

J.UCS Special Issue "*Computer Science fertilizing the Immersive Learning Knowledge Tree*".

The Journal of Universal Computer Science, J.UCS (ISSN 0948-695X) is pleased to announce a new Special Issue entitled "*Computer Science fertilizing the Immersive Learning Knowledge Tree*".

Participants are invited to submit full papers in the following, but not limited to, thematic areas:

- Advancing common use of computational science theoretical approaches, frameworks, and models in the field of immersive learning research.
- Cultivating a common understanding of computational science methodology for immersive learning research
 - Introduction of and validation studies of research instruments
 - Experimental and quasi experimental research protocols
- Design and development of evidence repositories which identify technological innovations and major opportunities and challenges related to their uptake, adoption, and implementation in the wild.
- Epistemologies that address creating computer science knowledge within immersive learning research acknowledging its interdisciplinary nature.
- Ontologies addressing the nature of computational tools and methods in immersive learning research.
- Research priorities and agendas for research in computer science in the interdisciplinary context of immersive learning research.
- Scientometric analyses of the knowledge and communities researching immersive learning employing computational methods and tools.
- Scoping reviews which identify gaps in the scholarly knowledge of computer science in the context of immersive learning research.
- Systematic reviews on computer science methods and tools in the context of immersive learning research.

All papers clearly should state their underlying theoretical perspective on Immersion. We encourage authors to pursue recent (2020s) literature surveys/reviews on the topic¹.

Full Papers will be evaluated according to their novel research contribution, methodological soundness, theoretical framing and reference to related work, quality of analysis, and quality of

¹ For example: Agrawal, S., Simon, A. M. D., Bech, S., Bærentsen, K. B., & Forchammer, S. (2020). Defining Immersion:: Literature Review and Implications for Research on Audiovisual Experiences. *Journal of the Audio Engineering Society*, 68(6), 404-417.
<https://www.aes.org/e-lib/browse.cfm?elib=20857>

writing and presentation. Authors are encouraged to address the diversity of approaches in their research by providing context, implications, and actionable guidance to researchers and practitioners beyond their primary domains.

Paper/Proposal Submission & Review

Papers for J.UCS must be prepared in respect to the J.UCS Style Guide (<https://www.jucs.org/download/authorkit>). Successful submissions must fill out J.UCS' Publishing Agreement (<https://www.jucs.org/download/publicationagreement>).

The submission deadline is 25th January 2023.

Please submit your paper at EASYCHAIR:
<https://easychair.org/conferences/?conf=jucssp2023>

Reviews start mid January and notifications are planned to be in the last week of May.

Editorial Board:

Christian Eckhardt, California Polytechnic State University San Luis Obispo, CA, US

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Christian Eckhardt is an Assistant Professor at the California Polytechnic State University San Luis Obispo, CA, US, where he teaches mostly Computer Graphics and HCI and his research interests are mainly about Mixed Reality, Immersive Learning, HCI, Computer Graphics, Simulations and Animation. He is the director of the Mixed Reality Lab Cal Poly, an undergrad and grad research facility focussed on VR and AR. Besides being board member of the Technical Committee on Immersive Learning Environments, he is also involved in the Immersive Learning Research Network, being general chair of 2020 and guest editor at J.UCS.

Editorial: Guest Editor

Guest Editors (in no particular order)

Leonel Morgado, Universidade Aberta & INESC TEC, Portugal
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Leonel Morgado is Associate Professor with Habilitation at Universidade Aberta, Portugal, where he lectures on research methods, software architecture, and programming. He is also Secretary of the Assembly of the Portuguese Society of Videogame Sciences, and board member and Vice-President for Scientific Quality of the international research association, Immersive Learning Research Network. His main research interest is the use and development of immersive environments as tools for learning and business, which he has pursued since 2000. He authored over 200 papers, in journals, conferences, and as book chapters. Before pursuing an academic career, he was business and technical manager of a 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.

Dennis Beck, University of Arkansas
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Dennis Beck is an Associate Professor of Educational Technology at the University of Arkansas. In his teaching, he enjoys teaching teachers and 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 and special education students at the primary and secondary levels. In this stream, he has examined the use of immersive learning environments for providing life skills training for low functioning young adults on the autism spectrum. Additionally, in order to better understand the impacts of immersive environments in cyber schooling on vulnerable populations, he has studied an immersive art curation environment in partnership with a local museum. 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.

Jia Zhang, National Taiwan Normal University
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Jia Zhang is a Lecturer at the Academy of Preparatory Programs for OCS at National Taiwan Normal University, a Ph.D. in Graduate Institute of Information and Computer Education of the National Taiwan Normal University, and a member of the Intelligent Interactive Technology Learning Laboratory (IITL). He received M.C.S. from National Taiwan Normal University in 2010 and also received a double degree in Industrial Technology Education and Gifted and Talented Education (GATE) in 2008. He was a visiting scholar at the Human-Computer

Interaction (HCI) Institute at Carnegie Mellon University in the United States of America in 2017, researching and developing adaptive augmented reality systems. His research interests span most aspects of Augmented Reality and Mobile Learning. This includes image recognition, real-time AR-based learning, learning behavior prediction in AR environment, as well as augmented learning environment developing. His recent emphasis is specializing in augmented reality (AR) for education and immersive experiences for learning psychology. In recent years, he has focused on the learning effect of AR on working memory.

Daphne Economou, University of Westminster

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Dr Daphne Economou is a Senior Lecture at the School of Computer Science and Engineering at the University of Westminster, London, UK. She has nearly 30 years' experience in higher education, she is a Senior Fellow of Higher Education Academy. She received her PhD on VR in education in 2001. Her research interest falls in user experience involving user interaction with various technologies (XR, VR, AR, mobile) and devices and she has published her research findings in a long list of outputs. She is leading the Serious Games at Westminster Research group. She is executive board member of the iLRN, she contributed to the formation of the ILE-TC and she has high interest in issues related to immersive environments for learning and she will be devoted to broadening the reach of the ILE-TC network, activities and opportunities for research and funding.

Example Work:

- Beck, D., Morgado, L., & O'Shea, P. (2020). Finding the gaps about uses of immersive learning environments: a survey of surveys. *Journal of Universal Computer Science*, 26, 1043-1073. <https://doi.org/10.3897/jucs.2020.055>
- Georgiou, Y., & Kyza, E. A. (2017). The development and validation of the ARI questionnaire: An instrument for measuring immersion in location-based augmented reality settings. *International Journal of Human-Computer Studies*, 98, 24-37. <https://doi.org/10.1016/j.ijhcs.2016.09.014>
- Warren, S. J., & Gratch, J. S. (2013). Employing a Critical Lens on Instructor Perceptions of Learning Games: Introduction to a Method. *International Journal of Virtual and Personal Learning Environments (IJVPLE)*, 4(3), 1-17. https://www.researchgate.net/publication/235257325_Employing_a_critical_lens_on_instructor_perceptions_of_learning_games_An_introduction_to_method

- Gaspar, H., Morgado, L., Mamede, H., Oliveira, T., Manjón, B., & Gütl, C. (2020). Research priorities in immersive learning technology: the perspectives of the iLRN community. *Virtual Reality*, 24(2), 319-341. <https://doi.org/10.1007/s10055-019-00393-x>
- Olshannikova, E., Ometov, A., Koucheryavy, Y., & Olsson, T. (2015). Visualizing Big Data with augmented and virtual reality: challenges and research agenda. *Journal of Big Data*, 2(1), 1-27. <https://doi.org/10.1186/s40537-015-0031-2>