Keynote Speakers

"Revolutionizing Education: AI, Metaverse, and the Human-Centric Future of Learning"

Amidst the rapid evolution of emerging technologies, humanity, technology, and education converge at a critical juncture. This captivating keynote explores the transformative power of artificial intelligence, the metaverse, immersive experiences, and community centralization in revolutionizing education and empowering tomorrow's leaders. We will scrutinize innovative frameworks for AI-driven education, unveiling the potential for fostering creativity, critical thinking, and empathy in a human-centric learning environment. We will also address challenges like accessibility, ethics, and mental health impacts, as we apply these technologies across educational settings. Embark on a journey to redefine learning and leadership, creating a world where technology catalyzes human potential and inspires visionary pioneers. This keynote offers insights on harnessing technology to forge a more equitable, informed, and enlightened society.

About Christopher Lafayette:

Christopher Lafayette is an emerging technologist, humanitarian, architect, and speaker. He is bringing thousands of communities and millions of people into the metaverse and emerging technologies in a humane manner. As a thought leader and advocate for greater inclusion and cross-cultural community building, Christopher works to create a more equitable culture of technology. He is the founder of GatherVerse and The Black Technology Mentorship Program. An expert on the metaverse, medtech, AI, education, Web3, and applied sciences, he has served as an advisor to companies, organizations, and universities around the world. https://www.christopherlafayette.com

"The Creative Frontier: AI and The Making of a New Immersive Reality"

As we stand at the precipice of technological advancement, artificial intelligence (AI) emerges as a powerful force reshaping our creative landscapes and ushering in a new era of immersive experiences and innovation renaissance. This talk explores the intersection of AI and the making of immersive worlds that blur the lines between the virtual and real , where human ingenuity converges with intelligent machines. The talk will put a spotlight on the next generation of creators and their involvement in shaping an immersive reality. By harnessing the power of machine learning, computer vision, and natural language processing, AI empowers artists, designers, and storytellers to craft immersive narratives that captivate audiences like never before. I will share emerging practices and work and discuss the ethical considerations and challenges surrounding the use of AI in creative endeavors, ensuring a responsible and inclusive approach to the future of immersive reality.

About the Keynote Presenter:

Maya Georgieva is a leading voice in the fields of innovation, immersive storytelling, and frontier technologies. As the Senior Director of the Innovation Center and XR, AI, and Quantum Labs at The New School, she leads a team focused on driving innovation in spatial computing, AI, Quantum Computing, future interfaces, and design. In addition to teaching the signature Immersive Storytelling course at The Parsons School of Design, Maya is a sought-after speaker and has spoken about topics such as the Metaverse, AI, and Quantum at prestigious events such as SXSW and the MIT Media Lab. Her work has been featured in notable publications like The Atlantic and The Economist. Maya has been recognized as one of the 30 Higher Education Influencers to follow in 2022 and is the designer of the first-ever Quantum Computing Design Jam for creatives. She served as the final judge for the MIT Reality Hackathon in 2023 and actively writes and speaks on the topics of digital transformation, immersive storytelling, and the future of learning, creativity, and work. Maya also consults with organizations and startups in this space and serves as a judge and coach for several competitions and accelerator programs. Maya is the co-founder of Digital Bodies, a startup focused on XR and AI and their impact on media and society. She has worked with major tech companies such as IBM, Google, HP, Microsoft, and Meta. Maya has spoken at United Nations, UNESCO and European Commission forums on the ethics of XR and AI and education, policy, and corporate Innovation forums.

“Reflections on XR & AI within Education”

XR & AI have long been sibling technologies co-evolving with each other. This keynote from Voices of VR podcast host Kent Bye will present some of the frameworks he uses to help navigate the interdisciplinary nature of experiential design, why embodied cognition is so important for XR Education, and how to make sense of the recent inflection points in AI as well as where it overlaps with XR. He will also be exploring some of the ethical implications for both AI & XR, and doing a brief survey of the current state of XR education and where it might be headed in the future.

About Kent Bye:

Since May 2014, Kent Bye has published over 1200 Voices of VR podcast interviews featuring the pioneering artists, storytellers, and technologists driving the resurgence of virtual & augmented reality. He's an oral historian, experiential journalist, & aspiring philosopher, helping to define the patterns of immersive storytelling, experiential design, ethical frameworks, & the ultimate potential of XR.

"Integrating VR into real classrooms: Practical, pedagogical and learning insights from the VR School Study"

Much of the evidence on educational virtual reality (VR) is based on quasi-experimental, cross-sectional research designed to measure the effectiveness of a specific VR application. This research is commonly conducted by university or industry researchers on mainly adult populations. This presentation showcases a different framework for research from the VR School Study, now in its 7th year (www.vrschoolresearch.com). The VR School Study is predicated on a participatory model where teachers are co-researchers and student are VR content creators. The study is conducted over long periods of time in different primary (elementary), middle and secondary schools and across different subject areas to capture the practical, ethical, pedagogical and curriculum potential and constraints of integrating this emerging technology into everyday classrooms. The presentation will provide a comprehensive pedagogical framework, case studies on regulation and student creativity for deeper learning, and insights into effective curriculum design for teachers.

About Erica Southgate:

Dr.Erica Southgate is Associate Professor of Emerging Technologies for Education (University of Newcastle, Australia) She is a teacher educator and maker of computer games for literacy. Erica is an expert on AI ethics for education and lead researcher on the VR School Study, the longest-running research on embedding VR into school classrooms across subject areas. She is lead author on the Australian Government commissioned report, 'Artificial Intelligence and Emerging Technologies (AR, MR and VR) in Schools' and author of 'Virtual Reality in Curriculum and Pedagogy: Evidence from Secondary Classrooms' (Routledge).

"AR/VR/MR - How Does it Matter? Comparing XR technologies with respect to human factors"

The Covid 19 pandemic and associated work-from-home culture reignites the importance of immersive media. Major industries used various terms like Metaverse (Facebook), Mesh (Microsoft), Nth Floor (Accenture) and so on to invest and commercialize immersive media related products. Traditionally, immersive media is described through a continuum between reality and virtual reality along with intermediate systems known as Augmented and Mixed Reality systems. In the middle of the commercialization efforts and advertisements from software giants, end users are often confused about the best solution for their needs. There are not many studies on analysing end users' feedback across the continuum of immersive media. This talk will present a comparative study on XR Technologies with respect to ocular, EEG and hand movement parameters of users. This presentation will introduce a comparison of cognitive load for a virtual flight simulator and between VR and MR interface for a welding task and an Advance Driver Assistance System.

About Dr. Pradipta Biswas: Pradipta Biswas is an Associate Professor at Indian Institute of Science and vice -chairman at Study Group 9 of International Telecommunication Union, the Telecom branch of UNO. He is known for research on eye tracking applications and cognitive load estimation. Earlier, he was a Senior Research Associate and Governing Body (Title: B1) Fellow at University of Cambridge, UK.

"Teaching artistic creation within (and for) the Metaverse"

Although the adoption of the Metaverse is evolving at a slower speed than anticipated, it is still happening worldwide. In many cases, when creating an environment for the Metaverse, the aim is to simulate reality, a certain condition or an activity taking place in the physical world. However, when a simulation is not required, creating a virtual world involves the composition and development of a multisensory, synthetic environmental representation, which does not necessarily resemble physical spaces and within which these activities may appropriately unfold. This direction of research and education will be discussed with the help of relevant theoretical frameworks and several case studies. Furthermore, the art of creating virtual form, spaces and narratives for the Metaverse can ideally be taught within the Metaverse and towards this end, relevant implementations will be presented and discussed.

About Dimitris Charitos:

Dimitris Charitos is a Professor at the Department of Communication and Media Studies and the Head of the Department of Digital Arts and Cinema of the National and Kapodistrian University of Athens spatialmedia.ntlab.gr, where he teaches human-machine communication, interactive design, digital art, virtual environment design and visual communication. He studied Architecture (NTU Athens) and CAD (University of Strathclyde) and holds a PhD in interactive and virtual environment design. He has participated in more than 15 research projects and has more than 100 publications in books, journals and conference proceedings. His artistic practice includes electronic music (1983-1993), audiovisual and interactive installations and virtual environments (1997- today). He has participated in 15 exhibitions in Greece, UK, Canada and Cyprus.

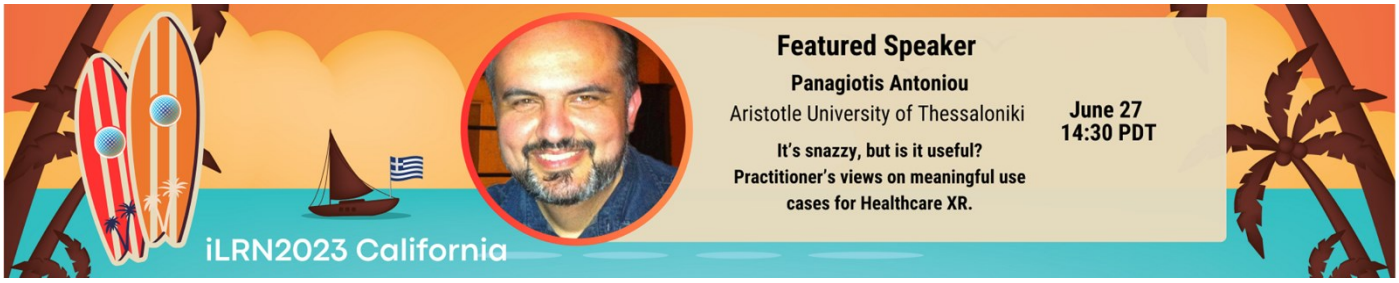
Featured Speakers

"Gaming for Good: How Video Games Cultivate Social and Emotional Learning"

Compassion is empathy in action, and action is what games do best! The emotional affordances in some video games can enable players to practice social and emotional learning (SEL) skills in spaces free from real-world consequences. Emerging research suggests that these competencies are, in fact, teachable. With thoughtful guidance, games can help youth manage emotions, demonstrate empathic concern, and exhibit prosocial behaviors. Join Dr. Matthew Farber as he shares ideas from his research and recent book, *Gaming SEL: Games as Transformational to Social and Emotional Learning*.

About Dr. Farber:

Matthew Farber, Ed.D. is an associate professor of educational technology at the University of Northern Colorado, where he co-directs the Gaming SEL Lab. Author of several books and papers, he studies how playing and making games can cultivate (or limit) social and emotional learning (SEL) skills, such as empathy, compassion, and ethics. Dr. Farber also writes for Edutopia (The George Lucas Education Foundation), has been invited to the White House, and has collaborated frequently with UNESCO and Games for Change. His latest book is Gaming SEL: Games as Transformational to Social and Emotional Learning. To learn more, please visit: http://matthewfarber.com/



"It's snazzy, but is it useful? Practitioner's views on meaningful use cases for healthcare XR."

The global virtual reality market size, valued at 21.83 billion USD in 2021, is expected to expand with an annual growth rate of 15.0% from 2022 to 2030. Virtual Reality, although massively known for immersive gaming and entertainment, has revolutionized education and training during the last years in many fields. In medicine, VR has been used from the simulated reconstruction of organs to preoperative planning and from teaching anatomy to rehabilitation. XR healthcare resources are enthusiastically accepted from healthcare learners and teachers alike. However, they still are not mainstream into formal academic curricula. The core precept for curricular integration is educational justification. In short, the question is whether the cost of an impressive VR resource will be returned as educational efficacy. Pivotal for positive reply in this question is the correct design of the educational resource for each use case. Is XR appropriate for clinical, manual skills, or decision-making training? Would you choose an exploratory «Human Atlas» for anatomy teaching or an interactive case study? How much «game» do you need in your educational experience? These are all questions that so far have been answered ad-hoc based on intuitive needs of the practitioners. This panel will present the results of the first healthcare practitioners' worskhop that was co-organized by iLRN and several healthcare institutions to tackle these questions. Based on practitioner's feedback, a select group of panelists will open the discussion to the audience of the conference for identifying features and practices for optimal XR design for healthcare use cases.

About Panagiotis Antoniou:

Panagiotis Panagiotis E. Antoniou is a senior research associate and Laboratory Reader in the Lab of Medical Physics and Digital Innovation, and a Laboratory Reader in the School of Medicine, Aristotle University of Thessaloniki. He received a degree in Physics from Aristotle University of Thessaloniki in 1997, a M.Sc. degree in Medical Physics in 2001 from the Democritus University of Thrace and a Ph.D. degree in Medical Physics in 2004 from Democritus University of Thrace. His research interests included Medical Signal processing, Medical Informatics, Educational Technologies and design based research. Currently he is active in the fields of Technology Enhanced Learning (Augmented and Virtual Reality -AR/VR in education and virtual patients), co-creative/ co-design paradigms in experiential educational techniques. He has participated and managed several EU and nationally funded research projects. He has authored more than 80 publications in peer reviewed journals and conferences (h-index:11, i10-index:17, 617 citations), and 5 book chapters in collaborative scientific publications. He is a reviewer in several international journals and member of the organizing committee in several international conferences.

"Exploration and Deployment of XR in Higher Education"

This presentation will focus on the use of virtual, mixed and augmented reality (XR) technologies in the field of higher education. XR is a medium that is likely to revolutionize the way students learn and interact with educational content. During the presentation, Rob will discuss the various ways in which XR technologies, predominantly virtual reality (VR), are being utilized at Georgian College, such as for immersive simulations, virtual field trips, and interactive course materials. Rob will share how Georgian has taken a thoughtful and fiscally responsible approach to the exploration and integration or immersive VR and will share many of the challenges along the way. He will present case studies and examples of successful implementation and some of the barriers and failures.

About our Featured Speaker:

Rob Theriault is the Immersive Technology Manager for Georgian College in Ontario, Canada. Prior to taking this position, Rob was a 35 year veteran paramedic and former Critical Care Flight Paramedic. Rob also taught paramedics for almost as many years. After introducing virtual reality into the paramedic program at Georgian and helping to create a VR hub in the library, Rob was asked to lead the exploration and integration of VR for Georgian's seven campuses. Since the start of 2020 Georgian has launched over twenty virtual reality pilots in program areas such as Indigenous language learning, Veterinary Technician, Biotech, Paramedic, Nursing, Power Engineering, Events Management, Maritime Ship Navigation and others. In 2022, Rob received the Virtual World Society's prestigious Nextant Educator Prize which honors those individuals who dedicate their work to enhancing the educational XR experience for others.

“Bringing immersive in: Current field advancements bringing a new dawn to our everyday lives”

About our Featured Speaker:

Boris Terrano is currently a visiting professor at the University of Waterloo, Canada, where he introduces young critical minds to the endless potential of immersive technology. Debating the possibilities of bringing machine learning technology into the everyday home, he claims he is on the way to creating "the next Alexa or Google Home" 2021. He poses the question “Why should other immersive technologies not be accessible to all" 2021.

The founder of GTech Collective, Boris is an innovative humanitarian, well known for his work with young computer science technologists from under-represented communities. Over the last few years the GTech Collective have successfully trained over 680 early career programmers, all supplied for on bursaries.

Dr Terrano is an AI enthusiast; he has 6 robotic dogs at home! On weekends he’s a regular at the local Badminton Club.

"Post Qualitative Virtuality: assembling reality as new material for teaching and learning"

This presentation will address the kinds of support Dr. Eleanor Dare believes is needed to help faculty and students to effectively use and critically encounter XR, describing some of the technical and epistemic strategies which aim to balance technical competency with critical theory. Here, Dare will outline a post -qualitative approach (St. Pierre, 2020, 2021, Grant, 2018) to teaching VR and AR, in which students identify the materiality of technologies which are often framed as immaterial or removed from questions of their material and political implications. Eleanor will explain how using VR has changed the way they teach, in particular the ways in which they frame spatiality in the pandemic and post-pandemic university.

About Dr. Eleanor Dare:

Dr Eleanor Dare is an academic and critical technologist with a PhD and MSc in Arts and Computational Technologies from the Department of Computing, Goldsmiths. Eleanor was formerly Reader in Digital Media and Head of Programme for MA Digital Direction, at the Royal College of Art. Eleanor is now a Senior Teaching Associate at the University of Cambridge as well as lecturer in Games Design and Research By Practice at UCL. Eleanor is the cofounder of X||rdinary Stories, an immersive storytelling studio.

"Bridging the Gap between Physical, Digital and Virtual: Learning Lessons in conducting Research"

Virtual and Mixed Reality has gained momentum in the recent years. COVID-19 pandemic has also accentuated this phenomenon as strict constraints in mobility and outdoors activities were in place. In the past, Virtual Reality (VR), and Mixed Reality (MR) technology more broadly, has been investigated on how it affects people's User Experience (UX) and performance on daily tasks or specialised contexts. Limited research has looked on how VR/MR can be used to support conducting remote research activities. This talk will provide a short introduction on some results and insights generated through research on Multimodality and Synaesthetic-approaches in VR that we have conducted during COVID-19. We utilised a multisensory remote Virtual Environment (VE) approach to bridge the gap between the Virtual and Physical realms and between remoteness and co-location. The talk will present some lessons-learned and implications on conducting and learning from different (and novel) research practices.

About Genovefa Kefalidou:

Dr. Genovefa Kefalidou is a Lecturer in Human-Computer Interaction and Director of EDI within the School of Computing and Mathematical Sciences (CMS) at the University of Leicester. Her research focuses on User Experience (UX), Design and Evaluation of Cognitive Systems, Intelligent Service Design and Human-Data Interaction. Her research is applied in Transport and Healthcare and has a particular focus on designing novel intelligent personalised decision-support systems utilising Ambient Intelligence (AmI) and Mixed –Reality technologies that explore novel 'human-in-the-loop' approaches for optimisation, enhanced UX and performance of AI-based systems and services. She is a Co-I and member of the Management Board of the Trustworthy Autonomous Systems (TAS) Verifiability Node (https://verifiability.org/) where she looks on how trust enhances verifiable Autonomous Systems (AS) and service acceptance. She is also the Athena SWAN Lead and Ethics Officer at CMS.

"Shaping the Metaverse: a Latin American Approach"

Let's delve into the Metaverse concept and explore it through a Latin American lens. Join me as we embark on a journey to discover how Latin American culture, creativity, and innovation are influencing and shaping the metaverse landscape.

About Juan Manuel Escobar:

Producer, director and advisor in Virtual and Augmented Reality projects, passionate about connecting the immersive reality industry in Colombia and Latam and promoting immersive and interactive media for its application in multiple industries. Co-founder of Aroa Studio, Creator of the XR Latam network, Co-founder of the Colombian Association of Immersive and Emerging Realities XRCOL and active member of the Immersive Learning Research Network chapter Colombia. B.F.A in Visual Arts, and previously Producer and Director of Documentaries and Life-Style. Professor of Virtual and Augmented Reality in postgraduate programs. Immersive Realities and Metaverse speaker.

"Driving The Future of XR In Education"

There is a disconnect between XR developers and educators. Champions in Higher Education for XR (CHEX) is a consortium that aims to close that gap by advocating for the needs of educators and excellence in instructional design in XR. Under the Immersive Learning Research Network, CHEX brings college and university educator XR enthusiasts together to discuss the needs of educators, to cultivate peer learning networks and to speak with one voice. Join us to learn what we share in common and how we can work together to help promote best practices, facilitate collaborative XR projects within and among higher education institutions and build a solid pedagogical foundation for XR and immersive learning.

About Rob Theriault:

Rob Theriault is the Immersive Technology Manager for Georgian College in Ontario, Canada. Prior to taking this position, Rob was a 35 year veteran paramedic and former Critical Care Flight Paramedic. Rob also taught paramedics for almost as many years. After introducing virtual reality into the paramedic program at Georgian and helping to create a VR hub in the library, Rob was asked to lead the exploration and integration of VR for Georgian's seven campuses. Since the start of 2020 Georgian has launched over twenty virtual reality pilots in program areas such as Indigenous language learning, Veterinary Technician, Biotech, Paramedic, Nursing, Power Engineering, Events Management, Maritime Ship Navigation and others. In 2022, Rob received the Virtual World Society's prestigious Nextant Educator Prize which honors those individuals who dedicate their work to enhancing the educational XR experience for others.

"Session 18 Growing the Knowledge Tree: Core concepts, methods, outcomes, and tools"

The Immersive Learning Knowledge Tree is a conceptual framework that supports a common understanding of the diverse field of immersive learning. The ILKT is based on 1) The premise of the importance of developing a common language; 2) The premise of the importance of not only using similar terminology as other researchers, but also having a deep understanding of how the methods researchers utilize in their own research are similar or different from those used by others; and 3) The premise of advancing the use of common theoretical approaches and models. Since its initial inception, the ILKT has developed core concepts, methods, outcomes, and tools/instruments. The ILKT also has significant plans for future development. This presentation will provide a brief overview of what the ILKT is, what has been done to develop it thus far, and what our plans are for the future.

About Dennis Beck: Dennis Beck is an Associate Professor of Educational Technology at the University of Arkansas. In his teaching, he enjoys teaching teachers/trainers how to use technology in their classrooms. His research focuses on and advocates for digital, educational equity for vulnerable populations, with an emphasis on culturally and linguistically diverse students, special education students, and older adults. In this stream, he has completed a mapping of reviews of educational practices and strategies within immersive learning environments, and he has examined the use of immersive learning environments for providing life skills training for low functioning adults on the autism spectrum. He has also studied special education parent and student satisfaction with cyber schooling, as well as the impact of homework and teacher-student and student-student interaction on achievement and student and parent satisfaction in cyber schools. In order to better understand the impacts of cyber schooling on vulnerable populations, he has studied whether bullying is pushing non-binary students away from traditional public schools and into cyber schools. He also has helped to lead the Immersive Learning Research Network, an international collaboration of scholars and practitioners who are committed to learning more about how to use immersive technologies in education.

About Leonel Morgado: Leonel Morgado is Associate Professor with Habilitation, at the Portuguese Open University, where he lectures on research methods, programming, and the use of virtual worlds. He is also Vice-President of the Audit Board of the Portuguese Society of Videogame Sciences, and board member of the international research association, Immersive Learning Research Network. His main research interest is the use and development of virtual worlds as tools for learning and business, which he pursues since 2000, focusing on immersive environments since 2006. He authored over 200 papers, in journals, conferences, and as book chapters. Before pursuing an academic career, he was business and technical manager of an hardware import, distribution, and retail company, terminologist for the localization teams of MS Office 97 and Oracle InterOffice, language quality specialist for IBM/Lotus, a coordinator of Web-development and software-deployment teams, and manager of a cooperative extension team fighting the digital divide in rural villages.

Featured Workshop

"The iLRN2023 "Framework for Aggregation and Identification of Design Standards" (FAIDS) Workshop Series"

What are the biggest design obstacles currently faced by the iLRN community? How do we quickly develop a shared understanding of these issues? As we begin working on these challenges, how do we allow interdisciplinary synergies to flourish?

To answer these questions, the iLRN working group for the "Framework for Aggregation and Identification of Design Standards" (FAIDS) is running a two-part workshop at the iLRN 2023 annual meeting, one for the online virtual portion and another during the in-person conferences. This will be a continuation of the work that began at the annual meeting in 2022 in Vienna, where the FAIDS working group engaged in-person attendees to identify and describe "standards for the development and implementation of immersive learning environments," which is summarized in the two-page proceedings document (https://immersivelrn.org/resources/ilrn-publications-proceedings/70/ilrn2022-synthesis-of-faids-workshops).

The two-part iLRN2023 workshop will provide an opportunity for the iLRN community to discover a topic we want to better understand and then collaboratively explore that topic. Using the design thinking methodology developed for the conference in Vienna, FAIDS will guide attendees of the virtual conference in an ideation session, which will result in a topic to be more thoroughly explored by a large portion of the in-person attendees in California. This will allow the iLRN community to determine a large, pressing issue for which we are all interested in developing language and standards towards a shared understanding. The results of this workshop will be published in a proceedings document and/or paper by the FAIDS working group.

"Immersive Learning and Inclusivity: Raising Awareness, Identifying Opportunities and Challenges, and Adapting Practice"

Immersive learning research and practice cannot hold their promises without setting inclusivity as a high priority. This workshop aims to raise awareness of inclusivity and accessibility in education; identify opportunities and challenges for inclusivity when creating and deploying immersive learning experiences; share good practice; and induce reflection on one's own practice and research agenda. A 90-minute hybrid interactive event is proposed during which participants will work in small groups on several activities, and then discuss how these activities enabled them to reflect on their own practice. Participants will then be asked to discuss their reflections with the whole group, and facilitators will summarize with a call to action, which will be either a collaborative project or a white paper to capture the findings of the workshop.

Workshop Facilitator Bios:

Marie-Luce Bourguet is Senior Lecturer (Associate Professor) in the School of Electronic Engineering and Computer Science (EECS) at Queen Mary University of London (QMUL) in the UK. She teaches multimedia signal processing, interactive media design and 3D Graphics programming courses on the transnational program between EECS and the Beijing University of Posts and Telecommunications in China. Since 2008, she has been based in Tokyo, Japan, where she has research collaborations with the University of Tokyo on the use of social robots in education. Her work is in the areas of immersive learning, inclusive curriculum, learning analytics, social robotics, and AI in education. She is an expert at the European Commission on Robotics & Artificial Intelligence and an Academic Adviser to the Commonwealth Scholarship Commission. At QMUL, she is director of the EECS Educational Scholarship Centre (ESC), which she established in 2022, and deputy director of the Centre for Academic Inclusion in Science and Engineering (CAISE).

Sarune Savickaite is a PhD candidate at the School of Psychology and Neuroscience, University of Glasgow, currently finishing writing up her thesis. Sarune is also tutor at the School of Education and Lifelong Leardning, and is currently working on a project funded by Meta - SEER (Scoping Extended Educational Realities). Sarune was also Education Research Manager at Edify.ac through the industrial partnership studentship with ESRC/SGSSS. Sarune holds BA Hons Illustration & Graphic Design (First Class; University of Bedfordshire), HEDip Life Sciences (Birkbeck), BSc Hons Psychology with Commendation for Outstanding Contribution to Psychology (University of St Andrews) and MSc Hons in Psychological Research Methods (University of Glasgow). Sarune has experience in project management, experimental design and data management. With memberships at British Psychology Society (BPS) and American

Psychology Association (APA) Sarune is an early career researcher in the field of cognitive psychology. Sarune also is an active member of strategy and organisational boards for the new Advanced Research Centre for Extended Reality at the University of Glasgow. https://www.sarune.info/

Featured Invited Panel

"Immersive Intelligence and Education: Challenges & Opportunities"

Advances in AI have been accelerating in the past few years especially deep learning models that have gone viral during 2022 where millions have been experimenting with Ai systems such as Dalle-2, Midjourney and ChatGPT. This resulted in a heated discussion around whether to embrace such technology and transform education or ban such models for cheating potential. As these applications have major implications on education, the goal of this panel is to address educators' concerns and possible ways to leverage AI in education and revolutionize the way we teach and learn. This panel hosts academic and industry leaders in machine learning and education to address concerns and potential opportunities of using Ai in education. Panelists will discuss how these technologies work, and address educators and instructional designers' concerns and provide guidelines for the use of generative AI in education.

About the Panelists:

Chris Dede, session moderator/panelist:

Chris Dede is a Senior Research Fellow at the Harvard Graduate School of Education and was for 22 years its Timothy E. Wirth Professor in Learning Technologies. His fields of scholarship include emerging technologies, policy, and leadership. From 2001-2004, he was Chair of the HGSE department of Teaching and Learning. In 2007, he was honored by Harvard University as an outstanding teacher, and in 2011 he was named a Fellow of the American Educational Research Association. In 2020 Chris co-founded the Silver Lining for Learning initiative (https://silverliningforlearning.org). He is currently a Member of the OECD 2030 Scientific Committee and an Advisor to the Alliance for the Future of Digital Learning, sponsored by the Mohammed bin Rashid Global Initiative (MBRGI). Also, Chris is a Co-Principal Investigator and Associate Director for Research of the NSF-funded National Artificial Intelligence Institute in Adult Learning and Online Education. His most recent co-edited books include: Teacher Learning in the Digital Age: Online Professional Development in STEM Education; Virtual, Augmented, and Mixed Realities in Education; Learning engineering for online education: Theoretical contexts and design-based examples; and The 60-Year Curriculum: New Models for Lifelong Learning in the Digital Economy.

Lidija Kralj, session panelist:

Lidija Kralj is an international analyst and expert in data and AI in education, she is a member European Commission's working groups on Artificial intelligence and data in education and training, digital education and safer internet; UNESCO and Council of Europe workgroups on AI and education, and author of digital learning resources and textbooks, as well as an advisor and teacher trainer. She had been working at the Ministry of Science and Education in Croatia, where she led reforms in the area of digital education, learning analytics, data-based decisions in education and comprehensive curricula reform. Lidija is eLearning and project manager, and a lecturer in Mathematics and Computer Science with 30 years of experience, currently works as a senior analyst at European Schoolnet.

Keram Malicki-Sanchez, session panelist

Keram founded Constant Change Media Group Inc., the VRTO Spatial Media World Conference & FIVARS festival. He contributed to the Handbook of the Global Impact of Immersive Technologies and the 2022 PEW Research Report on the Metaverse. In addition to his industry contributions, Keram teaches Blender for WebXR design at UCLA Extension, where he designed the first workshop around generative AI art. He won Creator of the Year at the 2022 Poly Awards.

Sandra Okita, session panelist:

Dr. Sandra Okita is the Director of the Gizmo EdTech Lab at Columbia Teachers College, New York. Dr. Okita's current research interest is focused on the learning partnership between individuals and technology, and how technology intersects with learning and instructional processes. One characteristic of Dr. Okita's work is the use of technological boundary objects as a threshold to learning, instruction, and assessment. Here, Dr. Okita defines boundary objects as computational artifacts where animate and inanimate features overlap between fantasy and reality (i.e. robots, agents in virtual reality environments, mixed-reality). Dr. Okita's interest in boundary objects is due to their strong social component that enables students to build a peer-like relation with technology that reveal new insights to the role of social relationships in learning.

Other interests include designing technology assisted learning/intervention in formal/informal settings, and children's interpretation and conceptual development in relation to technological boundary objects. Theoretical research interest areas include self-other monitoring, learning by teaching, learning by observation and its influence on behavior in the domain of biology, math, and agency.

Featured MetaVerse Adventure

"Metaverse Adventure: "Meet the Makers"

Metaverse Adventure : Meet The Maker

Meet The Makers

In his most recent achievement, Ben orchestrated the 3rd Polys - WebXR Awards, which marked several firsts. The event showcased the first red carpet and award presentation streamed from both a volumetric capture stage and an LED stage and delivered the virtual trophies in holographic displays. His next show **"Meet the Makers**" is focusing on "the who" of the Metaverse which will premiere at AWE.

About Ben Erwin:

Ben Erwin is the creator of The Polys - WebXR Awards, WebXR Summit Series, and MetaTr@versal which have impacted the industry by catalyzing awareness of, and engagement with the immersive web. His work is dedicated to the advancement of the XR industry through recognition of its pioneers and events that provide an advocacy platform for thought leaders. He is a passionate proponent for cooperation on standards for the Metaverse.

As an Internet frontiersman since the 1990s, Ben has served as a developer and as an executive for digital media agencies creating data driven interactives for dozens of major brands. For 13 years, he was a webmaster and consultant for the United Nations humanitarian section and partner NGOs, bringing awareness to the plight of women and children in conflict areas around the world. Before the internet, Ben began his career in the entertainment and music industry.

Ben is a digital polymath with decades of experience in marketing, management, programming, video editing, and writing. Influenced by his years as a veteran of the browser wars, he has teamed up with XR industry leadership to produce the MetaTr@versal series of events. These events are designed to galvanize the community around cooperation on the development and adoption of open standards and platform interoperability for the Metaverse.

Ben believes passionately in the potential of immersive content as a positive means for evolved human communication, particularly in civics, journalism, and education. Through shining a light on the good works of innovators, he aims to help preserve their legacy and inspire others to build upon their work.

"VR beyond the Surgical Suite: Training for Patient Care & Safety"

Healthcare organizations carry the responsibility to ensure caregivers demonstrate competency to maintain the highest standards of patient safety and quality of care. A lapse in that care can result in serious physical and emotional harm to the patient, and financial repercussions for the healthcare organization. The burden of education and training is overwhelming for the healthcare industry. Ever-changing protocols and standards, nursing shortages and constant turnover, and limited resources - including educators, training spaces, supplies, and equipment - complicates this herculean task. Finding alternative methodology to train caregivers with efficiency and measurable effectiveness is paramount. 3lbXR has developed a suite of VR training applications, partnered with Tucson Medical Center, for Registered Nurses and Primary Care Technicians. This project includes a module on Fall Prevention, which is currently part of a research study "Using Virtual Reality to Advance Education & Training for Nursing." Robin Moulder will provide insight on how 3lbXR designed, implemented, and on boarded hospital staff, developed an academic study with our research partner to further VR initiatives for patient safety and quality, as well her thoughts on the future uses of XR technologies for training in the medical field.

About Robin Moulder:

Robin Moulder is the CEO of 3lbXR and 3lb Games. As a pioneer of Virtual and Augmented Reality, Robin led 3lb Games into the XR space with the Galactic planet-destroying game Space Dragon for Rift, the highly rated Movement system for Oculus, Slime Rancher VR Playground, and VR trainings and simulations for medical and manufacturing applications. She has previously served as President of an internet incubator, CTO of a technology manufacturing incubator, Director of a major consulting company, consultant and engineer serving Fortune 100 and 500 clients in medical, education, manufacturing, supply chain management and communications. Combining those experiences, Robin recently launched 3lbXR, an incubator that forges partnerships with companies to make their XR vision a reality. 3lbXR accelerates development by partnering with subject matter experts and building solutions aimed at successful outcomes for their business, as well as providing go-to market strategies for wide-spread commercialization. 3lbXR builds the highest quality immersive experiences using proprietary rapid development tools and production pipeline process, leveraged from 12+ years of game development experience with 3lb Games.

“Team Building and Community Building in VR: A Comparison”

It's understood that Team Building relates to the cohesion of groups that already identify as a team while community building help groups of relative strangers to find a shared identity and reason to be together. Remio, a Social VR platform designed explicitly for team building, is expanding it's features and services to include community building going forward. Let's talk about how lessons from team building can be applied to this endeavor, and the core elements being introduced to make these communities possible.

About Lance Powell: As Product Manager at Remio, my role includes contributing to design, platform quality, and day-to-day project management. Concurrently, I'm the CTO of VEDX Solution, a VR education company deploying VR programs to schools. Here, I'm guiding the development of apps for workforce development and 360 libraries. I've also been a lecturer in Virtual Worlds at Behcesehir University and made keynote speeches and attended panels at GDC, art, and technology conferences. My educational background is in Cognitive Science.

“Exploring the Boundless Possibilities of Immersive Education”

Come along as Jackie Lee explores the virtually endless potential of immersive learning. New technologies like virtual reality and the Metaverse have removed physical obstacles from schooling. We'll look at how immersive learning is changing the way people learn and opening up new options for both teachers and students.

About Dr. Lee: Jackie Lee, Ph.D. is a cross-disciplinary inventor in VR/AR, learning, and Affective Computing. He worked on Intel's RealSense 3D cameras and Project Alloy (the first all-in-one VR headset). He did biosensing and behavioral research at the Affective Computing Group at MIT Media Lab. He did his master thesis focusing on Spatial User Interface and Augmented Reality. Jackie is the recipient of the Virtual World Society's Nextant Rising Star Prize at AWE 2020. He is part of the Oculus Launch Pad 2020 program and a two-time recipient of Epic Games' MegaGrants.

"Exploring the Boundless Possibilities of Immersive Education"

The education system is rapidly changing as the globe and technology continue to change. There will probably be some kind of hybrid learning in the metaverse for the upcoming generation of pupils. A co-founder of VEDX in 2020 has stepped up to help schools create VR labs at their institutions in order to meet this challenge. The business focuses on the global adoption of virtual reality, providing students with immersive and engaging learning opportunities. VEDX is dedicated to granting access to cutting-edge technology that will improve the future of education because of its strong confidence in the transformative potential of VR technology.

About Jay Schnoor:

Jay Schnoor has dedicated his life to international education and VR. He believes the next generation of students in the world will have some form of hybrid learning in the Metaverse, which is why he co-founded VEDX in 2020. His company focuses on VR Deployment across the world and is working to help schools make VR labs a reality at their institutions.

Featured Presentation

"eSTEAM-powered Immersive Learning: Enhancing Experiences through Active Engagement and Collaboration".

In this presentation, Knox Grammar Preparatory School in Sydney showcases how they use immersive Virtual Reality (VR) and Augmented Reality (AR) in inquiry learning projects for students from Kindergarten to Year 6. The presenters will demonstrate a range of inquiry units that provide students with meaningful and engaging learning programs, fostering critical thinking, creativity, and collaboration skills. Through the VR and AR projects, students can safely explore and develop prototypes for various concepts and phenomena in a controlled virtual environment. This enables them to observe, experiment, code, and interact with 3D objects and simulations that enhance their understanding of complex topics. The presentation will describe the pedagogical principles and technological tools used to create immersive and engaging learning experiences. Examples of student work and feedback will be shared, highlighting the benefits and challenges of using VR and AR in the classroom. The demonstrated deep learning of the students through their inquiry projects has important implications for future research and practice in the field of immersive learning. Educators interested in incorporating VR and AR into their teaching practices will benefit from the recommendations presented. Overall, this presentation offers insights into how immersive VR and AR technologies can support inquiry-based learning across subjects and age groups. It provides a case study of successful integration of these technologies in contemporary classrooms, demonstrating their potential to engage students and enhance their learning experiences.

The Knox Grammar immersive presentation platform:

https://framevr.io/knoxpreppresentations

https://sites.google.com/knox.nsw.edu.au/knoxpreppresentations/home

About the Presenters:

Nely Daher is a K-6 educator and Kindergarten Team Leader who is driven to make a positive difference in the future of education. Her passion is to empower students to become innovators of change by instilling and equipping them with

confidence, agency, identity and self-efficacy whilst nurturing quality learning and life skills needed in our VUCA world.

Ian Fairhurst is a passionate educator who leads the Innovation and Technology Team at Knox Grammar Preparatory School in Sydney, Australia. He specializes in inquiry-based, real-world STEM learning, and leveraging technology to empower students to become authentic change-makers. With a Master of Education in Innovation and Change Ian is dedicated to helping students develop the skills they need to succeed in a complex and technology-driven world.

Sue Floro is an audacious educational thinker who understands the importance of a future focused, experience rich curriculum that encourages K-6 students to seek solutions to issues on a global scale. She has led the development of a school based curriculum platform, with the deep integration of the purposeful use of technology to design, create and innovate, at her school in Australia. Sue believes in the power of children to creatively solve great big world problems, and enjoys providing an environment where they can do just that!

"More than the Sims: Harnessing the Power of the Metaverse to Ethically Engage, Motivate, and Connect the Future Workforce "

In 2021, two issues that dominated both headlines and management discussions were the extension of remote work resulting from the ongoing pandemic and the explosive hype of the "metaverse." What if these issues were to collide? As industry and agencies alike grapple with engaging their remote workforce during the "great resignation/reset," the go-to platforms for meetings and gatherings have represented the "Hollywood Squares" video conference format. New issues of equity have emerged in this format for numerous reasons. In the metaverse, opportunities to build identity, experiences, and environments and to build engaged communities are limited only by our imagination. This panel will discuss the practical challenges embedded in creating safe and productive environments and experiences when considering virtual worlds as workspaces and the digital identities we create in those spaces.

Presenter Bios

Donna Davis, PhD is an expert in virtual reality (VR), digital embodiment, tech equity and inclusion, and digital social capital. At the University of Oregon in Portland, she is an associate professor and director of both the Oregon Reality Lab and the Strategic Communication Master's Program. She will also direct the new Immersive Media Communication Master's program, set to launch in Fall 2023. Her ethnographic research focuses on the potential uses of social virtual worlds, gamification, and other emerging immersive media, with a special interest in marginalized and vulnerable communities. Her research on embodied experience and identity among people with disabilities in virtual reality was funded through a grant from the National Science Foundation. She has also extensively studied people with Parkinson's disease who find and build support in the virtual world. Her interests continue to explore the impacts of these experiences on both the promise and peril of technosolutionism, recognizing both isolating and connecting powers of these emerging immersive environments.

Linjuan Rita Men, Ph.D., APR, is a Professor of Public Relations and Director of Internal Communication Research in the College of Journalism and Communications at the University of Florida. With a background in corporate communication research and consulting, Men's research interests include internal communication, leadership communication, emerging technologies, and entrepreneurial communications. Men has published more than 90 articles in refereed journals and as book chapters. She is the (co-) author/editor of four books, Excellence in Internal Communication Management (Business Expert Press, 2017), Strategic Communications for Startups and Entrepreneurs in China (Routledge, 2020), Current Trends and Issues in Internal Communication: Theory and Practice (Palgrave Macmillan, 2021), and Internal Communication and Employee Engagement: A Case Study (Routledge, 2023). Men

serves as an associate editor for Journal of Communication Management and is a member of the Arthur W. Page Society. Men has worked internationally with Alibaba Group, Inc., Ketchum, Inc., and provided management communication consulting for various multinational corporations, startups, and non-profits.

Andrea Stevenson Won, M.S., Ph.D, is an assistant professor in the Department of Communication at Cornell University, and the director of the Virtual Embodiment Lab. The lab's research is funded by NSF, NIH and DoD, and focuses on how mediated experiences can be used to change people's perceptions, especially how appearance and behavior can be tracked and transformed in virtual environments. Recent applications include improving collaboration and social connections over distance, training teachers and others to be aware of their nonverbal behavior, and using social virtual reality to address pain.

"Heritage & Climate Change: a 2024 iLRN Grand Challenge"

The climate crisis poses an existential threat to the world and by extension to our ability to pass on heritage. It threatens the parts that make up cultural landscapes, including bio diversity, archaeological sites, historic buildings, historic artefacts and the ways of life that give rise to intangible heritage. Consequently, heritage organisations including museums, world heritage sites, geo parks and heritage agencies are increasingly concerned with monitoring, adapting to and mitigating against climate change. A new project DACCHE brings together partners in Iceland, Faroe Islands, Sweden, Norway, Ireland and Scotland to investigate how digital technologies can help address the impacts of climate change on heritage and wider society. Through DACCHE we will be exploring how citizen science can help monitor effects of climate change, how digitisation can provide some resilience and how virtual reality simulations of climate futures can motivate behavioural change to mitigate against climate change.

Discussing the potential of connecting immersive learning as a method for communicating and engaging users with heritage threatened by the current climate crisis, Dr. Alan Miller and Catherine Cassidy will explore a variety of examples and connect opportunities for educators and museums around the world facing similar challenges. As a special preview of iLRN2024's Grand Challenge theme and conference, this presentation will contain some special opportunities and possible collaborative possibilities for the entire Immersive Learning Research Network.

Speaker Bios:

Alan Miller lectures on "Computer Communications" and "Digital Preservation and promotion of heritage" in the School of Computer Science. Alan's research explores the ways that 3D technologies can be utilised to address sustainable development including the promotion of Climate Action. Maria Andrei is PhD student in Computer Science at the School of Computer Science, University of St Andrews. She is researching how Virtual Reality can improve climate change science communication and influence pro-environmental behaviour. Catherine Anne Cassidy is a research fellow in the School of Computer Science. She recently completed her PhD which investigated strategies for preservation and promotion of threatened cultural and natural heritage using democratised 3D digitisation. They work as part of the open Virtual Worlds group (www.openvirtualworlds.org) and in the Northern Heritage Network (northernheritage.org)

Featured Practitioners

"MarineXR: Comparing the impact of two different ocean AR experiences on student motivation and engagement"

Augmented realty is increasingly used as a learning tool in educational settings. There are a wide variety of different AR implementations ranging from simple 3D model viewers to more interactive and dynamic content such as videos and animations. We developed two different types of AR experiences around ocean education: (1) a "tap-to-place" highly-immersive narrated experience that uses the principles of gamification, simulation, role-playing to engage students in scientific concepts around basking sharks and (2) a species learning modules that use realistic and animated 3D representations of marine and freshwater species to teach students about their physiology, morphology and ecology. We conducted a controlled experimental study comparing the impact of each experience on motivation and student engagement. We tested each module in a large, first-year environmental sciences class under remote learning conditions (~200 students). We measured how motivation, engagement, engrossment, and cognitive load differed between the two groups within the context of their attitudes towards science (as assessed by the Modified Attitudes Towards Science instrument). The results of the study and its consequences will be discussed.

www.marinexr.ca

About the presenters:

Dr Paul Mensink is the Director of Graduate Environmental Programs and Teaching Fellow for the Faculty of Science at Western University. Paul's project, *Engagement through Immersion: Immersive Education in Science*, focuses on the impact of immersive technologies (e.g., virtual reality, augmented reality, immersive video) on student motivation, engagement, and scientific literacy in undergraduate and graduate courses at Western. Paul's work has a particular focus on interdisciplinary environmental courses and engaging students with STEM subject matter related to sustainability and climate change education.

Dr. Lisa K. Briona is an entrepreneur in the area of gamification. Her research focuses on engaging and retaining students by leveraging game mechanics in K-20 STEM education. She is the recipient of several education and educational technology awards recognizing innovation in technology enhanced teaching.

Dr Isha Decoito focuses on two major aspects of STEM education: 1) curriculum, pedagogical perspectives and practices that reflect EDID, and 2) professional development of educators. Dr Decoito's research interests are organized under the following overarching themes: 1) EDID in science/STEM education; 2) digital technologies to improve scientific and technological literacy, given that a current barrier to their wider adoption is the learning curve associated with implementation by both instructors and students; and 3) mentoring and professional development.

Special Session

"SPECIAL SESSION: Immersive Learning Showcase. iLRN's State of XR and Immersive Learning Report"

Experience the forefront of XR and immersive learning at our virtual showcase! Join Maya Georgieva and Jonathon Richter for an interactive session and virtual tour! Experience the iLRN's State of XR and Immersive Learning Report come to life as we dive into the three research questions: opportunities, barriers, and catalysts, along with the eighteen trends identified by our esteemed expert panel. In this unique session, step into the virtual realm as we explore the research questions of the report. Through this immersive journey, you'll gain valuable insights into the latest trends and findings in XR and immersive learning. Engage in live discussion and Q&A session with experts, educators, and practitioners. Gain insights into implementing XR technologies and harnessing their potential in your own learning initiatives. Be a part of shaping the future of education by experiencing the power of virtual reality and immersive technologies firsthand.

Presenter Bio:

Maya Georgieva is a leading voice in the fields of innovation, immersive storytelling, and frontier technologies. As the Senior Director of the Innovation Center and XR, AI, and Quantum Labs at The New School, she leads a team focused on driving innovation in spatial computing, AI, Quantum Computing, future interfaces, and design. In addition to teaching the signature Immersive Storytelling course at The Parsons School of Design, Maya is a sought-after speaker and has spoken about topics such as the Metaverse, AI, and Quantum at prestigious events such as SXSW and the MIT Media Lab. Her work has been featured in notable publications like The Atlantic and The Economist. Maya has been recognized as one of the 30 Higher Education Influencers to follow in 2022 and is the designer of the first-ever Quantum Computing Design Jam for creatives. She served as the final judge for the MIT Reality Hackathon in 2023 and actively writes and speaks on the topics of digital transformation, immersive storytelling, and the future of learning, creativity, and work. Maya also consults with organizations and startups in this space and serves as a judge and coach for several competitions and accelerator programs. Maya is the co-founder of Digital Bodies, a startup focused on XR and AI and their impact on media and society. She has worked with major tech companies such as IBM, Google, HP, Microsoft,

and Meta. Maya has spoken at United Nations, UNESCO and European Commission forums on the ethics of XR and AI and education, policy, and corporate Innovation forums. Maya is also Board Director of Immersive Futures for the Immersive Learning Research Network and with iLRN CEO Jonathon Richter leads the State of XR & Immersive Learning Report project.

"Session 24: SPECIAL SESSION: Augmented reality in higher education: a case study in medical education ZOOM"

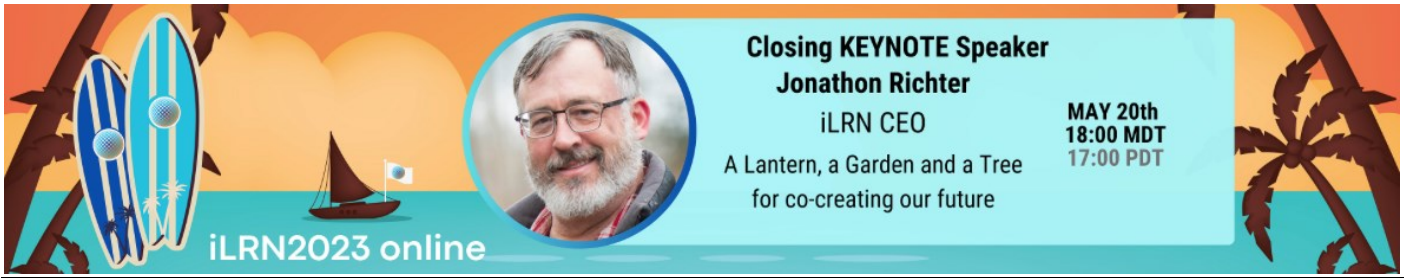
Augmented Reality in Higher Education: a Case Study in Medical Education

Danai Korre (University of Edinburgh, UK) Andrew Sherlock (University of Strathclyde, UK)

PRESENTER: Danai Korre

ABSTRACT. During lockdown, we piloted a variety of augmented reality (AR) experiences in collaboration with subject matter experts from different fields aiming at creating remote teaching and training experiences. In this paper, we present a case study on how AR can be used as a teaching aid for medical education with pertinent focus on remote and social distanced learning. We describe the process of creating an AR experience that can enhance the knowledge and understanding of anatomy for medical students. The Anatomy Experience is an AR enhanced learning experience developed in collaboration with the Medical School of the University of Edinburgh aiming to assist medical students understand the complex geometry of different parts of the human body. After conducting a focus group study with medical students, trainees, and trainers, we received very positive feedback on the Anatomy Experience and its effects on understanding anatomy, enriching the learning process, and using it as a tool for anatomy teaching.

Closing KEYNOTE Speaker



"A Lantern, a Garden and a Tree for co-creating our future"

The Immersive Learning Research Network (ILRN) is a 501(c)3 not-for-profit member association of immersive learning professionals who seeks out, showcases, and innovates on "what works" in Immersive Learning for the public good, together. In this closing keynote for the online conference of iLRN2023, iLRN Chief Executive Officer and Board President Jon/athon Richter will cast the work of over 15 years in light of this moment, this inflection point for XR and for humanity. We have, with our collective capacity in iLRN to co-create the future. See how the iLRN infrastructure has been purposefully created for generative co-design, to amplify our interdisciplinary expertise and build rapidly upon principles of Principled Design and Open Science practices in ways that could help us create a more human, more sustainable, more tranformationally great future.

Bio: Dr. Jonathon Richter is co-founder, CEO and President of the Immersive Learning Research Network. He is also Associate Professor of Research at the University of Montana in the Department of Teaching & Learning. He is a futurist, designer, and practitioner of XR and digital experiences and events. Previously, Jon was a Teacher Educator, Instructional Designer and Research Associate creating online courses and materials for students with learning disabilities, and a Department Chair of Digital Design Technologies programs at a tribal college in Montana. He has experience researching and developing from lenses of sociomateriality, design patterns, graphic organizers, and electronic portfolios. His interests in co-creation and Tech4Good initiatives drives him to remain optimistic despite challenges and is chief in his push to help find others to lead in developing the Immersive Learning Research Network.