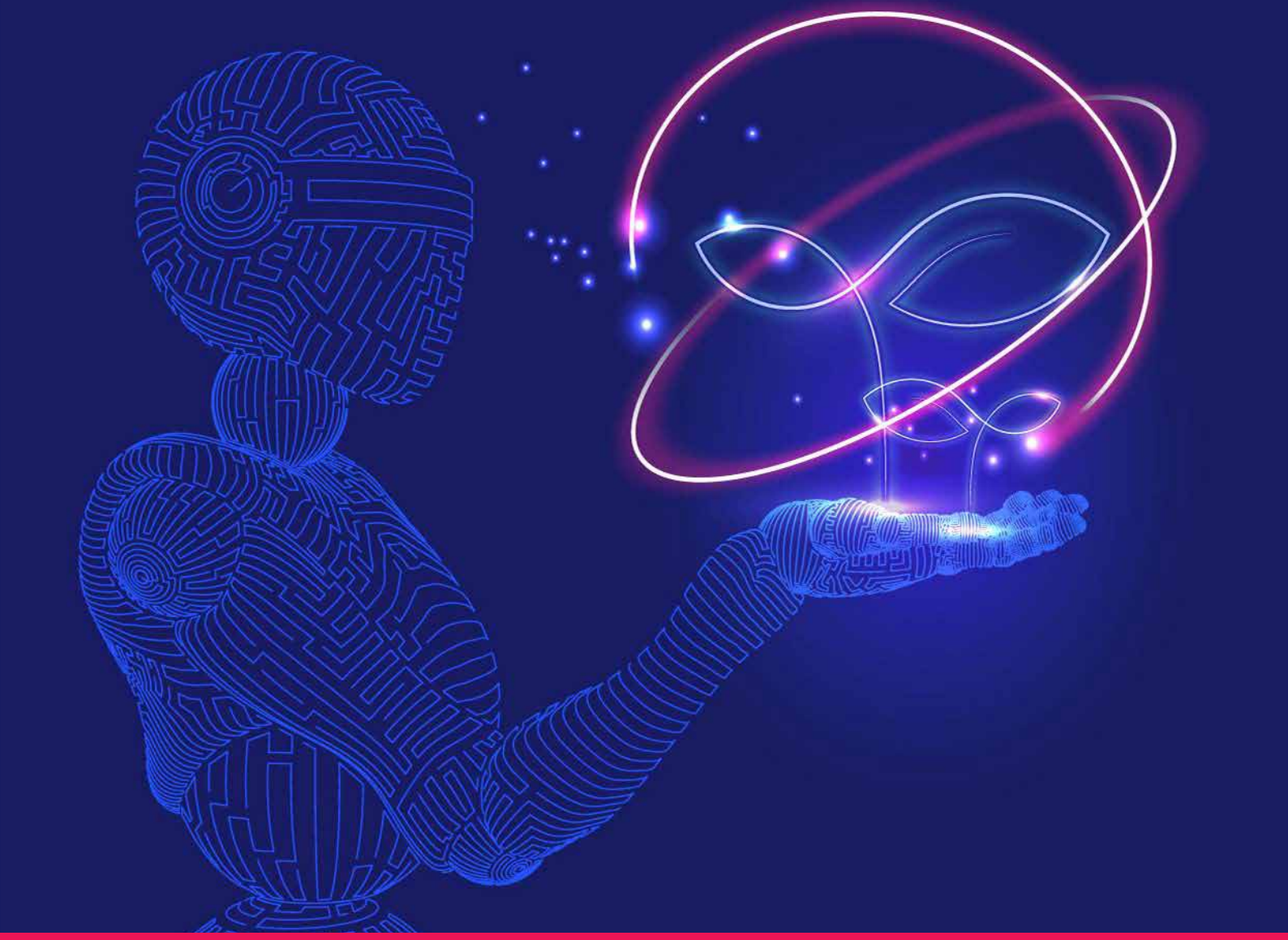
NANYANG TECHNOLOGICAL UNIVERSITY SINGAPORE

HARNESSING

EMERGING TECHNOLOGIES IN HIGHER EDUCATION

WHAT IS WORTH LEARNING?

3 – 4 Oct 2023



NTU Annual Learning and Teaching Conference: **From Good to Great 2023**

https://tinyurl.com/fG2G2023

Programme Outline

DAY 1 | 3 October, Tuesday 09:00 – 15:30

08:30	**Registration**	Pavilion @ TCT LT
09:00	**Conference Welcome** Dr Preman Rajalingam Director, Centre for Teaching, Learning & Pedagogy	Tan Chin Tuan LT (Blk NS4, NS4-02-36)
09:10	**Guest-of-Honour Speech**	Tan Chin Tuan LT (Blk NS4, NS4-02-36)
09:25	**Keynote 1** **Navigating the AI Revolution in Education: Embracing Opportunities and Engaging Minds** Professor Rosemary Luckin Learner Centred Design, University College London Knowledge Lab	Tan Chin Tuan LT (Blk NS4, NS4-02-36)
10:30	**Break**	Pavilion @ TCT LT
11:00	**NIE Faculty Sharing** **Transformation of Teaching and Learning in Higher Education with Emerging Technologies: Promises and Enabling Strategies** Assoc Prof Tan Seng Chee Associate Dean, Graduate Education by Research, National Institute of Education	Tan Chin Tuan LT (Blk NS4, NS4-02-36)
11:45	**Panel Discussion 1** **AI-Powered Higher Education: Enhancing Pedagogical Practices** Dr Preman Rajalingam - Director, Centre for Teaching, Learning & Pedagogy	Tan Chin Tuan LT (Blk NS4, NS4-02-36)
12:30	**Lunch Break with Posters**	Pavilion @ TCT LT
14:00	**Day 1 Breakout sessions**	
	Parallel Track 1 Faculty Learning Communities: A Platform for Scholarly Teaching	The Arc, LHN-TR+15 (LHN-L1-03)
	Parallel Track 2 International Collaboration and Inter-Cultural Learning	The Arc, LHN-TR+36 (LHN-L2-02)
	Parallel Track 3 Beyond Grades: Reflections, Assessments, and Failures	The Arc, LHN-TR+04 (LHN-B2-04)
	Parallel Track 4 Teaching with AI	The Arc, LHN-TR+03 (LHN-B2-03)
	Workshop 1 **Empowering Educators: Unleashing the Strategic Potential of AI in Teaching** Professor Rosemary Luckin Learner Centred Design, University College London Knowledge Lab	The Arc, LHN-TR+14 (LHN-L1-02)
15:30	**End of Day 1**	

Programme Outline

DAY 2 | 4 October, Wednesday 09:00 – 15:30

08:30	**Registration**	Pavilion @ TCT LT
09:00	**Day 2 Welcome Address** Dr Preman Rajalingam Director, Centre for Teaching, Learning & Pedagogy	Tan Chin Tuan LT (Blk NS4, NS4-02-36)
09:10	**Keynote 2** **Don't Fear the Robot: Future-authentic Assessment and Generative Artificial Intelligence** Professor Phillip Dawson Co-Director, Centre for Research in Assessment and Digital Learning, Deakin University	Tan Chin Tuan LT (Blk NS4, NS4-02-36)
10:10	**Break**	Pavilion @ TCT LT
10:30	**NIE Faculty Sharing** **Learning Analytics for Formative Feedback** Dr Elizabeth Koh Senior Education Research Scientist, Office of Education Research	Tan Chin Tuan LT (Blk NS4, NS4-02-36)
11:15	**Panel Discussion 2** **Assessments with Emerging Technology: Looking Ahead** Dr Preman Rajalingam - Director, Centre for Teaching, Learning & Pedagogy	Tan Chin Tuan LT (Blk NS4, NS4-02-36)
12:15	**John Cheung Social Media Award Presentation**	Tan Chin Tuan LT (Blk NS4, NS4-02-36)
12:30	**Day 2 Closing - Lunch Break with Posters**	Pavilion @ TCT LT
14:00	**Day 2 Breakout sessions**	
	Parallel Track 5 Preparing Students for an Interconnected World	The Arc, LHN-TR+15 (LHN-L1-03)
	Parallel Track 6 Fostering Deep Involvement and Feedback Engagement	The Arc, LHN-TR+36 (LHN-L2-02)
	Parallel Track 7 Beyond the Classroom	The Arc, LHN-TR+04 (LHN-B2-04)
	Parallel Track 8 Responses to AI	The Arc, LHN-TR+03 (LHN-B2-03)
	Workshop 2 **Designing Assessment for a World of Generative Artificial Intelligence** Professor Phillip Dawson Co-Director, Centre for Research in Assessment and Digital Learning, Deakin University	The Arc, LHN-TR+14 (LHN-L1-02)
15:30	**End of Day 2**	
15:35 -17:45	**HERDSA Closed-Door Event for Academic Developers at Singapore Universities**	

Breakout Sessions

DAY 1 | 3 October, Tuesday 14:00 – 15:30

Parallel Track 1
Faculty Learning Communities: A Platform for Scholarly Teaching — **The Arc, LHN-TR+15 (LHN-L1-03)**

Title:	Speakers:
Developing Academic Literacy in an Interdisciplinary Learning Environment	Dr Tan Mia Huan (SOH) / Dr Sandra Lam Tsui Eu (SOH) / Ms Lena Sam (NTU Library)
Teaching with Material Objects	Asst Prof Katherine Hindley (SOH)
The 3S Approach to Student Learning: Science of Learning, Self-Reflection, and Simulation Tools	Assoc Prof Teh Kah Chan (EEE)
ChatGPT and Foreign Language Education: Embracing the Winds of Change	Ms Narae Jung (SOH)
Writing Ethically and Effectively with AI Generative Writing Tools	Ms Tan Woon Hong Eunice (SOH)
Accelerating Research Translation in the Science of Learning in Education Centre (SoLEC): A Reference Model to Optimize Research Impact in NIE	Dr Astrid Schmied (NIE) / Ms Lorraine Ow (NIE)
Enhancing Inclusive Pedagogy through Understanding NTU Students' Perceptions and Experiences in Specific Learning Contexts	Dr Mukta Bansal (CCEB)
Exploring Classroom Practices that Affect Student Wellbeing	Mr Emmanuel Tan (LKCMedicine) / Ms Audrey Toh (SOH)
Scholarly Exploration of Student Engagement in Higher Education	Dr Lee Zheng Wei (LKCMedicine)
Teaching NTU Undergraduates Wayfinding - The Design Thinking Approach	Mr Chia Yew Boon (NTU Library)

Parallel Track 2
International Collaboration and Inter-Cultural Learning — **The Arc, LHN-TR+36 (LHN-L2-02)**

Title:	Speakers:
The Global Classroom: Building Cultural Intelligence through Experiential Learning	Dr Hoo Hui Teng (NBS)
Case studies for Chemical and Biomedical Engineers	Assoc Prof Raymond Lau Wai Man (SCBE)/ Dr Poernomo Gunawan (CCEB)
Visualisation of Cultural Heritage	Assoc Prof Andrea Nanetti (ADM)
Exploring Spaces: Communities, Societies, and Cultures	Dr Rebecca Nichols (SSS)
Applications of Educational Neuroscience	Dr Astrid Schmied (NIE)
Co-production of Neuroscience of Learning Resources for Asynchronous Teaching	Dr Astrid Schmied (NIE)
Tamil Diaspora Social Life and Language Use	Dr Seetha Lakshmi (NIE)
Health and Sustainability	Ms Nurliyana Daros (ICC, InsPIRE)
Unleashing the Power of Collaboration and Cutting-Edge Technologies: Building a Sustainable Future through Digital Analytics	Dr Siyuan Liu (SCSE)
Digital Twins for Blended Learning with Classroom Flipping	Prof Tan Chee Wei (SCSE)

Breakout Sessions

DAY 1 | 3 October, Tuesday 14:00 – 15:30

Parallel Track 3
Beyond Grades: Reflections, Assessments, and Failures — **The Arc, LHN-TR+04 (LHN-B2-04)**

Title:	Speakers:
Prediction and Improvement of Student Performance using Advanced Learning Analytics	Asst Prof Fu Yuguang (CEE)
Difficult Discussions: Reflections on Transformative Learning from a Death Studies Course	Dr Paul Victor Patinadan (SSS) / Assoc Prof Andy Ho (SSS)
Development of an Assessment Dashboard: A Design Thinking Approach	Dr Olivia Ng (LKCMedicine) / Dr Lee Zheng Wei (LKCMedicine)
Intentional Failures as Preparation for Future Learning	Asst Prof Tanmay Sinha (NIE)

Parallel Track 4
Teaching with AI — **The Arc, LHN-TR+03 (LHN-B2-03)**

Title:	Speakers:
Cognitive Computing in Education: Empowering Learning and Teaching through Deep Learning Algorithms	Dr Avadhesh Kumar / Prof Prashant Johri / Dr Shraddha Sagar (Galgotias University)
Personalised Educational AI chatbots	Dr Zhang Huiyu (Temasek Polytechnic) / Dr Linda Fang
AI-powered Sports Coaching Observation mobile application for Values-Education	Ms Mary Chye (NIE)
Contemporary Pedagogy for Transmedia in the Age of Generative AI	Assoc Prof Ian Dixon (WKWSCI)

Breakout Sessions

DAY 2 | 4 October, Wednesday 14:00 – 15:30

Parallel Track 5
Preparing Students for an Interconnected World — **The Arc, LHN-TR+15 (LHN-L1-03)**

Title:	Speakers:
The Development of Student Identity Through Coursework at NTU	Dr Jo Ann Netto Shek (NIE)
Literary Engagements and Imaginative Worldbuilding	Assoc Prof Michelle Wang (SOH)
The Heart of Interdisciplinary Learning and Collaboration	Ms Tan Woon Hong Eunice (SOH)
Enhancing Collaborative Language and Culture Learning through Wikis: A Comparative Study	Ms Cristina González Ruiz (SOH) / Ms Estelle Bech (SOH)

Parallel Track 6
Fostering Deep Involvement and Feedback Engagement — **The Arc, LHN-TR+36 (LHN-L2-02)**

Title:	Speakers:
Effective Learning Through In-Class Online Competitions	Asst Prof Li Yi (SCSE) / Asst Prof Yan Zhenzhen (SPMS)
Feedback in online TBL: Keeping it Real-Time	Ms Yang Lishan (LKCMedicine)
A Blended Lesson Study of the Collaborative Flipped Classroom for In-Service Teachers: Collaboration between Teacher Educators in Singapore and Finland	Assoc Prof Jiang Heng (NIE) / Dr Heidi Layne
Designing Curriculum for Student Feedback Literacy: Student Appreciation for and Engagement with Multiple Feedback Sources	Dr Angela Frattarola (SOH) / Dr Hsieh Yi-Chin (SOH)

Breakout Sessions

DAY 2 | 4 October, Wednesday 14:00 – 15:30

Parallel Track 7
Beyond the Classroom — **The Arc, LHN-TR+04 (LHN-B2-04)**

Title:	Speakers:
How Metaverse Applied in Education: A Systematic Review	Ms Qian Huang (Singapore University of Technology and Design) / Assoc Prof Wang Qiyun (NIE)
Effectiveness of internships in acquiring lifeskills from the perspective of the student and the employer	Mr Khoo Lih-Han (Nanyang Polytechnic)
Campus to workplace cubicles: Challenges and support within internship experiences	Ms Natasha Tan (NTU CRADLE) / Dr Chue Shien (NTU CRADLE)
Exploring challenges of teaching in work-integrated learning programmes	Ms Cheryl Ong (NTU CRADLE) / Dr Chue Shien (NTU CRADLE)

Parallel Track 8
Responses to AI — **The Arc, LHN-TR+03 (LHN-B2-03)**

Title:	Speakers:
Threats or opportunities: Universities' responses to generative AI in Taiwan	Dr Li Guan Ying / Ms Hsu Che-Ling (National Taiwan University)
Student Perceptions of GenAI and Implications for Teaching and Learning	Dr Pamela Loy / Ms Tan Hui Leng (Ngee Ann Polytechnic)
What If All the People Who Are Wrong About AI Are Actually Right?	Asst Prof Andrew Prahl (WKWSCI) / Asst Prof Kevin Chew (WKWSCI)
A Critical and Ethical Framework for Artificial Intelligence in Education (AIED)	Dr Andrew Joseph Pereira (NIE)

KEYNOTE SPEAKERS

Professor Rosemary Luckin

Learner Centred Design,
University College London
Knowledge Lab

Rosemary (Rose) Luckin is a UCL Professor and founder of EVR Ltd. She is renowned for her research into Artificial Intelligence (AI) and education. Named as one of the 20 most influential people in education in the Seldon List, 2017, and winner of the ISTE Impact Award, 2023.

Rose is frequently asked to provide expert evidence to policy makers, in both Houses of the UK Parliament, the European Commission and further afield. Rose has published prolifically in peer-reviewed academic journals, books and conferences, and her most recent book, AI for Schoolteachers is an essential and accessible guide to AI for anyone involved in education.

KEYNOTE 1 | NAVIGATING THE AI REVOLUTION IN EDUCATION: EMBRACING OPPORTUNITIES AND ENGAGING MINDS

As we witness the rapid advancements of artificial intelligence (AI), it is imperative for educators to understand its implications in the realm of education. In this keynote I will delve into the multifaceted landscape of AI and its transformative potential in teaching and learning.

Drawing upon practical examples and a philosophical lens, I will explore how AI can be harnessed to enhance educational experiences, foster personalized learning, and empower students as active participants in their own education journey. I will highlight the crucial role of educators in guiding the ethical and responsible integration of AI technologies in classrooms.

With a keen eye on the evolving educational landscape, I will discuss the imperative of strategic decision-making when adopting AI, emphasizing the importance of aligning technology with pedagogical goals. From intelligent tutoring systems to adaptive assessments, this keynote will demonstrate how AI can augment teachers' capabilities, create inclusive learning environments, and unlock new possibilities for student engagement and achievement.

WORKSHOP 1 | EMPOWERING EDUCATORS: UNLEASHING THE STRATEGIC POTENTIAL OF AI IN TEACHING

In this interactive workshop, I invite educators in Singapore to explore the strategic use of artificial intelligence (AI) in teaching. Grounded in a practical approach while considering the bigger picture, this session aims to provide participants with knowledge and tools to start to harness the transformative capabilities of AI in their educational practices. I will guide attendees through practical examples and engaging activities, demonstrating how AI can enhance pedagogical strategies, personalize learning experiences, and facilitate data-driven decision-making.

By examining the broader implications and ethical considerations of AI integration, educators will be empowered to navigate the evolving educational landscape while upholding their commitment to quality education and student success. Join me for an insightful workshop that will empower educators to embrace AI strategically, revolutionizing teaching practices and unlocking new avenues for educational excellence.

KEYNOTE SPEAKERS

Professor
Phillip Dawson

Co-Director
The Centre for Research in Assessment and Digital Learning,
Deakin University

Professor Phillip (Phill) Dawson is the Co-Director of the Centre for Research in Assessment and Digital Learning (CRADLE) at Deakin University. Phill has degrees in education, artificial intelligence and cybersecurity, and he leads CRADLE's work on cheating, academic integrity and assessment security. This work spans hacking and cheating in online exams, training academics to detect contract cheating, student use of study drugs, the effectiveness of legislation at stopping cheating, and the evaluation of new assessment security technologies.

His two latest books are Defending Assessment Security in a Digital World: Preventing E-Cheating and Supporting Academic Integrity in Higher Education (Routledge, 2021) and the co-edited volume Re-imagining University Assessment in a Digital World (Springer, 2020). Phill's work on cheating is part of his broader research into assessment, which includes work on assessment design and feedback. In his spare time Phill performs improv comedy and produces the academia-themed comedy show The Peer Revue.

KEYNOTE 2 | DON'T FEAR THE ROBOT: FUTURE-AUTHENTIC ASSESSMENT AND GENERATIVE ARTIFICIAL INTELLIGENCE

Generative artificial intelligence is now capable of producing outputs that appear to satisfy some learning outcomes. At the time of writing, there are claims that ChatGPT can mostly pass the US Medical Licensing Exam. Everyday educators are experimenting with these tools and finding that to greater or lesser extents their assessments can be done by these new tools. There are concerns about a new wave of cheating, driven by ChatGPT. However, a cheating perspective is not the only way to consider the role of generative artificial intelligence in assessment.

This presentation considers generative artificial intelligence in the context of future-authentic assessment: "assessment that faithfully represents not just the current realities of the discipline in practice, but the likely future realities of that discipline" (Dawson & Bearman, 2020). It argues that tools like ChatGPT are already part of the graduate experience of life, work and civic engagement, and that capability with these tools should be considered a learning outcome in and of itself.

Taking this view, the challenge for educators changes from being "how do I ban or detect AI" or "how do I design tasks that AI can't do", towards how to faithfully represent a world where these tools are normal. This doesn't mean unfettered free use of AI; instead, it means carefully considering when and in what capacity AI can be used. Viewing these tools within the context of previous technology panics, assessment has a long history of transitioning from worry about new technologies such as writing, calculators and the Internet, to embracing them and even incorporating them into learning outcomes.

WORKSHOP 2 | DESIGNING ASSESSMENT FOR A WORLD OF GENERATIVE ARTIFICIAL INTELLIGENCE

This workshop builds on the keynote presentation and applies that knowledge to practical assessment design work. Participants should bring an assessment task they currently use, or one they are thinking of designing. In the workshop, participants will work in small groups through a supported process using the Assessment Design Decisions framework, which is a structured assessment design support tool.

The framework covers six key dimensions of assessment design: the purposes of an assessment task, the contexts it takes place within, the specific outcomes it assesses, the tasks students are required to do, the feedback processes embedded within the assessment, and the interactions required to make the assessment a success. Special attention will be given to how these traditional assessment design considerations interact with generative artificial intelligence.

SPEAKERS

Associate Professor Tan Seng Chee

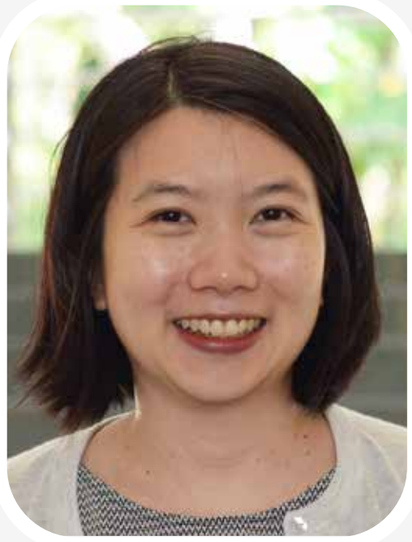
Associate Dean
Graduate Education by Research
National Institute of Education

Dr Tan Seng Chee is the Associate Dean (Graduate Education by Research), Office of Graduate Studies and Professional Learning, National Institute of Education (NIE), Nanyang Technological University (NTU). He is leading the PhD, Doctor in Education, and Master's by Research programmes in NIE. He has been active in promoting the use of technologies in NIE and schools and has been serving as the co-chair for the AI@NIE implementation committee, co-chair for emerging technologies strategic growth area, co-chair for Data Empowerment Programme, and contributed as the Head of the Learning Sciences & Technologies academic group. In the international community, he has been serving on various editorial boards of journals (e.g., Instructional Science), as a reviewer for journals (e.g., Computers & Education, Educational Technology Research & Development). His research focuses on exploring and integrating emerging technologies into education, including computer-supported collaborative learning, knowledge building, learning analytics and artificial intelligence.

NIE Faculty Sharing

TRANSFORMATION OF TEACHING AND LEARNING IN HIGHER EDUCATION WITH EMERGING TECHNOLOGIES: PROMISES AND ENABLING STRATEGIES

The educational landscape in the 21st Century is influenced by several disruptive changes. The use of technologies had helped to minimize disruption to education during the recent pandemic and the advent of generative AI creates opportunities for innovation in educational institutions. Besides technological advancement, the rise of the knowledge economy places new demands on schools and universities to develop students as knowledge creators, not just people who can acquire existing knowledge and apply them. This calls for changes in our pedagogical approaches, from those that are based on the acquisition metaphor of learning, to those that highlight participation and knowledge creation. In our design of the learning environment, we need to consider students' agency, voices, and choices to jointly decide on their learning trajectories and be legitimate contributors to learning resources. In this talk, Dr Tan will highlight the promises of emerging technologies for teaching and learning and discuss enabling strategies to harness these technologies for transformative teaching and learning in higher education.



Dr Elizabeth Koh

Senior Education Research Scientist
Office of Education Research
National Institute of Education

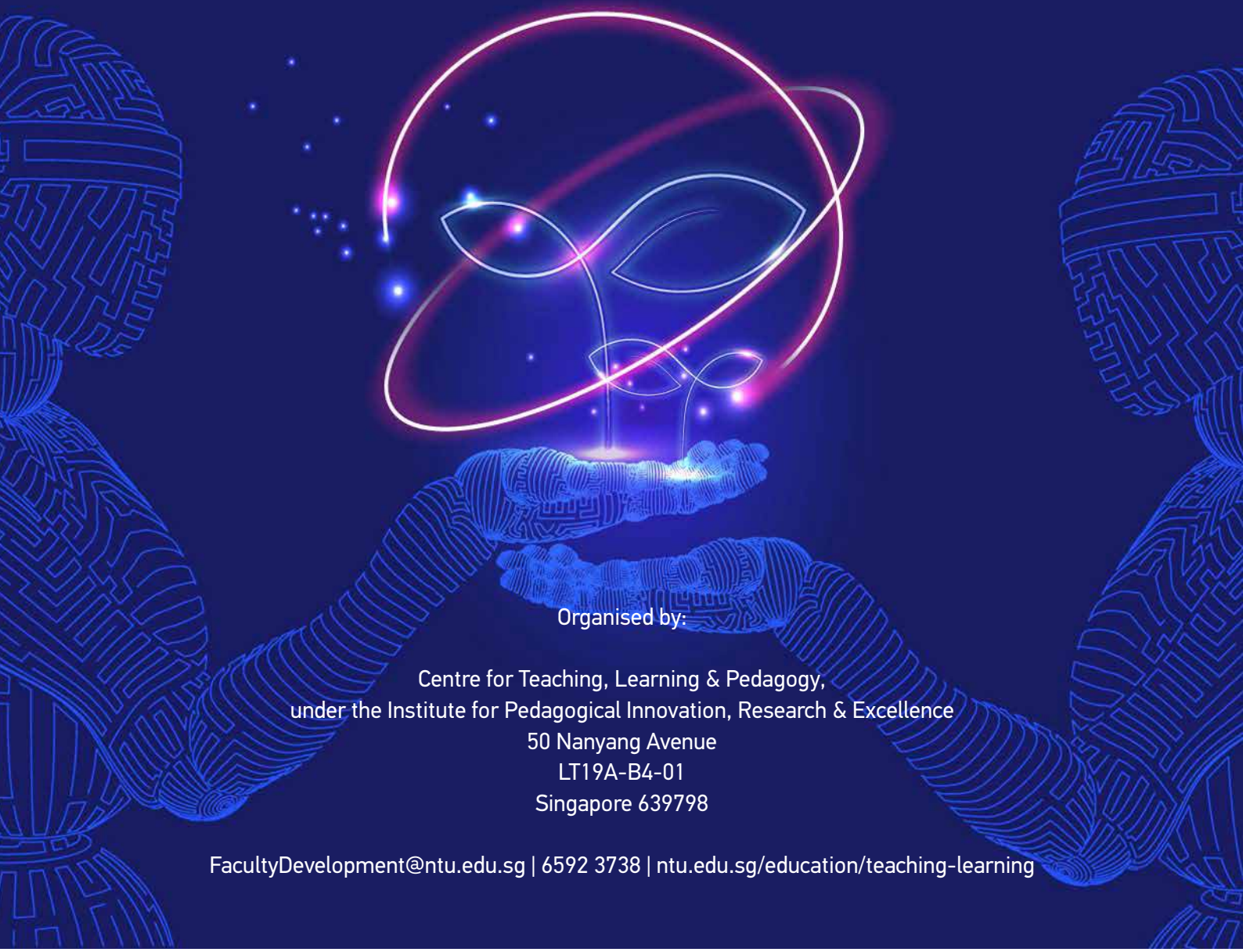
Dr Elizabeth Koh is Senior Education Research Scientist (Senior Lecturer) at the Centre for Research in Pedagogy and Practice, Office of Education Research (OER), National Institute of Education (NIE), Nanyang Technological University, Singapore. She is also Deputy Director (Academic) Research Support, of the Education Research Funding Programme Office. A mixed methods researcher, her research interests are in education innovations, computer-supported collaborative learning, learning analytics and lifelong learning in blended learning environments. With a base in Learning Sciences and Educational Psychology, she has examined and developed formative learning analytics systems to nurture learners' lifelong learning skills as well as content mastery.

An active researcher, she has held numerous research grants involving local and international academics, school leaders, teachers and policy officers. Besides publishing in several peer-reviewed journals and conferences such as Computers & Education and the International Society of the Learning Sciences Annual Meeting, she is also Co-Editor of NIE's international journal, Learning: Research and Practice.

NIE Faculty Sharing

LEARNING ANALYTICS FOR FORMATIVE FEEDBACK

Dr Koh will introduce learning analytics and key directions in the field. In particular, it will highlight formative learning analytics and the use of learner dashboards. Several learning analytics applications which have been developed and trialled in Singapore for both content mastery and lifelong learning will be described. Their conceptualization, findings and limitations will be shared. Implications for educators and academics will be elaborated on, offering opportunities for attendees to reflect on their role in harnessing learning analytics for formative feedback to improve teaching and learning.



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