AI and Education Futures Conference 2023

University of South Australia
H2-16: Allan Scott Auditorium
City West Campus
North Terrace, Adelaide, SA
3 - 4 November 2023

Conference Overview

Education sits on the edge of a new age of innovation, with broadening access and growing opportunities for learning. All sectors - primary, secondary, tertiary, and corporate - face growing complexity as they respond to new technologies and globalisation.

Over two days, we will present a variety of engaging speakers and panels focusing on topics ranging from AI and teaching, to ethics and privacy. You will have the chance to network with fellow attendees and learn from some of the brightest minds in AI in education.

This conference, hosted by C3L, the top edtech research centre in Australia, will feature engaging panels and world-renowned keynote addresses on the most urgent challenges and opportunities facing today's education systems.

Program

Day 1: Friday, 3 November 2023	
8:30 am **Location:** (H2-16 Foyer) Allan Scott Auditorium	Registrations Open
9:00 - 9:30 am **Location:** (H2-16) Allan Scott Auditorium	**Chair:** Maarten de Laat **Conference Opening:** **Welcome to Country** Uncle Frank Wanganeen **University of South Australia Welcome:** **Professor Esther May**, Pro Vice Chancellor: Teaching & Learning at Chancellery and Council Services of University of South Australia. - Event overview - Agenda & Goal

9:30 am -11:00 am **Location:** (H2-16) Allan Scott Auditorium	**Chair:** Negin Mirriahi **Keynote Presentation:** *Embracing Education Futures: AI's Transformative Role in Education* **Presented by: Dr Tanya Joosten**, Phd. Senior Scientist and Director, Digital Learning Research and Development, Academic Affairs, University of Wisconsin-Milwaukee, PI and Executive Director, National Research Centre for Distance Education and Technological Advancements (DETA) **Abstract**: Artificial intelligence (AI) is rapidly transforming our society. The integration of AI and education offers ground-breaking opportunities to reshape learning and our future. AI has the potential to revolutionize education making it more effective, accessible, affordable, personalized, and engaging for all students. This presentation will discuss the complexity and connectivity of adoption of AI in education, the radical change, challenges and opportunities, stakeholder involvement, and practical recommendations for our education futures - human led and AI-powered.
11:00 am – 11:30 am **Location:** H2-16 Foyer	**Morning Tea and Networking**
11:30 am – 12:30 am **Location:** (H2-16) Allan Scott Auditorium	**Chair:** John Kennedy **Panel:** *AI and Ethics* Panel **Dr Srecko Joksimovic** is a Senior Lecturer in Data Science and deputy director of the Centre of Change and Complexity in Learning. His research is centred around augmenting the abilities of individuals to solve complex problems in collaborative settings. Srecko is particularly interested in evaluating the influence of contextual, social, cognitive, and affective factors on groups and individuals as they solve complex real-world problems. In so doing, he utilises a wide range of methods from machine learning, artificial intelligence, and natural language processing, as well as data science and social computing in general. Srecko brings to this panel the big-picture perspective of AI in Education **Dr Debbie Devis** is a research associate and leader in the Education Futures Academy team. She has an interest in gamification for developing critical STEM skills and developing gender equity in STEM. Her work with the Outreach Team sees her working closely with a number of schools as they grapple with the challenges that accompany the adoption of new programmes and initiatives including the use of AI. Debbie brings to this panel an understanding of some of the real complexities of implementing AI in schools.

	Ms Megan Taylor is a PhD researcher with UniSA focussing on understanding how skills such as computational thinking develop in students. Her PhD seeks to understand the dynamics of complex problem solving and is influenced by the various possibilities that tools such as AI may offer in understanding these interconnected systems. Megan brings to this panel the perspective of a researcher trying to understand learning in this rapidly changing environment. Title: Ethical Uses for AI in Education. Join us for a captivating exploration of the future of education in this panel discussion on the "Ethical Uses for AI in Education." Delve into the dynamic world of artificial intelligence as we dissect its profound impact on learning and teaching. Our panel of experts will unravel the transformative benefits that AI brings to educational environments and discuss the potential pitfalls and ethical considerations surrounding AI implementation in education, such as data privacy concerns and the delicate balance between human interaction and technology. Engage in a thought-provoking dialogue that delves into the heart of this crucial matter. Whether you're an educator, a researcher, a tech enthusiast, or a student, this panel discussion promises to expand your horizons and deepen your understanding of the AI-driven education landscape. Moderator: Dr John Kennedy – John is a Lecturer in STEM education with a particular passion for exploring ways in which Machine Learning can enhance the power of Learning Analytics and give students real agency in their educational development.
12:30 pm – 1:30 pm **Location:** H2-16 Foyer	**Lunch and Networking**
1:30 pm- 2:30pm **Location:** (H2-16) Allan Scott Auditorium	**Chair:** Vitomir Kovanovic **Keynote Presentation:** Department for Education Presentation **Presented by**: Daniel Hughes – Chief Information Officer Dan Hughes is a seasoned CIO with over 20 years of experience within the IT industry. During his career Dan has led multiple teams to drive digital transformation across various sectors. As a strategic thinker and innovative problem solver, Dan is dedicated to leveraging technology to elevate educational outcomes for students and educators. Abstract: In 2023, South Australia's Department for Education collaborated with Microsoft to develop EdChat, an educational AI chatbot. Unlike ChatGPT, EdChat boasts superior performance and user safety, critical for educational environments. A proof of concept was launched in eight schools in Term 3 2023, involving 109 educators and 1,579 students. Schools were granted autonomy to use EdChat in ways fitting their unique needs, providing insights into how AI can be integrated into the school community.

2:30 pm – 3:30 pm **Location:** H2-16 Foyer	**Chair:** Chris Deneen **Presentation:** *AI and Assessment – Greater Opportunities or Greater Threats? GenAI and Assessment in Higher Education* **Presented by:** Associate Professor Chris Deneen and Associate Professor Jason Lodge **Associate Professor Chris Deneen** is an Enterprise Research Fellow with University of South Australia Education Futures. Leading the Change in Complex Systems Research Stream at C3L and is a Principal Fellow (hon.) of The Melbourne Centre for the Study of Higher Education. **Associate Professor Jason Lodge**, PhD is Associate Professor of Educational Psychology, Director of the Learning, Instruction, and Technology Lab in the School of Education, Deputy Associate Dean (Academic) in the Faculty of Humanities, Arts and Social Sciences at The University of Queensland. **Title of session**: Greater opportunities or greater threats? GenAI and assessment in higher education **Short description**: The panel will explore dynamic tensions around the relationship of genAI to assessment in higher education. Panelists will address the opportunities genAI presents for enhancing students' critical thinking and developing efficiency in feedback and marking. Conversely, they will analyze potential threats posed by genAI to academic integrity, privacy and validity of assessment results.
3:30 pm – 4:00 pm **Location:** H2-16 Foyer	Afternoon Tea and Networking
4:00 pm- 5:00pm	Parallel Workshops

Workshop A **Title:** *Leadership Structures to Foster Innovation in Educational Institutions* **Presenter:** Professor Shane Dawson and Professor Abelardo Pardo **Location:** BH4-23	**Workshop B** **Title:** *AI and Creativity* **Presenter:** Dr Rebecca Marrone and Professor David Cropley **Location:** BH4-32	**Workshop C** **Title:** *Futures Thinking: Anticipating the Future of AI in Education* **Presenter:** Dr Srecko Joksimovic and Maria Vieira **Location:** BH4 - 33

5:00 pm – 6:00 pm **Location:** JS1-13 Library Foyer	**Posters session**

Workshop A

Title: Embracing a culture of innocation in the ear of AI
Presenter: Professor Shane Dawson and Professor Abelardo Pardo
Location: BH4-23

Abstract:
The education sector has been under increasing pressure from many systems wide forces – economic, social, environmental and technological. Most recently, technology advances in the area of Artificial Intelligence have prompted a significant need to rethink of education practice. This unprecedented pace of change has raised significant questions regarding how institutions deal with innovation, and more importantly, the leadership structures and contexts required to embrace it. Current institutional leadership structures are not conducive to foster a culture of data-informed, cross disciplinary processes that operating in the current fast-pace changing landscape. In this talk we propose a framework to identify the required stakeholder groups and spaces to systematically nurture technological initiatives from inception to potentially institutional deployment. The framework proposes the explicit creation of cross-disciplinary spaces where emerging solutions are triaged and discussed followed by a methodology to test and evaluate impact and move them from the innovation space to day-to-day operations.

Workshop B

Title: *AI and Creativity*
Presenter: Dr Rebecca Marrone and Professor David Cropley
Location: BH4-32

Abstract:
This session explores the concept of creativity, a critical skill for the 21st century. We will examine the challenges educators face in evaluating creativity in today's classrooms. Addressing the limitations of conventional, lengthy evaluations, it introduces advanced AI techniques, such as verbal and figural automatic assessment models. Practical examples will be provided on how to embed creativity into AI driven classrooms.

Workshop C

Title: *Futures Thinking: Anticipating the Future of AI in Education +*
Presenter: Dr Srecko Joksimovic and Maria Vieira
Location: BH4 - 33

Abstract:
Step into the realm of "Futures Thinking" – a methodology for exploring and imagining multiple possible futures to inform decision-making in the present. In this dynamic workshop, you will explore the potential intersections of AI and education ten years down the line, employing various innovative techniques to envisage future scenarios. Rather than aiming to pinpoint a single future outcome, our goal is to stretch your creative and critical thinking muscles, helping you grasp the range of possibilities and their implications. By the close of our session, you will have honed your ability to think expansively and critically about the future, recognising that Futures Thinking is less about forecasting a singular future and more about opening our minds to myriad potentialities. Come, enrich your thinking, and contribute to a collective vision for AI in education!

Day 2: Saturday, 4 November 2023	
8:30 am **Location:** (H2-16 Foyer) Allan Scott Auditorium	Registrations Open Opening: Maaten de Laat
9:00 am – 10:30 am **Location:** (H2-16) Allan Scott Auditorium	**Chair:** Maarten de Laat **Keynote Presentation: Towards Emerging Horizons of generative AI in Education** **Presented by: Professor Dragan Gasevic**, Department of Human Centred Computing, Monash Data Futures Institute. ***Abstract***: The prominence of generative artificial intelligence (AI) has prompted heated discussions about its implications for education. On one end of the spectrum of the current debates are concerns about the integrity of existing assessment practices and the need for innovation. On the other end are calls for harnessing the opportunities of generative AI to provide opportunities to enhance learning and teaching. This talk will explore the potential benefits and drawbacks of using generative AI in education. It will begin by providing an overview of the latest developments in generative AI. The talk will then discuss how generative AI could be used to prompt innovation in assessment, redefine the skills that education should focus on, and address ethical and workload concerns. The talk will draw on a range of research studies to support its main arguments. The talk will particularly explore examples that are focus on supporting multisource writing tasks.
10:30 am – 11:00 am **Location:** (H2-16) Allan Scott Auditorium	**Chair:** Chris Deneen **Presentation:** *AI and Education Policy* **Presented by: Professor Sam Sellar**, Dean of Research, University of South Australia Education Futures.
11:00 am – 11:30 am **Location:** H2-16 Foyer	**Morning Tea and Networking**
11:30 am – 12:30 am **Location:** (H2-16) Allan Scott Auditorium	**Chair:** **Presentation:** *Teaching with AI: Prompt Engineering* **Presented by: Dr Aneesha Bakharia**, Senior Lecturer, School of Electrical Engineering and Computer Science (EECS), The University of Queensland. **Abstract**: In the rapidly evolving generative AI and educational landscape, prompt engineering has emerged as a valuable technique for enhancing the teaching and learning experience. This talk, designed for high school educators, higher education teaching staff, and learning designers, aims to demystify the complex world of prompt engineering. The session will begin with an overview of the basics of prompt engineering before discussing strategies for creating reusable prompts and providing

	example prompts for generating and critiquing lesson plans, assessment rubrics, interactive online activities, and worksheets with both problems and solutions. Further, the session will explore the key differences between ChatGPT, Google Bard, and Bing Chat and delve into the innovative use of generative AI for creating multimedia assets such as images and videos.
12:30 pm – 1:30 pm **Location:** H2-16 Foyer	Lunch
1:30 pm- 2:30pm **Location:** (H2-16) Allan Scott Auditorium	**Chair:** Florence Gabriel **Keynote Presentation:** *Complexity leadership for improving self-regulation in schools* **Presented by: Associate Professor Simon Leonard**, Professorial Lead for Industry Engagement and Career Development at University of South Australia Education Futures. **Wayne Jaeschke**, Director of Research at Trinity College; and **Lesley Johnson**, Research Associate at the Trinity Research Institute and a PhD student at the University of South Australia.
2:30 pm – 3:00 pm **Location:** (H2-16) Allan Scott Auditorium	**Chair:** Arslan Azad **Keynote Presentation:** *AI and Classroom Practice* **Presented by**: Jarrod Johnson, an experienced Learning Designer and Teacher at Pulteney Grammar School, will explore the transformative potential of AI within the classroom. **Abstract**: This session will illuminate the diverse roles AI can play: from a tutor guiding students, a mentor fostering growth, a critical friend offering constructive feedback, to an essay support enhancing writing skills. Jarrod will discuss pedagogical strategies tailored for AI tools, emphasizing the importance of prompt engineering, plagiarism checks, and selecting the right tool for the task. As we navigate the AI-driven educational landscape, understanding its implications is paramount.
3:00 pm – 3:30 pm **Location:** H2-16 Foyer	Afternoon Tea and Networking
3:30 pm- 5:00pm	Parallel Workshops

	Workshop D **Title:** *AI Playground – Gamifying the learning experience with artificial intelligence* **Presenter:** Prof Maarten de Laat, with Ember Chittenden, Travis Tooley and Daniel McKee from Bendigo Tech School **Location:** BH2-12	**Workshop E** **Title:** *AI and Assessment* **Presenter:** Associate Professor Chris Deneen **Location:** BH4-22	**Workshop F** **Title:** *Learner Profiles – Monitoring Student Learning Progressions with Learner Profiles* **Presenter:** Dr Vitomir Kovanovic **Location:** H2-16 Allan Scott Auditorium

5:00 pm – 5:30 pm **Location:** (H2-16) Allan Scott Auditorium	Conference Close

Workshop D

Title: *AI Playground – Gamifying the learning experience with artificial intelligence*
Presenter: Prof Maarten de Laat, with Ember Chittenden, Travis Tooley and Daniel McKee
Location: BH2-12

Abstract:
Applications of artificial intelligence (AI) are set to transform society, including how people work and learn. This growing ubiquity of AI in society poses significant challenges for educational systems: what will citizens in the 21st century need to know about, and do with, AI? Currently, there is very little research and experience on how schools and teachers adopt AI into the classroom and how our students work and learn together with AI.
In this workshop, we will demonstrate the AI Playground where secondary school students will work together with AI to solve complex problems. The AI Playground offers students a way to learn to learn with AI and technology, in order to solve problems that humans cannot solve on their own. Our mission is to offer an AI learning environment where students can take ownership over AI, experiment with it and develop AI to follow their imagination.

Workshop E

Title: GenAI *and assessment: Unlocking the potential of artificial intelligence to support and determine student achievement*
Presenter: Associate Professor Chris Deneen
Location: BH4-22

Abstract:
Generative artificial intelligence (GenAI) has shown immense potential to revolutionize education. Implications for educational assessment are of special concern. Assessment is an essential means of supporting learning, determining students' outcome achievement, and generating required evidence for progressing students through their formal study. Will genAI enable or disable these essential educational functions? Answering this question requires educators to explore the meeting place of genAI and assessment in the context of their authentic practices.
This workshop aims to address the opportunities and challenges associated with using genAI in assessment of student achievement. Through interactive activities and practical demonstrations, participants will delve into the diverse applications of genAI in processes associated with assessment *of*, *for*, and *as* learning. Participants will explore integrating genAI into existing assessment frameworks as well as creating new designs and affordances. Additionally, the workshop will address relevant concerns around potential biases, data privacy, and academic integrity in the use of genAI-powered assessment tools.
By the end of the workshop, attendees will gain valuable insights into how genAI can be harnessed to enhance assessment practices, promote student engagement, and foster more inclusive and data-informed approaches to educational assessment.

Workshop F

Title: *Learner Profiles – Monitoring Student Learning Progressions with Learner Profiles*
Presenter: Dr Vitomir Kovanovic
Location: H2-16
Allan Scott Auditorium

Abstract:
Learner Profiles have recently attracted significant attention from educational organisations and policymakers in Australia and internationally. They are essential for advancing current personalised learning approaches and providing better monitoring of learning progressions over time, accounting for the student diversity in their prior knowledge, abilities, interests, career aspirations, and other factors. There is an increasing focus on using learning analytics and artificial intelligence technologies to develop learner profiles, given their ability to provide new insights about student learning progression from the already collected data. This session will explore how learner profiles can support student competency development inside and outside the classroom, specifically focusing on adopting learning analytics and artificial intelligence for learner profile development. We will also discuss the ethical considerations of learner profiles, particularly around equity, bias and privacy. Finally, we will discuss the challenges and limitations of these technologies and how we can bring the student voice into the picture to further support their learning and development.