New Zealand.

The scope of Gerard's industry engagements currently includes one of Australia and New Zealand's largest banks covering information security controls to reduce information system risk measured against policies and regulations. For Underwriters, he quantifies complex cyber breaches to determine the reasonableness of incident activities and costs claimed, as well as the prospect of recovering losses from negligent third parties.

Gerard's academic research is investigating risk management processes for the Industrial Internet of Things (IIoT). The resulting data security model can aid the continuity of safety-critical and business-critical data necessary to support the orchestration of IIoT autonomous processes or maintain asset optimization.

### **Abstract**

This presentation discusses the transdisciplinary methods used to accelerate a solution for managing the wicked problem of data risk in the Industrial Internet of Things (IIoT). The wicked IIoT problem has solutions in transdisciplinary methods that support the investigation of data creation and consumption in these complex systems. Complexity arises from the IIoT tightly integrating the historically discrete information and operational technologies with the emerging capabilities of Artificial Intelligence to support deterministic processes. Moreover, the scale of IIoT systems means they are subject to increasing government regulation covering user privacy and infrastructure. These integrations and regulatory considerations cross disciplinary boundaries requiring research methods that can distil the views of each discipline into a collaborative and cohesive data risk model.

The need for robust data risk management is crucial as failings in operationally data-dependent safety-critical processes risk injury, loss of life, environmental degradation, and asset damage. Risk management must also account for business-critical data supporting asset optimisation to maximize asset owners' returns.

To progress the development of the IIoT data risk model, this presentation discusses the research methods

used to illuminate the IIoT data risk bound by transdisciplinary principles but facilitated by a sole researcher over rounds involving up to 40 experts drawn from distinct disciplines. The presentation topics contribute learnings for content analysis methods that support academic input into the transdisciplinary panel considerations and measuring consensus across the resulting yet distinct expert opinions. These methods, alongside the transdisciplinary communication techniques employed, aided the development of the model that can support safety-critical and business-critical data for safe and secure IIoT.

## Wednesday, March 29, 2023

### Interdisciplinary Approaches to Learning Informatics

Wednesday, March 29, 2023 / 8:00 AM - 8:40 AM



**Dr. Masaaki Kunigami, Japan**

*Tokyo Institute of Technology, School of Computing, Department of Computer Science.*

- 2010-Doctoral fellow, Tokyo Institute of Technology.
- 2008 PhD in Systems Management from University of Tsukuba.
- 1997 Master of Science in Operations Research from US Naval Postgraduate School.
- 1990 Master of Engineering in Applied Physics from Kyushu University.
- 1988 Bachelor of Science from Nagoya University.
- Interest area: Complexity Science, STEM Education, Organizational Innovation, Knowledge Management.

#### Abstract

In this keynote, various challenges and approaches to learning informatics will be presented from an interdisciplinary perspective. As it is a broad topic, an overview will be sketched with a combination of several ideas and applications. From a methodological point of view, the ideas are 'knowledge network', 'learner's persona' and 'visualizing the experience'. From the educational application side, they are 'class design', 'peer review' and 'case study'. The contact between educational applications and ideas from fields far removed from education, such as computational science, marketing and design thinking, adds new possibilities to learning informatics.

## Pros and Cons of ChatGPT: The Language Model Developed by OpenAI

Wednesday, March 29, 2023 / 8:40 AM - 9:20 AM



### **Dr. Risa Blair, USA**

*Purdue University Global, USA, Adjunct Faculty, Department of Humanities and Social Sciences, School of General Education; 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.

### **Abstract**

For This Dialogue let us start with a truism: ChatGPT has no pros and cons. The way it is used is what has pros and cons. ChatGPT is a means not an end in itself. So, the purpose with which it is used is what may be good or wrong, i.e. the pros and cons of its use.

Some initial questions may be the following; which are examples to the panel, because any panelist may add questions since this is a participative panel.

- How ChatGPT may enhance research and/or Education and/or Critical Thinking and/or learning?
- How ChatGPT would impact Educational Systems, especially with plagiarism and fraud?
- Do Educational Systems have to start paying more attention to ethical education? How about meta-ethical education, i.e., the ethics of 1) ethical quality assurance, 2) enforcing ethical behavior?
- Would ChatGPT save education in its necessary ethical component?
- May the above questions be also applicable to research and publishing activities? If yes, then who should be responsible for the meta-ethical level?
- What is the impact of ChatGPT in sacrosanct peer-reviewing? May ChatGPT be used as a “peer”? May ChatGPT be used for pre-peer-reviewing?
- How processes of peer-reviewing may identify articles mostly generated by ChatGPT? May ChatGPT support this kind of pre-peer-reviewing.

## **Assessing Multi-Modal Communication as Transdisciplinary Communication**

Wednesday, March 29, 2023 / 9:20 AM - 10:00 AM



### **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 of Mathematics and Computer Science at Seton Hall University, where he taught courses for over 40 years, in mathematics, computer science, data science, and interdisciplinary studies, and was coordinator of the computer science program for over 20 years. Tom holds a B.S and M.S in Mathematics from Seton Hall University, and an M.S. in Computer Science, a Ph.D. Computer Science, and a Ph.D. Mathematics, all from Rutgers University. He enjoys collaborating and interacting, and actually

(usually) likes detail editing.

Although Seton Hall did not offer graduate programs in the formal sciences during his tenure, he has authored or coauthored over 100 papers, with scores of academic and industry collaborators, including undergraduate and graduate students. His publications span diverse areas across the formal sciences and decision science, including algebra, algorithms, collaboration (including risk analysis, intellectual property issues, and development structures and processes) and information science, language support for real-time systems, program optimization and analysis, software engineering, and computer science pedagogy (including problem-solving and critical thinking), as well as topics in mathematics, information science, and interdisciplinary studies. Tom is a founding member of the International Society For Transdisciplinary Communication (AFTC), and an active member of the Creative Systemic Research Platform (CSRP) Institute.



### **Fr. Dr. Joseph R. Laracy, USA**

*Seton Hall University, Department of Systematic Theology and 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.

## **Abstract**

A typical approach to enhancing communication and providing a transdisciplinary and cross-cultural view is to offer a multi-modal presentation. Modes and forms include but are not limited to formal and informal narratives, outlines and tables, mathematical models, and visuals and animations, possibly with multiples of a given form, varying by language, discipline, aspect, and/or perspective. It is generally understood that such linkage is beneficial, allowing clarification via cross-referencing and supporting the formation of mental feedback and feedforward loops. But issues remain: fidelity and precision in translation, terminological pitfalls, independence/dependence of the views and the coupling, challenges for individuals in using a given mode, and more. There are various approaches to dealing with these, beginning with typical questions lists. In the most extreme cases, we suggest that the presentation itself be subject to a full requirements and risk analysis including disciplinary and communication experts, including identification of issues and concerns that may need to be further addressed. To illustrate this, we will also consider some of these issues specifically in the context of mathematical models and modeling.

## **Mentoring, Research, and Education: Three Tenets of an Effective Model to Build Diversity in STEM Workforce**

Wednesday, March 29, 2023 / 1:00 PM - 1:40 PM



### **Professor Kuldeep Rawat, USA**

*Elizabeth City State University, Dean of School of Science, Aviation, Health and Technology and Chief Research Officer.*

Dr. Kuldeep Rawat is the Thorpe Endowed Professor and Dean of School of Science, Aviation, Health and Technology at Elizabeth City State University (ECSU), Elizabeth City, North Carolina. He also serves as the Chief Research Officer for the campus. Dr. Rawat holds an MS in Computer Science, MS in Computer Engineering, and a Ph.D. in Computer Engineering from Center for Advanced Computer Studies, University of Louisiana-Lafayette (ULL). He has more than twenty years of combined Industrial and Academic Research and Teaching experience. He has also received professional certifications in Aviation Safety Management and Unmanned Aircraft Systems Operations from Embry-Riddle Aeronautical University, Data Analyst from IBM, and Applied Data Science from MIT.

Dr. Rawat has served as the Principal Investigator/Project Director or Co-PI on multiple grants, including U.S. Department of Commerce, Federal Aviation Administration, NASA, National Institute of Justice (NIJ), US Department of Energy, the US Department of Transportation/Federal Highway Administration, National Science Foundation, and the US Department of Navy. He has secured over \$12 Million in external funding to support research, teaching, program development/enhancement, and outreach projects.

He has served Principal Investigator His areas of interest are in applications of data science and machine learning in higher education, simulation and modeling, civilian applications of unmanned aerial systems,

and innovative uses of educational technologies. He is one of the 10 recipients of 2009 HP Innovations in Education award to transform teaching and learning through innovative uses of technology.

## **Abstract**

Promoting excellence and enhancing undergraduate experience for STEM majors is necessary to ensure that we have the STEM-literate workforce required to solve the current and future societal and technological challenges. Research studies have indicated that a large percentage of high school graduates in the United States are arriving at college ill-prepared, and as a result being assigned to some form of remedial instruction. Hence, sustained focus on improving the quality of undergraduate education, especially science, technology, engineering, and mathematics (STEM), has become a challenging goal. However, colleges and universities have proved to be highly varied in their capacity to effectively meet the needs of underprepared students as more students aspired to postsecondary education. Real educational success for the much larger numbers and greater diversity of students now pursuing higher education requires careful attention to undergraduate educational quality and the student experience.

In this plenary talk, an NSF-funded project to design, implement, study, and assess comprehensive institutional efforts to enhance the quality of their preparation by strengthening STEM education and research will be presented. The theoretical framework consists of three tenets: mentoring, research, and education/training. The project activities included, the STEM Boot Camp, Self-Regulated Learning, Sophomore Bridge Program, STEM Faculty Journal Club, Course Redesign, Faculty Development, Pedagogical Lab, and STEM Innovation Research Lab.

## **Open AI : Threats and Opportunities for Our Higher Educational Systems**

Wednesday, March 29, 2023 / 1:40 PM - 2:20 PM



### **Professor Anastassis Kozanitis, Canada**

*University of Quebec in Montreal, Director of the Department of Didactics.*

Anastassis Kozanitis holds a doctorate in educational sciences from the University of Montreal, where he specialized in university pedagogy. He holds a master's degree in the same field from Université Laval, as well as a bachelor's degree in psychology from the Université du Québec à Chicoutimi. His areas of interest are academic motivation and cognitive engagement, active learning strategies, classroom management and pedagogical innovations in a university context. He is currently a professor in the department of didactics at the University of Quebec in Montreal. For more than 10 years, he worked as a pedagogical advisor at the Pedagogical Support Office of Polytechnique Montreal. His main task was to train new teachers in teaching and learning methods. He also works as an international consultant where he provides support to develop competency-based curricula, mainly in Latin American countries.

## **Abstract**

University students now have easy access to Artificial Intelligence (AI) tools, including language models such as ChatGPT. It is urgent to question how this new reality can impact our higher educational systems. On the one hand, these tools can facilitate personalized learning and automate routine tasks, freeing up instructors to focus on higher-level cognitive tasks. They can also provide access to vast amounts of

information and improve learning. On the other hand, they can perpetuate biases and misinformation, and in the long run displace human instructors. Short term effects, such as possible academic fraud, must be addressed by helping students develop critical thinking, digital literacy skills, and fostering a culture of responsible AI use.

## **Dialogue on Open AI: Threats and Opportunities for Our Higher Educational Systems**

**Wednesday, March 29, 2023 / 2:20 PM - 3:00 PM**

### **Professor Anastassis Kozanitis, Canada**

*University of Quebec in Montreal, Director of the Department of Didactics.*

Anastassis Kozanitis holds a doctorate in educational sciences from the University of Montreal, where he specialized in university pedagogy. He holds a master's degree in the same field from Université Laval, as well as a bachelor's degree in psychology from the Université du Québec à Chicoutimi. His areas of interest are academic motivation and cognitive engagement, active learning strategies, classroom management and pedagogical innovations in a university context. He is currently a professor in the department of didactics at the University of Quebec in Montreal. For more than 10 years, he worked as a pedagogical advisor at the Pedagogical Support Office of Polytechnique Montreal. His main task was to train new teachers in teaching and learning methods. He also works as an international consultant where he provides support to develop competency-based curricula, mainly in Latin American countries.

### **Abstract**

The purpose of any Dialogue in this conference is to support co-learning via agreement and disagreement. Agreement enhances our understanding because it usually provides more context; which, by definition, extends the meaning of what is agreed upon. Disagreement triggers our critical thinking which also may enhance our understanding.

As a contribution to the oral dialogue, Dr. Nagib Callaos made some initial questions to the participants in this dialogue and their subcontextual comments. Any participant may also contribute to the dialogue, by making questions and providing arguments.

For this dialogue, let us start with a truism: AI is a tool or meta-tool and, as a tool, what may be good or wrong is the way and the purpose in which it is used. So, what may be wrong or bad is related to the user not to the tool.

Artificial Intelligence (AI) tools, such as ChatGPT, are now readily available to university students and have the potential to positively impact higher education. They can facilitate personalized learning, automate routine tasks, and provide access to vast amounts of information. However, there are also potential negative consequences associated with their use, such as perpetuating biases and misinformation, displacing human instructors, and academic fraud. To address these issues, it is crucial to help students develop critical thinking and digital literacy skills and encourage responsible AI use. It is also necessary to establish ethical guidelines for AI use to ensure that these tools are used for the benefit of everyone.

Why “displacing human instructors” is considered negative as long as Higher Education has educators?

Are we talking about Higher Education or Higher Instruction? Being “instruction” one of the means of “education”, should it be taken as an end in itself?

Is it enough to establish “ethical guidelines”? Is it not also necessary meta-ethic, meaning the ethics of enforcing an ethical behavior?

Why is it true that Quality Assurance Methods and Management are more commonly used in academic settings, than Ethical Assurance Methods and Management?

To the above question, ChatGPT answered as follows:

“Quality Assurance Methods and Management are more commonly used in academic settings than Ethical Assurance Methods and Management due to the perception that ensuring the quality and accuracy of research findings is a fundamental aspect of academic research. Ethical concerns are often viewed as subjective, difficult to measure, and less essential to the research process. However, with increasing complexity and interdisciplinary research, as well as new technologies raising new ethical questions, there is growing recognition of the importance of formalizing ethical assurance methods and management in academic research. Some academic institutions are beginning to develop formal ethical guidelines and frameworks to ensure that research is conducted in an ethical and responsible manner.”

*Do you agree? In any case, why? Why “ensuring the quality and accuracy of research findings is a fundamental aspect of academic research and not Ethical concerns”? Is that right? If this has a subjective component, does it not peer-reviewing also have a subjective component that depends highly on the intellectual culture of the reviewing, which is shaped by the restive disciplinary field as well as by its epistemological values? Do you have any possible answers? Do you have more questions? **Dialogues also require questions from their participants.***

## **Dialogue on Ethical and Meta-Ethical Peer Reviewing**

**Wednesday, March 29, 2023 / 4:30 PM - 5:00 Pm**



### **Dr. Jeremy Horne, USA**

*President-Emeritus of the Southwest Area Division of the American Association for the Advancement of Science: AAAS.*

He is currently the Chief Executive Officer of the Inventors Assistance League, a non-profit organization dedicated to helping independent inventors bring their creations to fruition. He is doing research and writing in the areas of Logic as the language of innate order in the universe, which is a 40-year project.

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



artificial minds in *Research and Applications in Global Supercomputing*, released by IGI Global Press in March 2015.

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



**Dr. Nagib Callaos, USA**

*President of the International Institute of Informatics and Systemics: IIIS.*

Dr. Nagib Callaos earned his Ph.D. in Operations Research (Mathematical Optimization) at The University of Texas at Austin. In his doctoral dissertation, he presented A Mathematical Solution to The Voter (or Condorcet) Paradox, which by then has 160 years with no solution, and showed the internal contradictions of the axioms used by Nobel Laureate to “prove” his famous Impossibility Theorem that announces the impossibility to solve the Voter Paradox.

Dr. Callaos earned his Electrical Engineering Degree at the University Simon Bolivar, in Venezuela, and his Master's Degree in Electrical Engineering (in Electronics) at The University of Texas at Austin, and received, for 4 years, full-time formal courses in Philosophy, in his post-doctorate studies.

Dr. Callaos is the founding president of the International Institute of Informatics and Systemics (IIIS) and the founding president of the Journal of Systemics, Cybernetics, and Informatics (JSCI). He is the 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.

**Abstract**

The purpose of any Dialogue in this conference is to support co-learning via agreement and disagreement. Agreement enhances our understanding because it usually provides more context; which, by definition, extends the meaning of what is agreed upon. Disagreement triggers our critical thinking which also may enhance our understanding.

Regarding this dialogue we will 1) propose some questions to the dialoguing people and 2) include two Q&A with ChatTPG, which is also a dialogue between AI and a human being.

According to a survey of members of the Scientific Research Society, only 8% agreed that "peer review works well as it is" (Chubin and Hackett, 1990, p. 192). Despite this, the traditional peer review methodology is still largely used. However, this methodology has potential problems, such as biases,

conflicts of interest, and the risk of reviewers stealing ideas. These issues raise ethical concerns about the peer review process.

While the traditional peer review methodology is necessary, it is not sufficient on its own to ensure the quality and impact of research. Richard Smith (2006, p. 116) has argued that there is "more evidence of harm than benefit... [and] ] Studies so far have shown that it is slow, expensive, and prone to bias and abuse, and ineffective at catching errors and fraud." As such, is there an ethical responsibility to explore ways to improve the peer review process?

Is it not an ethical responsibility of the submitting authors to seek feedback from colleagues before submitting their work to a journal, or a conference? As David Kaplan has suggested, this can help to improve the quality of the research and reduce the risk of errors and bias. Overall, is there a need to improve the peer review process and uphold ethical standards to ALL who are involved in the process? Is it not there an ethical responsibility for each one involved in the process? No matter what the answer is to this question might be: WHY?

Do absolutely all parts involved in submitting and peer reviewing have ethical responsibilities? To this question, ChatGPT generated the following answer:

“Yes, all parties involved in the submission and peer-review process have ethical responsibilities.

Authors have ethical responsibilities to ensure that the research they submit is original, accurate, and ethically conducted. They should ensure that they have properly acknowledged the work of others and obtained any necessary permissions. They should also avoid any form of plagiarism, data fabrication, or falsification of results.

Reviewers have ethical responsibilities to conduct a fair and unbiased review of the manuscript. They should maintain confidentiality and not use any of the information in the manuscript for their own personal gain. Reviewers should also avoid any conflicts of interest and recuse themselves from reviewing any manuscript where they have a potential conflict.

Editors have ethical responsibilities to ensure that the review process is fair and unbiased. They should maintain the confidentiality of the manuscript and ensure that the review process is conducted in a timely manner. Editors should also ensure that the manuscript meets the ethical standards of the journal and that any potential conflicts of interest are addressed.

Overall, the submission and peer-review process relies on trust and integrity, and all parties have a responsibility to maintain these values to ensure the integrity of scientific research."

ChatGPT also generated the following answer to the question to the following question: Have the author the ethical responsibility to improve what they are submitting?

“Yes, authors have an ethical responsibility to improve what they are submitting to ensure that it meets the highest possible standards of research and scholarship.

Authors should ensure that they have thoroughly reviewed and revised their manuscript before submitting it for publication. They should seek feedback from colleagues and experts in their field to ensure that their work is of high quality and meets the ethical standards of their discipline.

If reviewers provide constructive feedback, authors should take this feedback seriously and address any concerns raised. They should be open to revising their manuscript based on the feedback received and

make changes to improve the quality of their work. This is an ethical responsibility because it ensures that the research is of high quality and contributes to the advancement of knowledge in the field.

Additionally, authors have an ethical responsibility to disclose any potential conflicts of interest that may arise from their research, such as financial or personal relationships that may influence the research. Disclosing conflicts of interest is important to maintain the integrity and credibility of the research, and to help ensure that any potential bias is identified and addressed."

A few more details regarding the ethical dimension of this problem have been included at <https://www.iis.org/Ethics and Meta-Ethics in Peer Reviewing.pdf>

**Thursday, March 30, 2023**

## **Interdisciplinary Education – Integration Between Intellect and Emotion**

**Thursday, March 30, 2023 / 8:00 AM - 8:40 AM**



### **Professor Chieko Nakabasami, Japan**

*Toyo University, International Tourism Management.*

Professor Dr. Chieko Nakabasami was born in Osaka in Japan. She graduated from Department of Engineering of Osaka University. Her major was engineering mathematics. She got PhD degree from Informatics & Mathematics Course, Graduate School of Science & Engineering of Saitama University. Since her PhD, she has been researching on multi-lingual communication in multi-cultural societies. She is professor of International Tourism Management of Toyo University in Tokyo in Japan. She manages Toyo University Tourism Short Film Festival from 2020 and is collaborating with researchers of Ca' Foscari University of Venice in Italy. Her research interests are inter-cultural communication, inter-disciplinary education, and lately sustainable tourism in multi-cultural societies. She has been conducting field work on sustainable tourism in small villages in Southern Italy, in which many immigrants live. Especially, her research is focusing on communication network between tourists and local people. She is also exploring mathematical models for social problems like tourism development.

### **Abstract**

Interdisciplinary research enables real-life problems to solve effectively that cannot be treated with a single discipline. Especially, interdisciplinary approach shows its power in complex domains in which diverse stakeholders are inter-related. Each stakeholder has each way of thinking, which requires effective communication with a continuous effort to make them understand each other. For letting as much as people better understand the seriousness of the real-life problem they currently face to, interdisciplinary education should be needed by integrating between intellect and emotion. Emotion is part of the intellect, and some scholars call "intelligent emotion", which governed by rational thought and a higher plane of cognition than either emotion or intellect could produce alone. On the other hand, "emotional

intelligence" is a term which represents the ability to perceive, use, understand, manage, and handle emotions. Using emotional intelligence, people can handle to guide thinking and behavior, and adjust emotions to adapt to real-life problems. Concerning real-life problems, strong motivation is needed and emotion can be a driving force for motivation. Interdisciplinary education can be a promising way for evoking motivation for unsolved real-life problems. Power of arts can help people understand the essential of the problems. In my talk, one of the real-life problems, interdisciplinary education on tourism sustainability linking to film making will be shown. The effectiveness of interdisciplinary education was evaluated using the transformative learning theory, which was advocated by Jack Mezirow, educational psychologist in 1978, the result will be shown.

## **Transforming Education with ChatGPT: An Innovative AI Teaching Tool for Advancing Holistic Development in Students**

Thursday, March 30, 2023 / 8:40 AM - 9:20 AM



**Dr. Areej ElSary, United Arab Emirates**  
*Zayed University.*

Dr. Areej ElSary completed her Ph.D. in Educational Management, Leadership and Policy. Her master's degree was in Science Education with specialization in STEM education, The British University in Dubai. She is currently an Assistant Professor at the College of Education at Zayed University. She has 13 years' experience, with specific expertise in Science, Technology, Engineering, Art and Mathematics (STEAM), curriculum design and development, teaching and learning, assessment, and schools accreditation. Prior to joining Zayed University, she was working as a curriculum advisor at the Al Arabia for Education Company leading the curricula implementation in Al Ittihad schools across UAE. She was also an Adjunct Faculty at the American University in Emirates with focus on the evaluation of different educational programs.

Dr Areej is an Approved Accreditation Visitor from New England Association of School and Colleges NEASC & Council of International School CIS. Her research interests include the cognitive development, Interdisciplinary STE(A)M curriculum, instructional design and educational technology. She has published her work internationally and has presented papers at different conferences. She has an active research agenda and collaborates internationally on creative research projects.

### **Abstract**

The emergence of artificial intelligence has created innovative opportunities in education, and ChatGPT, a large language model trained by OpenAI, is one such tool that has revolutionized the way students learn. This abstract discusses ChatGPT as an innovative teaching tool that promotes holistic development by enhancing students' competence in the three domains of learning: cognitive, social-emotional, and behavioral.

From a cognitive perspective, ChatGPT has shown to have a positive impact on learning outcomes. Students who use ChatGPT to ask questions and receive answers tend to have better retention rates and deeper understanding of the subject matter. With ChatGPT, students can engage in interactive conversations that challenge their thinking and encourage them to develop their analytical skills. This is

because the responses generated by ChatGPT are based on a large corpus of data and advanced machine learning algorithms. This makes it possible for ChatGPT to provide accurate and informative responses to a wide range of queries.

From a social-emotional perspective, ChatGPT has mixed results. While it can provide a safe and confidential platform for students to ask questions without fear of judgment, it lacks the human empathy that is essential for building genuine relationships. ChatGPT responses can come across as impersonal and robotic, which can be off-putting for some students. Moreover, the lack of visual cues and nonverbal communication can hinder the development of social skills that are necessary for success in real-world interactions. From a behavioral perspective, ChatGPT has shown to have some advantages and disadvantages. On the one hand, ChatGPT can help reduce the communication barriers that often exist between students and teachers. Students who are shy or have language barriers can use ChatGPT to ask questions and receive answers in a safe and non-threatening environment. On the other hand, ChatGPT can also encourage laziness and disengagement. Students may become over-reliant on ChatGPT and stop thinking critically or seeking out information on their own.

Overall, the use of ChatGPT in teaching and learning has the potential to revolutionize the way we educate our students. It is an innovative teaching and learning tool that has the potential to transform the educational system. However, it is important to recognize its limitations and ensure that it is used in conjunction with other teaching tools to promote holistic development. Future research should focus on identifying how ChatGPT can be integrated into the existing curriculum and how it can be used to enhance the learning experience of students further. Additionally, the impact of ChatGPT on students' academic performance and motivation should be investigated to evaluate its effectiveness as a teaching tool.

## **Dialogue on Transforming Education with ChatGPT: An Innovative AI Teaching Tool for Advancing Holistic Development in Students**

**Thursday, March 30, 2023 / 9:20 AM - 10:00 AM**

### **Dr. Areej ElSary, United Arab Emirates**

*Zayed University, College of Interdisciplinary Studies.*

Dr. Areej ElSary completed her Ph.D. in Educational Management, Leadership and Policy. Her master's degree was in Science Education with specialization in STEM education, The British University in Dubai. She is currently an Assistant Professor at the College of Education at Zayed University. She has 13 years' experience, with specific expertise in Science, Technology, Engineering, Art and Mathematics (STEAM), curriculum design and development, teaching and learning, assessment, and schools accreditation. Prior to joining Zayed University, she was working as a curriculum advisor at the Al Arabia for Education Company leading the curricula implementation in Al Ittihad schools across UAE. She was also an Adjunct Faculty at the American University in Emirates with focus on the evaluation of different educational programs.

Dr Areej is an Approved Accreditation Visitor from New England Association of School and Colleges NEASC & Council of International School CIS. Her research interests include the cognitive development, Interdisciplinary STE(A)M curriculum, instructional design and educational technology. She has published her work internationally and has presented papers at different conferences. She has an active research agenda and collaborates internationally on creative research projects.

## **Abstract**

The purpose of any Dialogue in this conference is to support co-learning via agreement and disagreement. Agreement enhances our understanding because it usually provides more context; which, by definition, extends the meaning of what is agreed upon. Disagreement triggers our critical thinking which also may enhance our understanding.

As a contribution to the oral dialogue, Dr. Nagib Callaos made some initial questions to the participants in this dialogue and their subcontextual comments. Any participant may also contribute to the dialogue, by making questions and providing arguments.

ChatGPT, is an innovative teaching tool that has revolutionized education by enhancing students' learning and promoting their cognitive, social-emotional, and behavioral development. ChatGPT has shown positive impacts on learning outcomes from a cognitive perspective by improving retention rates and encouraging analytical skills. However, its social-emotional perspective has mixed results due to its lack of human empathy, while its behavioral perspective can both reduce communication barriers and promote disengagement. Overall, ChatGPT has the potential to transform the educational system, but future research should investigate its limitations and effectiveness as a teaching tool.

*Would ChatGPT support an integrative process of the three mental dimensions: cognitive (thinking), affective (feeling), and conative (motivation/doing)? Why?*

*Would intellectual integration accelerate the improvement of Artificial Intelligence? Why?*

*If the answer to the above two questions is yes, then would there be cybernetic relationships (of co-regulation and co-reinforcement)? If yes, then would the cybernetic whole generate synergies? Would the generated complex system have emergent properties?*

To the above three questions, ChatGPT provided the following answer:

“Regarding the first question, the integration of cognitive, affective, and conative dimensions is an area of interest in psychology and neuroscience. Some researchers believe that these dimensions work together to shape human behavior and decision-making. Integrating these dimensions in AI could lead to more human-like behavior and decision-making.

In terms of the second question, intellectual integration could potentially accelerate the improvement of artificial intelligence. By integrating different dimensions of mental processing, AI could become more capable of complex problem-solving and decision-making. This could potentially lead to more advanced applications in fields such as healthcare, finance, and education.

As for the third question, cybernetic relationships of co-regulation and co-reinforcement are possible if the integrated AI system has feedback loops that allow it to adjust its behavior based on its experiences. This could lead to synergies between different components of the system, which could potentially result in emergent properties. However, this would depend on the specific implementation and design of the integrated AI system.”

*What answer do you agree with? Why? Do you agree with the three answers? Why?*

## **Reclaiming the Sandbox: Teaching Diversity in the Canadian Context**

Thursday, March 30, 2023 / 1:00 PM - 1:40 PM



### **Dr. Lorayne Robertson, Canada**

*Ontario Tech University, Associate Dean, Faculty of Education.*

Dr. Lorayne Robertson, teaches graduate and undergraduate courses in digital pedagogies, equity, leadership, and policy in the Faculty of Education at the University of Ontario Institute of Technology, Canada. She specializes in online course design, program design, and quality assurance. Other research interests include investigations of the student experience and instructor role in polysynchronous online environments with a particular focus on digital technologies and assistive technologies at the point of instruction in applied settings such as schools, colleges, and higher education. Dr. Robertson is a

former school principal, school district superintendent, and education officer for the Ministry of Education, Ontario.

### **Abstract**

In the world of cybersecurity, a sandbox is an isolated, virtual machine environment where software can be executed safely without worrying about how it might affect other applications or structures outside of the sandbox. Within the sandbox, malware can be run without affecting critical infrastructure. The sandbox is safe for both testing new code and running suspected malware. Code can be developed, tested and staged before being deployed to production. Importantly, sandboxes mirror the real environment of the desktop or the mobile device.

The environment in a graduate course in Education is like a sandbox. In a safe space, students test their ideas without impacting critical infrastructure in the world of schools, policy or curriculum. This safe space for discourse is critically important today in the Canadian context. In a country of significant diversity, complexities of difference can impact the outcomes of education. When difference translates to diminished access, participation and outcomes, then inequities must be understood so that they can be addressed. Diversity lessons in the past tended to create safe but separate spaces rather than common understandings. Teaching about equity is not a process of conversion but one of learning to hear other perspectives and see through their eyes. The academy can benefit greatly by engaging the student voice in this discursive search to open minds toward new ways of looking at difference.

## **Bridging the Gap: Communicating to Increase the Visibility and Impact of Your Academic Work**

Thursday, March 30, 2023 / 1:40 PM - 2:20 PM



### **Dr. Erin Ryan, USA**

*Kennesaw State University, School of Communication & Media, Associate Director of Upper Division Courses; Professor of Communication.*

Dr. Ryan is a Professor in the School of Communication & Media at Kennesaw State University, teaching primarily in the BS of Media & Entertainment major. Her research focuses on children, adolescents, and the electronic media: the content and quality of children's media, how they use or are impacted by media, why they use media, advertising directed at the child/adolescent market, parental involvement and mediation, the regulation of children's media, and media literacy. Much of her current research revolves around preschool-aged children and how they use electronic media technology to learn new skills.

Dr. Ryan holds a BA in Developmental Psychology from the University of Georgia, a BS in Communication (Media Studies) from Kennesaw State University, an MA in Mass Communication from Georgia State University, and a PhD in Mass Communication from the Grady College of Journalism and Mass Communication at the University of Georgia. She is currently serving as Associate Director for the School of Communication and Media at Kennesaw State University in metro-Atlanta.

### **Abstract**

This talk will focus on how best to communicate your scholarly work to wider audiences. I'll talk about inter-, multi-, and trans-disciplinarity in academia: what are the differences between them, what are the benefits to your academic work, and how to learn from and leverage cross-disciplinary partnerships to boost your messaging. Using the communication theories of Symbolic Interactionism and Systems Theory as a framework, I'll discuss how best to approach communicating about your research to other disciplines and non-academic audiences. We will consider writing opinion/editorial pieces for mainstream media, networking with science communicators, and connecting with your university's strategic communications officers. My own scholarship in the communication discipline centers on young children and media, so I will also share some ideas about how academics can craft messages about their field of study for younger audiences.

## **Dialogue on Bridging the Gap: Communicating to Increase the Visibility and Impact of Your Academic Work**

Thursday, March 30, 2023 / 2:20 PM - 3:00 PM

### **Dr. Erin Ryan, USA**

*Kennesaw State University, School of Communication & Media, Associate Director of Upper Division Courses; Professor of Communication.*

Dr. Ryan is a Professor in the School of Communication & Media at Kennesaw State University, teaching primarily in the BS of Media & Entertainment major. Her research focuses on children, adolescents, and



the electronic media: the content and quality of children's media, how they use or are impacted by media, why they use media, advertising directed at the child/adolescent market, parental involvement and mediation, the regulation of children's media, and media literacy. Much of her current research revolves around preschool-aged children and how they use electronic media technology to learn new skills.

Dr. Ryan holds a BA in Developmental Psychology from the University of Georgia, a BS in Communication (Media Studies) from Kennesaw State University, an MA in Mass Communication from Georgia State University, and a PhD in Mass Communication from the Grady College of Journalism and Mass Communication at the University of Georgia. She is currently serving as Associate Director for the School of Communication and Media at Kennesaw State University in metro-Atlanta.

## **Abstract**

The purpose of any Dialogue in this conference is to support co-learning via agreement and disagreement. Agreement enhances our understanding because it usually provides more context; which, by definition, extends the meaning of what is agreed upon. Disagreement triggers our critical thinking which also may enhance our understanding.

As a contribution to the oral dialogue, Dr. Nagib Callaos made some initial questions to the participants in this dialogue and their subcontextual comments. Any participant may also contribute to the dialogue, by making questions and providing arguments.

How important is effective communication of academic work to wider audiences, both within and outside of academia, i.e., the two etymological senses of Trans-Disciplinary Communication? Why?

Would inter-disciplinary dialogs support the required collaboration that can benefit the work of an academic? Why?

How effective would be to combine transdisciplinary perspectives (e.g., Systems Approach, Cybernetics, Epistemology, Mathematics) with Symbolic Interactionism to develop a more holistic understanding of how inter- and trans-disciplinary disciplinary communication and collaboration occur? Why? How this combination may be achieved? Why may this combination facilitate and promote innovative and impactful research?

Being inter- and trans-disciplinary communications necessary for inter- and trans-disciplinary collaboration, how it can benefit one's work? May they trigger relational thinking which is required for the generation of analogies that 1) provide input to logical thinking and, hence, 2) are sources of creativity, original thinking, and innovations?

***Does a divulgative researcher generate self-good and common good?*** ChatGPT provides, in the summary, the following answer to this question:

“In summary, divulgative researchers can generate both self-good and common good by effectively communicating their research findings to a wider audience.”

May we add to the above ChatGPT's answer that divulgative academics contribute to their intellectual development by making the intellectual effort for translating from intra- or inter-disciplinary language to a trans- or non-disciplinary language? Should we seriously consider the famous quote attributed to Einstein: *“If you can't explain it simply, you don't understand it well enough;”* or what other Nobel Laureate Richard Feynman who in his learning technique included *“Now that you think you understand*

*a topic reasonably well, explain it to a 12-year-old”? What Feynman meant by “learn to explain so you can learn by explaining”?*

Do you have any comment regarding how these two Nobel Laureates related understanding and being able to explain simply? Does this justify **non-disciplinary communication**?

Does non-disciplinary communication have any intellectual value? Does non-disciplinary communication have any academic value? Think about it and then ask ChatGPT, but first think about it.