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# MESSAGE FROM THE LEARNING ENVIRONMENTS AUSTRALASIA CHAIR



On behalf of Learning Environments Australasia, I welcome you to our 2017 Regional Conference. This year, we return to the beautiful city of Singapore where in 2007 our conference was held. Since that time, many changes have occurred in education, design and our association. There is a greater understanding about the need to embrace a global mindset, and what better way to do this than in attending, LearningScapes – eXperience Asia. There is a belief that those with a global mindset have the ability to view cultural and geographic diversity as an opportunity to discover and explore innovation and good ideas from everywhere.

At this dynamic conference, you will certainly be part of our global association but with a local flavour. You will be motivated by international speakers, inspired and challenged in stimulating breakout sessions and visit innovative learning environments. There will be many opportunities to connect with colleagues from across our association on a global level. Our Singapore conference team has prepared a programme that will challenge your thinking and

engage you in the theme, LearningScapes – eXperience Asia. The theme has a focus on four main areas: Building more on less, Collaboration and Community, Exploring New Learning Models - Improving Lives, and Digital Asia.

As Anita Kapoor, TV and Travel Host stated "There isn't anywhere else on Earth where people confluence like the way they do in Singapore. From visitors and transients to citizens, this Progressive Island and gateway to South East Asia is a dynamic mix of cultures, ideas and histories neither ethnic nor exotic, instead, the essence of modern Asia - sparklingly savvy, with a touch of old school."

Come join us for the Singapore LearningScapes –eXperience Asia conference and be part of the global experience.

Deb O'Riley

Chair

Learning Environments Australasia





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# MESSAGE FROM THE LEARNING ENVIRONMENTS AUSTRALASIA CONFERENCE CHAIR



It is with great pleasure that Learning Environments Australasia invites you to join us in Singapore in July 2017 for its 17th Annual Conference entitled **'eXperience Asia'**. The conference theme leverages on Singapore's strategic location to explore and examine how learning environments are evolving in Asia. This conference provides a unique platform to share innovative ideas and inventive solutions to unique challenges such as intensification of school developments and to discuss and debate pertinent issues ranging from the role of collaboration and community in learning, to new school models, technological and digital innovation, and how they shape the way we think about learning spaces and the experience of learning.

The last time this conference was held in Singapore was in 2007. Since then, there have been significant changes in the learning landscape in Singapore—new schools are being built, new universities have been set up (e.g. the Singapore University of Technology and Design in

collaboration with Massachusetts Institute of Technology, Boston), new initiatives are in place in our public school system to foster creativity and entrepreneurship alongside its continued efforts to promote excellence in STEM, humanities, arts and sports, and new workplaces have been created, focused on promoting collaboration and innovation. We invite you to join us to experience some of these new and exciting learning spaces and settings.

It is also worth mentioning here that some of Singapore's most iconic local dishes such as Laksa and Hainanese chicken rice are now on the Bib Gourmand list by Michelin and our Botanical Gardens has been declared a UNESCO World Heritage site. We therefore look forward to welcoming you to sunny Singapore for an exciting and extraordinary experience!

**Pit Li Phan**Conference Chair

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### **CONFERENCE MC**



**Maxine McKew**Former Politician and Journalist

We are delighted to welcome back Maxine McKew as our regional conference MC. Maxine is an Honorary Fellow of the Melbourne Graduate School of Education based at the University of Melbourne, Australia. She is the author of two books, Class Act, a study of success in turnaround Australian schools, and Tales from the Political Trenches, a political memoir. Maxine's background is in journalism and for many years she was a familiar face to ABC viewers as the anchor of Lateline and the 7.30 Report. She made the switch to politics in 2007 and defeated Prime Minister, John Howard, in the seat of Bennelong. She served in the Australian Federal Parliament from 2007-2010. She now lives in Melbourne where she is a member of three boards: State Library of Victoria, Per Capita, and the John Cain Foundation.

### **KEYNOTE SPEAKERS**

### **Education Making a Difference**



**Professor Bunker Roy**Principal and Founder, Barefoot College, India

Sanjit "Bunker" Roy is an Indian social activist and educator who founded the Barefoot College. He was selected as one of Time 100's most influential personalities in 2010 for his work in educating illiterate and semi-literate rural Indians. Bunker Roy's "real" education started after being educated in Doon School (1956-1962) and St Stephens College (1962-1967). He dug open wells for drinking water as an unskilled labourer for 5 years (1967-1971) and was Indian National Squash Champion in 1965, 1968 and 1971. Bunker Roy started the Barefoot College in 1972, which follows the life style and work style of Mahatma Gandhi.

The demystified and decentralised community based Barefoot Model has been implemented in over 76 of the Least Developed Countries. A total of 40,000 houses in over 1,000 villages have been solar electrified by over 700 illiterate rural grandmothers. They are trained in 6 months as solar engineers using only sign language, the written and spoken word is not used. Bunker Roy gave a TED talk at TED Global in Edinburgh in October 2011, which has been watched by over 3.5 million viewers and translated into 45 languages.



**Meagan Fallone** 

Global Strategy, Implementation & Development, Barefoot College International, India

Responsible for Barefoot College International, Meagan Fallone is currently steering the establishment of a further 6 Barefoot College Vocational Training Centres throughout Sub Saharan Africa, Latin America and SE Asia/Pacific; to triple the size of the Barefoot College by 2018. In addition, she is leading a significant move by the organisation towards digital integration both within the organisation and, in the hands of the thousands of rural poor illiterate and semi-literate women the college trains throughout the developing world. Her Indian based team of 'Barefoot Innovators' have developed and deployed a digital M&E platform to track QoL, empowerment, financial and sustainability impact within the program areas of the Barefoot College by leveraging a design centric strategy grounded in the inclusion

of grass roots women, throughout its design and implementation. The Barefoot College helped develop innovative public, private and technology partnerships to allow 40 years of grassroots innovation to scale through the support of technology. The 'Barefoot Approach' focuses on *Water management, Renewable Solar Energy, Livelihood & Enterprise* creation and a unique solution to Rural Education for rural children that has today educated more than 75,000 young people. This dedication to creating information sharing across literacy, language, cultural barriers in true South/South cooperation, is at the heart of the Barefoot College strategic vision.

Ms Fallone advocates in all high level global forums for the Barefoot Approach through creation of Governmental and Multilateral partnerships. Since joining Bunker Roy in 2011 to scale the Women's Barefoot Solar Initiative of community based, self-reliant and sustainable Solar Electrification, she has been a field presence in more than 52 countries since joining Barefoot College and currently guides field implementation and partnerships in 72 Countries. At the heart of curating an international curriculum designed with and for Illiterate and semi-literate poor rural women which empowers them towards enterprise activities and amplifies their agency and aspirations, she and her team have successfully crafted partnerships with UN Women, UNESCO, UNDP and many large Philanthropic Foundations. Since joining the leadership team at Barefoot College she has accomplished a challenging and deep organisational shift from a grass roots, India centred entity to a vibrant globally operating organisation, innovating towards the future.

**ABSTRACT:** The Barefoot College is the only College in India built by the poor, and managed by the rural poor, who earn less than \$1 per day. It's almost the only College left in India that respects and practices the work style and life style of Mahatma Gandhi and a place where the teacher is the learner and the learner the teacher. It is also the only College in India where traditional knowledge and practical skills of the poor are given more importance and priority than paper degrees or qualifications. In the 20 years that the demystified and decentralised community based Barefoot approach has been implemented in over 78 of the Least Developed Countries, a total of 40,000 houses in over 1,000 villages have been solar electrified by nearly 800 illiterate rural grandmothers. They are trained in 6 months as solar engineers using only sign language. Bunker Roy gave a TED talk at TED Global in Edinburgh in October 2011, which has gained over 3.5 million views and been translated into 45 languages. TED talk 2011: **http://www.ted.com/talks/bunker\_roy.html** 

### Re-imagining Learning in Future Asia



**Designing with Heart Peter Kenny**CEO Research Education, Hong Kong

Peter Kenny came to education through a former professional life. After a decade in the Royal Australian Air Force as an aircraft technician he studied Education. After 6 years teaching he started his own music production company, composing songs and performing nationally to school children. He began his international teaching career in 1998 as head of Music. In 2000 Peter was appointed Principal of Dresden International School, Germany. In 2002 he was the recruited to the position of Regional Manager for the International Baccalaureate (IB) in Asia Pacific and in mid-January 2005 he was elevated to 'Head of Projects' for the IB globally. Peter is a member of the Australian Department of Foreign Affairs, Civilian Corp in Post Conflict and

Crisis Recovery. (In this capacity Peter has recently completed a deployment to the UNICEF, Jordan, as the 'Regional Education Specialist' leading access to education projects for Syrian Refugees.) Peter moved to Hong Kong to be the founding Principal of Renaissance College, Hong Kong, better known as RCHK. He is the founder and CEO of Reach Education Organization (REO) Limited based in Hong Kong and has since September 2009 been fully engaged in establishing and managing some of the world's truly iconic and innovative schools. These include: Branksome Hall Asia- (BHA) Jeju Island, South Korea; Campus fly through - Branksome Hall Asia 2012 United World College Changshu (UWC); American School of Hong Kong, Mount Kelly Hong Kong.

**ABSTRACT:** In designing engaging and purposeful schools we must do so from the inside out. How will students learn? How do we best teach? How do we want the community to feel when engaging with each other and our environments? Good design and aesthetic appeal should not only be the privilege of the wealthy and developed nations. Peter will introduce you to projects large and small where designing with heart has improved both access to education, greater learner outcomes and a better society.



**Professor Arnoud De Meyer** President, Singapore Management University

Professor De Meyer is the fourth President of Singapore Management University. Previously, he was Director of Judge Business School at the University of Cambridge where he was Professor of Management Studies and Fellow of Jesus College. He was associated for 23 years with INSEAD where he held various senior academic and administrative positions, including founding Dean of INSEAD's Asia Campus in Singapore.

Professor De Meyer has a Master of Science in Electrical Engineering, MBA and PhD in Management from the University of Ghent in Belgium. He also pursued his studies as a visiting scholar at the Sloan School of Management, Massachusetts Institute of Technology (USA). His

research interests are in manufacturing and technology strategy; the implementation of new manufacturing technologies; the management of R&D; how innovation can be managed more effectively; project management under conditions of high uncertainty; management and innovation in Asia; the globalisation of Asian firms; the management of novel projects; and e-readiness in Europe. His work is published widely in academic journals and he has written several books. Professor De Meyer serves on several boards including the Human Capital Leadership Institute, National Research Foundation, Singapore International Chamber of Commerce, Singapore Symphonia Company Limited and Temasek Management Services. He is an external director of Dassault Systèmes SA (France) and also Chair of the Strategic Advisory Committee of VITO, the Flemish Institute for Technological Research (Belgium).

**ABSTRACT:** University education is changing rapidly: ICT influences how tertiary students learn, and has a significant impact on the professor-student relationship. Gone are the times that the professor was the 'sage on stage' who would share knowledge with passive students. Today's students have a wealth of information at their fingertips, study in flipped classrooms and universities, investing a lot more in experiential learning. The design of the university needs to be support this.

SMU was built in 2005 and its dominant classroom was that of a horseshoe shaped lecture theatre with many small breakout rooms. This has served us well. But now we embark on a new model (SMU-X) supporting project work and group learning, with the library as a learning commons and professors as facilitators.

### SkillsFuture - An Integrated Ecosystem For Learning and Innovation



**Dr Gog Soon Joo**Chief Research Officer, SkillsFuture, Singapore

Dr Gog is the Group Director, Training Partners Group and Chief Research Officer at the SkillsFuture Singapore Agency. She works with education and training partners to serve the skills development needs of Singapore. She manages the capacity and capability of continuing education and training provision. Her research interests include future of work, skills formation system, sectoral logics, organisational change and organisational learning.

**ABSTRACT:** The VUCA environment, organisations across industries are stepping up their pace for change. The contemporary model of change requires the continuous learning-and-doing because change is no longer episodic or temporal. Consequently, this constant change

calls for a rethinking of learning – what, where, when, how, and who of learning. In the session, Dr Gog will discuss how SkillsFuture movement supports such change. Specific examples from pedagogical innovation, the using of learning space and the development of skills eco-system will be discussed.

## Technology Disruptions and The Future of Skills, Work and Learning



**Ayesha Khanna**Chief Executive Officer
ADDO

Ayesha Khanna is a digital technology and product strategy expert advising companies and governments on smart cities, future skills, fintech, and other emerging industries. She spent more than a decade on Wall Street advising product innovation teams developing large scale trading, risk management and data analytics systems.

Ayesha is CEO of tech engineering and design firm ADDO and helps match investors and startups at TechFin Ventures. Previously, she served as CEO of The Keys Global, an innovative education hub that matched students with leading companies to apply their skills in coding,

robotics, and 3D printing. In 2014, Ayesha served on the Singapore Ministry of Education's Steering Committee on future skills and applied learning.

Ayesha was also co-founder of the Hybrid Reality Institute, a research and advisory group established to analyse the social and economic impact of accelerating technologies. She directed the Future Cities Group at the London School of Economics, and has been a Faculty Advisor at Singularity University.

Ayesha is author of Straight Through Processing (2008) and co-author of Hybrid Reality: Thriving in the Emerging Human-Technology Civilization (2012). She has been published and quoted on technology, innovation and smart cities in The New York Times, BusinessWeek, TIME, Newsweek, Forbes, Harvard Business Review, Strategy+Business, and Foreign Policy. Ayesha has a BA (honours) in Economics from Harvard University, an MS in Operations Research from Columbia University and is completing her PhD on smart city infrastructures at the London School of Economics.

She is the Founder of 21C GIRLS a charity that delivers free coding classes to girls in Singapore. She is on the Board of Advisors for Humanity+, a Fellow at the Institute for Ethics and Emerging Technologies and a Non-Resident Senior Fellow at the Strategic Foresight Initiative at Atlantic Council. Ayesha is also Chairman of Factorum a boutique content marketing agency.

**ABSTRACT:** Disruptive technologies and their interaction with humans will drive fundamental changes for society, business and governments in the next 10 to 20 years. As technology becomes more intelligent, what will future industries and educational programs look like? Join us in a practical exploration of some interesting innovations and paradigm-shifting business models that already exist today. With artificial intelligence moving up the value chain, Ayesha will share her insight on how this will impact the future of work and learning.

### **School in The Cloud**



### **Sugata Mitra**

Professor of Educational Technology at the School of Education, Communication and Language Sciences Newcastle University, England, UK

Professor Sugata Mitra has been credited with more than 25 inventions in the area of cognitive science and educational technology. One of his best-known works is the 'Hole in the Wall' experiments started in 1999 which demonstrated that groups of children, irrespective of who or where they are, can learn to use computers and the Internet on their own using public computers in open spaces such as roads and playgrounds. In 2006, he invented Self Organised Learning Environments, now in use throughout the world. In 2009, he created the Granny Cloud of teachers who interact with children over the Internet. In 2013, he was awarded the

first \$1 million TED prize, to put his educational ideas together to create seven laboratories called 'Schools in the Cloud' which study learning as emergent phenomena in an educational self-organising system.

**ABSTRACT:** Seventeen years of experiments with children's education reveal startling results – children, in groups, can form 'self-organising systems' that result in emergent learning. The mechanism of this kind of learning seems similar to the appearance of spontaneous order, or 'emergent phenomena' in chaotic systems. From the slums of India, to the villages of India and Cambodia, to poor schools in Chile, Argentina, Uruguay, the USA and Italy, to the schools of Gateshead and the rich international schools of Washington and Hong Kong, Sugata's experimental results show a strange new future for learning. Using the 2013 TED Prize, he has built seven 'Schools in the Cloud', where Self Organised Learning Environments (SOLEs) and a 'Granny Cloud' of mentors over the Internet, interact with unsupervised children. Sugata will present some of the preliminary findings of this project, offering glimpses of what schools should be for and what curricular, pedagogic and assessment changes will be required in the future.

# THEMATIC FORUM PRESENTERS 1A – DENSITY AND URBAN SCHOOLS

### **Building More on Less: A Comparative Study of 3 Vertical Schools**



Singapore.

Garden City, Mega City: Strategies for the 21st Century Sustainable City Wong Mun Summ

Founding Director, WOHA

Wong Mun Summ is the Founding Director of WOHA together with Richard Hassell, an architectural practice based in Singapore. Wong has served as a Board Member of several government agencies such as the Urban Redevelopment Authority (1999-2005) and Singapore Land Authority (2011-2015), and is a current Board Member of the National Heritage Board (2016-2017) and the National Environment Agency (2016-2018). He is also a Professor in Practice at the National University of

**ABSTRACT:** The School of the Arts is a specialist high school for the visual and performing arts located in the heart of Singapore's civic district. The school combines a high-density, inner-city school with a professional performing arts venue. The design strategy creates two visually connected horizontal strata, a space for public communication below (the "Backdrop"), and a space for safe, controlled interaction above (the "Blank Canvas"). This strategy solves the twin objectives of porosity and communication with the public and wider arts community on the one hand, and a secure and safe learning environment on the other.



**Richard Leonard**Director, Hayball, Melbourne, Victoria, Australia

Richard Leonard is internationally recognised as an expert in helping schools integrate contemporary teaching and learning philosophies into creative design responses. A strong advocate for collaborative and research-driven design, he regularly collaborates with leading education specialists. Past Chair of Learning Environments Australasia, Richard is also active at the organisation's international level as Co-Chair of the Global Expansion workgroup and International Jury member of the SchoolsNext program. He is a member of the Learning Environments applied Research Network (LEaRN) and

collaborates with the University of Melbourne where he is Linkage Partner in several research initiatives. Hayball is one of Australia's largest architecture practices, with offices in Melbourne, Sydney and Brisbane.

**ABSTRACT:** Densification of our cities is leading to the emergence of new models of schools. Particularly in our inner urban areas, these schools are responding to a very different set of community expectations and offer innovative models of community infrastructure. To address the needs of contemporary society, they must respond to the changing education paradigm and provide more integrated community models. The schools of tomorrow will better engage with their communities and will play a key enabling element for our social infrastructure. This session will explore three exemplars of contemporary, inner urban schools (Singapore, Adelaide and Melbourne). What are the key challenges, what makes them work successfully and how do they point to the future for school/community infrastructure?



**Deb O'Riley**Project Director, Department of Education and Child Development, South Australia

Deb O'Riley is Project Director, New Adelaide CBD School, one of the most significant projects embarked upon by the Department for Education and Child Development, South Australia. Deb is an enthusiastic and passionate educator with a real commitment to improving outcomes for all learners. She has held teaching and leadership roles in a variety of schools and education settings in South Australia. More recently her focus has been to understand elements critical to the successful delivery of contemporary learning environments. Deb believes that learning environments need to encourage

and promote multiple modalities of learning, supporting individual, small and large group work. As Project Director for the New CBD School, Deb has an exciting opportunity to lead and create a cohesive learning environment where physical, social and pedagogical elements continuously evolve, and teaching and learning is enacted with energy and imagination. How many opportunities are we given to set a vertical school in a stimulating CBD environment amongst universities, Adelaide Zoo, Botanic Gardens, business and cultural precincts?



**Adam Hannon** 

Studio Director, Cox Architects, South Australia

Adam Hannon is a Studio Director for Cox Architecture in Adelaide and has gained international recognition for his work on significant public and urban design projects in major Australian cities. Adam has specialist experience working in collaboration with his clients to create environments that integrate site context with the aspirations of contemporary and advanced learning. He is engaged in the design of high quality, innovative built form, which responds both to the progressive environment of contemporary architectural practice. Currently AIA Chapter Councillor, Adam is actively involved in

the strategic future of Adelaide, working with State Government and the wider design community.



**Wayne Dixon**Director – Interior Designer, DesignInc, South Australia

With more than 18+ years of experience in the design profession, Wayne Dixon has strengths across all aspects of design, including space planning, feasibility studies, brief development, documentation and contract administration. Wayne joined DesignInc as a Senior Interior Designer in 2005 before becoming a Director in 2008. The majority of Wayne's work is within three specialist sectors: education, health and commercial interiors. He has developed a solid reputation for delivering excellent results in these areas. Wayne's approach to every project is founded on developing an intimate understanding

of the client's needs, before working in partnership to deliver successful outcomes. In particular Wayne has an interest and expertise in user consultation and brief definition, often within complex stakeholder structures. As a member of both Learning Environments Australasia and the Design Institute of Australia, Wayne has a passion for the creation of contemporary learning environments, and delivering quality spaces that enrich people's lives.

**ABSTRACT:** The innovative Adelaide CBD School will set a new benchmark in the physical form, design and function of a contemporary school, as well as the quality and range of the learning experiences and opportunities that it generates for all learners. The exciting educational program creates an active and inter-disciplinary learning platform to develop and showcase innovative and contemporary learning with a STEM focus. The school's unique setting within parklands and adjacent key educational, cultural and civic institutions will enrich the learning opportunities available to teachers and students whilst, in turn, the school's facilities will be accessible to the wider community. The new CBD School will serve as a showcase for future education in Australia, and provide a valuable asset contributing actively to the Adelaide City precinct.

Panel Discussion + Q&A
Facilitator: Prof Wong Yunn Chii (NUS)

# THEMATIC FORUM PRESENTERS 1B – LEARNING EXPERIENCE TRANSFORMING LIVES

### **Schools as Agents of Change**



**Dr Faye D Yung**Head of Education Division, Project Little Dream, Hong Kong

Faye Yung graduated with a PhD in Education from the University of Cambridge, UK. Her research interest in multicultural children's literature and her teaching experience in secondary and tertiary level continuously inform her commitments in various educational projects in Hong Kong and Cambodia. She has been volunteering at Project Little Dream since 2012. She currently heads the Education Division, responsible for curriculum development, teacher training, literacy research and library establishment. While continuing her research work, she currently works in a Hong Kong NGO

on a project to promote digital literacy among underprivileged youth in developing countries.

**ABSTRACT:** This presentation illustrates the case of a village school and library as an agency for injecting print culture into a rural community in Takeo Province, Cambodia. Our project begins with the construction of a communal space and continues onto the operation and management of the school and library. From a community completely void of print matter to the establishment of the first library, our project tracks the impact of the library on the children's literacy development and also the impact on their family concerning perceptions and expectations on education through a 3-year literacy research project.

### Mechai Bamboo School: A New Dawn in Rural Thai Education



**Mechai Viravaidya** Chairman, Mechai Viravaidya Foundation

Following his ground-breaking success at promoting family planning and HIV prevention in the seventies, eighties and nineties, Mechai Viravaidya approached the problem of rural poverty by empowering the poor through a partnership between rural villages and private companies and in 2008, he established the Mechai Bamboo School in the rural Northeast of Thailand to serve as a model to re-engineer rural education. It is a boarding school which aims to foster a new generation of rural youth who are honest and innovative social entrepreneurs and community development leaders.

Today, with the help of the private sector, the Bamboo School is assisting over one hundred small rural schools to adopt this concept.

**ABSTRACT:** If we are to make rural education relevant for the 21st Century, especially for the disadvantaged students and the elderly, we need to change our approach to teaching and learning in three ways:

- 1. What we teach
- 2. How we teach
- 3. The role of the school

The school must be more than an institution that teaches only young students, it must also become a lifelong learning centre for everyone in the community as well as a hub for improving the quality of life in surrounding villages. This concept, as demonstrated by the Bamboo School, located in Buriram province, Northeast Thailand, addresses some basic endeavours to provide equal opportunity for the disadvantaged, the forgotten and the elderly.

**Panel Discussion + Q&A** 

**Facilitator: Maxine McKew** 

# THEMATIC FORUM PRESENTERS 2A – COLLABORATION AND COMMUNITY

**Collaborate: Bridging Academia & Industry** 



**Tan Gan Hup**Associate Director (SMU-X), Singapore Management University

Tan Gan Hup is a change agent whose work focuses on how physical context and curriculum can be combined to create authentic interactions and enhanced learning. As the lead for SMU-X, the flagship initiative for the Singapore Management University, he pushes a movement towards more active participation and collaborative project-based learning in real-world settings and to get the university to collaborate. Equally important is space, especially out-of-classroom environments as they support active learning, Gan Hup creates collaborative spaces, for students and university stakeholders, which

allow for the bridging of industry and academia while catering to the learning habits of the millennials.

**ABSTRACT:** It is crucial to advance quality education while staying relevant to businesses and the wider community as the scale and complexity of the challenges facing the world and our graduates today are unprecedented. We need to work together more as a community. SMU-X is an initiative to create a mindset to collaborate, through an experiential curriculum focused on interdisciplinarity and solving real problems clients bring into class. SMU-X is also about space that enables project work and hands-on learning. The learning habits of millennial students have changed and it's time that Universities caught up.

### Maker Education: Linking Science, Technology, Art and Culture



**Veerappan Swaminathan**Co-founder & Director, Sustainable Living Lab

Veerappan Swaminathan is a pioneer of the Maker Movement in Singapore. He co-founded Sustainable Living Lab (a social enterprise that was the first makerspace in Singapore to promote sustainability), OneMaker Group (a private company supporting hardware entrepreneurs), Makedemy (a social enterprise that bridges the digital divide for vulnerable youth) and the Singapore Makers Association. He holds a Bachelors in Mechanical Engineering and a Graduate Certificate in Intellectual Property from the National University of Singapore. He is also listed on 5 US patents for bio-medical

devices.

**ABSTRACT:** The Maker Movement is much more than a trending topic. Makerspaces operate within and outside of traditional institutions, attracting and instigating the building of an ageless community, perpetually curious and highly collaborative. These inspiring spaces are designed to fuel the desire to make meaningful contributions to issues and interests of personal relevance. Education through purposeful making attempts to awaken the inner global citizen and to motivate a generation of thinkers and makers towards building a new sustainable future.

Panel Discussion + Q&A
Facilitator: Prof Erwin Viray, SUTD

# THEMATIC FORUM PRESENTERS 2B – TECHNOLOGY AND INNOVATION

# **Future of Education Sector: Digital Disruption - Emerging Ideas and Innovations to Transform Education in a Smart Nation**



**Adrian Lim**Director, Education, Sectoral Innovation Group, IMDA, Singapore

Adrian Lim is Director of the Education Sector (Sectoral Innovation Group) at the Infocomm Media Development Authority of Singapore (IMDA). He leads a dynamic team looking at how it can work with the education technology industry partners, start-ups to develop innovative ideas, applications in K-12 schools, the education and training sector to enhance learning and teaching to build deep skills in the 21st century. Adrian was formerly a Principal of a Future School in Singapore (Ngee Ann Secondary School). The school was also a Microsoft Pathfinder, Mentor and World Tour School. He was

an Honouree Winner in the Academic Leadership Category of the Junior Chamber International (JCI) Ten Outstanding Young Persons (TOYP) in the World Award in 2011 and an Expert Panel member of the New Media Consortium Horizon Report: 2015 K-12 Edition.

**ABSTRACT:** Singapore is building a Smart Nation by harnessing technology to the fullest with the aim of improving the lives of citizens, creating more opportunities, and building stronger communities. Learn about the new emerging infocomm media ideas and innovations that IMDA have introduced in the K-12 education landscape to transform the way we teach and learn in Singapore.

# The Innovative Learning Environment and Teachers Change Project (ILETC): What are we learning?



**Dr Ben Cleveland**Senior Lecturer, Faculty of Architecture, University of Melbourne

Dr Benjamin (Ben) Cleveland is a Senior Lecturer in the Faculty of Architecture, Building and Planning at the University of Melbourne, where he coordinates the research program of the Learning Environments Applied Research Network (LEaRN). He is a Chief Investigator for the ARC Linkage Project, 'Innovative Learning Environments + Teacher Change' (2016-2019). His other recent research activity has included leading a review of the Victoria Department of Education and Training's Standard Entitlement Frameworks, a three-year program of learning environment

evaluation for Catholic Education Melbourne, and as Research Manager for the ARC Linkage Project, 'Evaluating 21st Century Learning Environments' (2013-2016). He co-developed and collaboratively teaches the Masters electives 'Innovative Spaces and Pedagogy' and 'Physical Learning Spaces: Effecting Pedagogic Change in Schools', and supervises a number of PhD and Masters research students. Ben has published extensively on the topic of school design and learning environments, including as co-editor a 2016 book titled 'Evaluating learning environments: Snapshots of emerging issues, methods and knowledge' with Associate Professor's Wesley Imms and Kenn Fisher (Sense Publishers). Ben is Chair of the Victorian Chapter of Learning Environments Australasia and was Co-Chair of the 2016 Australasia Regional Conference held in Melbourne.



**Dr Marian Mahat**Research Fellow, ILETC Project

Dr Marian Mahat is the lead Research Fellow of the ILETC project. As the Research Manager, she oversees all research activities and the dissemination of project findings including the management of Research Fellows and project PhD students. Marian has more than twenty years of professional and academic experience, spanning several Australian universities, the Australian Federal and local governments, the LH Martin Institute for Tertiary Leadership and Management, the Melbourne Centre for the Study of Higher Education (MCSHE), as well as the private sector. Highly proficient in both

quantitative and qualitative research methods, she has worked on collaborative projects, written numerous publications and presented in conferences in higher education.



**Chris Bradbeer**Associate Principal, Stonefields School, NZ

Chris Bradbeer is a Research Fellow, based in Auckland, New Zealand. His role is to work closely with New Zealand schools, facilitate data collection in New Zealand and contribute to case study developments. Chris is also Associate Principal at Stonefields School in Auckland, where he has been involved in developing a vision for teaching and learning, building teacher capacity and having the opportunity to consider 'what might be possible' in a new school setting. He is also currently completing a PhD, in conjunction with the 'Evaluating 21st Century Learning Environments' ARC

Linkage project, focussing on the nature of collaborative teacher practices in Innovative Learning Environments in New Zealand. Chris is Chair of the New Zealand Chapter of Learning Environments Australasia.



Assoc. Prof Wesley Imms (Victoria, Australia)

Associate Professor, Head of Visual Arts Education, Melbourne Graduate School of Education, Victoria, Australia

Assoc. Professor Wesley Imms is Melbourne Graduate School of Education's Head of Visual Art Education, and its Research Higher Degree Coordinator for Curriculum and Teaching. He is the lead Chief Investigator of the ARC Linkage Project 'Innovative Learning Environments and Teacher Change' (2016-2019), and also leads the Evaluating 21st Century Learning Environments ARC Linkage Project (2013-2016). He has been involved in a range of solo and collaborative projects since 2000 involving

approximately \$11 million of external funding, has published over 70 peer reviewed articles, chapters, conference papers and books, numerous reports and invited lectures in Australia and internationally. He is an experienced educator and is involved in teaching subjects spanning visual art curriculum and studio practice, innovative learning spaces, and Masters-level in learning spaces capstone and teacher/practitioner subjects, in addition to supervising 19 Doctoral, Master of Education/ Philosophy and Master of Teaching honours theses. In recent years Associate Professor Imms has conducted more than fifty research workshops in schools in most Australian states. He has conducted evidence-based research projects in schools on topics such as student inhabitation of curriculum, linking learning spaces to pedagogy, improving the learning outcomes and school experience of boys, utilising ICT in teaching and teacher education, and trans-disciplinary curriculum.

### **Disrupting Class with CLaaS**



**Leslie Loh**Entrepreneur and CEO, Lithan

Leslie is a serial entrepreneur, angel investor and adult educator. Leslie is the founder and CEO of Lithan. Lithan transforms higher education and adult learning through skills-based learning pedagogies and innovative business models. Lithan is poised to disrupt traditional classroom education with our CLaaS® (Competency Learning as a Service) offering to deliver mass customization in adult learning. Leslie is also the founder of Red Dot Ventures (RDV), which nurtures and incubates early tech startups in Singapore and the region.

In 1983, Leslie founded System Access and grew the company from a one-man outfit to a global banking software provider with 10 offices and customers in 40 countries across Asia, Europe and Africa. System Access was eventually acquired in 2006. Leslie served as a board and advisory panel member of various Singapore Government agencies to assist in charting the nation's economic strategies, infocomm manpower development, SME/Startups development & adult education development.

**ABSTRACT:** Established in 2008 as a CET (Continuing Education & Training) provider, Lithan delivered "Competency-based learning" that enabled working professionals to "future-proof" their careers through the acquisition of multidisciplinary skills that were practical and relevant. However, as the digitization of the economy intensified and businesses adapted to keep pace with the digital revolution, Lithan found the need to transform into a "Total Learning and Talents Solution" provider to address the industry's demand for employees, who can be productive on their job roles from day one. This session summarizes Lithan's transformation journey from being a traditional classroom-based ICT CET provider to become an O2O (Online2Offline) Digital Skills Accelerator.

CLaaS®, which stand for Competency Learning as a Service, is Lithan's solution to overcome the ineffectiveness of traditional class. It enables mass customized learning to individual and enterprises over the cloud, on demand. Beyond digitizing its product with innovative pedagogy and learning technology, Lithan also transformed its business model to include additional service offerings, strengthened its training management processes, implemented new learning systems and technologies, re-skilled and "Uberized" its workforce.

**Panel Discussion + Q&A** 

**Facilitator: Maxine McKew** 

### **MINI SESSIONS**

### **Mini Session 1A**

### Case Study: A High-Rise School in Sydney



#### **Rob Fraser**

Director, Property and Facilities Management, Department of Education, NSW, Australia

Originally from the UK, Rob Fraser trained as an Architect working on the design and implementation of everything from small residential renovations up to multi-million dollar heavy industrial facilities. Rob has worked for the Department of Education for 8 years in a number of areas including the delivery of major capital works projects, the review of the Departments building standards and the subsequent creation of the EFSG Educational Facilities Standards and Guidelines. Rob has a passion for learning environments and the creation of spaces that make people smile.

**ABSTRACT:** This session will look at the experience of the Department in generating its first large scale multi storey school.

### **Mini Session 1B**

### **Global Citizenship**

Chair: Maxine McKew



#### **Crystal Lim Leahy**

Director, Future-Ready Graduates, NUS

Crystal Lim Leahy leads the Centre for Future-ready Graduates at the National University of Singapore, which assists students in developing their fullest potential. In 2016, Crystal pioneered Roots & Wings, a ground-breaking foundational life skills programme for 5,000 students a year, focusing on developing personal leadership and societal contribution. A thought-provoking motivational speaker and expert in holistic education, Crystal has a diverse background spanning investment banking, start-ups, philanthropy and coaching.

**ABSTRACT:** The world we live in is increasingly VUCA, volatile, uncertain, complex and ambiguous. As the technology evolves rapidly, we too must urgently upgrade our internal OS. In January 2016, Crystal and her team pioneered Roots & Wings, a quest to teach 5,000 students essential skills and mindsets which would give them greater awareness and resilience. Their programme is taught in an unconventional learning environment combining virtual platforms and interactive spaces. They use innovative experiential techniques based on the latest research from psychology and neuroscience and have seen amazing results with marked increases in their students' emotional intelligence and resilience.



#### **Kuik Shiao Yin**

Co-Founder, The Thought Collection, Singapore

Together with her two founding partners, Shiao Yin runs a group of social businesses known as The Thought Collective whose mission is to build up the social and emotional capital of Singapore. They work with public, private and people sector partners to design impactful media, events and programmes that help communities grow braver, kinder and stronger. In the public sector, she served as a Nominated Member of Parliament in the 12th Parliament of Singapore (2014-2015). Currently, she serves as a board member of SCAPE\*, member of the Founder's Memorial Committee and member of the 80th OnePeople.sg Management Committee.

**ABSTRACT:** Why did a tuition centre for teenagers evolve into a creative agency, a restaurant and a corporate training business? How can educators become social innovators for their city? What does emotion and narrative have to do with helping a new generation become more responsible, resilient and relevant? Ask questions and swap insights from this open sharing of the journey of The Thought Collective.

### Mini Session 1C The Next Generation Library Experience



#### **Charlotte Gill**

Librarian, Singapore Institute of Technology, Singapore

Charlotte Gill is currently the University Librarian at Singapore Institute of Technology (SIT). Before joining SIT, she was at Singapore Management University (SMU) for 9 years where she served as Head, Law Library and Senior Research Librarian (Law). She holds a BA in Psychology, a Bachelor of Laws and an MSc in Information Science. She is interested in how libraries can shape the future of learning, in particular how the changing information landscape, new technology and pedagogy can come together to help shape the future of library services and space.

**ABSTRACT:** The session will explore how the library of the future can contribute to the applied learning experience, especially with ever expanding information frontiers. How do libraries look at the changing information landscape, new technology and evolving pedagogies to help shape the future of library services and space? What kind of experience should libraries be providing and how do they continue their mission to boldly go where no library has gone before?

### Mini Session 1D Innovative Learning: Pedagogy, Practice, & Environment



### **Jacque Allen**

Education Consultant, Cognition Education, NZ

As a consultant for Cognition Education specialising in the area of 'Innovative Learning', Jacque works with both schools and clusters of schools to transform learning and teaching. With extensive experience working across all year levels Jacque has experience across every curriculum area. Jacque regularly presents across Australasia to the education sector and provides a co-constructivist approach, enabling leaders and teachers to develop strategies for collaborative teaching, learner agency, and transforming learning spaces. Jacque is a current member of the Learning Environments New Zealand Chapter committee.

**ABSTRACT:** Whether in a flexible learning space or an existing single cell environment, this session will encourage rich discussion for the participants around the change management required for future focused learning. Participants will leave this seminar with an enhanced understanding of how to develop a cohesive change management strategy, to begin the process of implementing innovative learning for their leaders, teachers and learners. Delegates will:

- examine a change management model that enables all stakeholders including leaders, teachers, students and communities to be included in the process;
- explore the application of the future-orientated themes for learning and teaching;
- consider ways to consult with stakeholders to address concerns and promote a cohesive approach for the development of innovative learning in their context.

**Mini Session 2A** 

### A Different Class: Preschool Spaces Redefined



**Joshua Comaroff** 

Lekker Architects, Singapore

Joshua Comaroff is a Design Consultant with Lekker Architects. He was born in Manchester, UK, and raised in Chicago. Josh studied literature and creative writing at Amherst College before joining the Master of Architecture and Master of Landscape Architecture programs at Harvard University Graduate School of Design. Josh is interested in design research as well as practice; he has been awarded grants and scholarships including Harvard's Wheelwright Fellowship.

In 2009, Josh completed a PhD in cultural geography at UCLA, writing on the subject of haunted landscapes and urban memory in Singapore. He has published writing about architecture, urbanism, and politics, with an Asian focus.



### **Ong Ker-Shing**

Lekker Architects, Singapore

Ong Ker-Shing is a registered architect and Director of Lekker Architects. She was raised in Singapore and the UK. Shing attended Harvard University, completing three degrees: a B.A. in Fine Arts, as well as Masters in Architecture and Landscape Architecture (the latter two with distinction).

Shing relocated to Shanghai as a Wheelwright Fellow in 2002 to research the Art Deco housing of the French Concession. Excited by small-scale innovations occurring in socialized interiors, she documented residents' living spaces and personal histories. She has been practicing in Singapore since 2004.

**ABSTRACT:** What will the preschool of the future look like? The lead designers from Singapore's Lekker Architects will present a study commissioned by the Lien Foundation to design new architectural typologies for early learning on abandoned or under-utilized sites. They will discuss these new concepts, also, with respect to two recent schools completed on urban sites in Singapore: Caterpillar's Cove in Jurong, and the new inclusive Kindle Garden centre in Redhill.

### **Mini Session 2B**

### **Learning Experience Design (LED)**



#### **Teoh Swee Bing**

UXC, Singapore Polytechnic, Singapore

Teoh Swee Bing, Centre Manager from User Experience Centre of Singapore Polytechnic, received her Bachelor Degree in Architecture from the University of Newcastle, Australia. She practiced in the industry and taught in School of Architecture. Swee Bing was tasked to promote Learning Experience Design in 2012 to focus on delivering purposeful integration of desired learning culture and values into learning space design through application of Ethnographic Research and Design Thinking methodology, following a Co-Creation process. Swee Bing has successfully completed many projects and fostered a supportive and collaborative professional culture for both internal partners and external clients.

**ABSTRACT:** A meaningful learning experience enables learners to achieve the desired learning outcome in a human-centric and holistic environment. In this workshop session, you will gain some understanding of the design principles, process and tools that empower multiple stakeholders to collaborate with a design team to co-create the desired learning experience. You will also have a chance to work on a couple of simple exercises and view some new learning spaces in Singapore Polytechnic, which support our new pedagogical approach with meaningful integration of desired learning culture and values.

**Mini Session 2C** 

# Future of Academic Workspace: Designing Learning Environments for Medical Education and Research in Singapore



### **Tan Pheng Chee**

SVP, CPG Consultants, Singapore

Tan Pheng Chee has been involved in the design of medical learning environments for professionals and researchers as well as learning spaces for students from K-12. He is currently a Senior Vice President in CPG Consultants Pte Ltd.

**ABSTRACT:** The presentation examines the challenges relating to the design of learning environments for medical education and research in Singapore. Using references of medical schools and research facilities for students as well as professionals, the presentation identifies key considerations in the design of tertiary learning and research spaces.

### Mini Session 2D

# Interpreting and Exploring the Architectural Language of Contemporary Design in Education: An Australian Secondary School perspective of innovative learning environments



### **Dr Scott Alterator**

School of Education, La Trobe University, Victoria, Australia

Dr Scott Alterator is a lecturer in the School of Education, La Trobe University, Australia. His ongoing research includes the interaction between learning and environments, innovation in education, teacher adaptation and the developing skill-sets of teachers. His interest in leadership contexts has taken him to various parts of the world including Arnhem Land, USA, Japan, and New Zealand.



### **Dr Craig Deed**

Associate Professor School of Education, La Trobe University, Victoria, Australia

Dr Craig Deed is Associate Professor in the School of Education, La Trobe University, Australia. He has written extensively in the areas of agency in education, innovative pedagogy, and teacher education. Current research projects include the use of flexible learning spaces; new models of pre-service teacher education; and personalised learning.

**ABSTRACT:** This workshop explores the language of designers and educators in establishing the ongoing case for innovative learning environments. As innovation and technology assume increasing levels of importance in the early 21st century, we explore the role of education and architecture in ensuring these imperatives are addressed in schools. We draw on a 10-year program in one Australian town engaged in generating quality learning across 5 school sites through innovative learning environments. The school design and curriculum program aspire to embed learning that prepares students for a technologically driven future. Further, it seeks to generate skills of creative and critical thinking, and adaptation in an interconnected world.

In this workshop, we explore metaphors that serve the disciplines of education and architecture. In particular, we present relevant findings and insights from our close case studies framed by established metaphors in each field. The cases explore the educational interpretation of flexibility, openness, and place from the user's perspective. This encompasses teachers, students and leaders.

# PROGRAM

# Wednesday 12 July 2017

7.30 - 8.15am	Registrations	
8.15 - 8.30am	Guests be seated	
8.30 - 9.00am	Arrival of Guest-of-Honour, Dr Janil Puthucheary, Minister of State, Ministry of Education, followed by Cultural Performance 'Welcome to the Lion City'	
9.00 - 9.10am	Welcome speech by A4LE International Chair, Australasia Chair and Conference Chair	
9.10 - 9.30am	Opening by Guest-of-Honour	
9.30 - 10.30am	Opening Keynote: Education Making a Difference Bunker Roy and Meagan Fallone, Barefoot College	
10.30 - 11.00am	Refreshments with Trade Exhibitors	
	Keynote Forum: Re-imagining Learning in Future Asia	
11.00 - 11.30am	Peter Kenny, CEO, Reach Education, Hong Kong	
11.00 - 11.30am 11.30 - 12.00pm	Peter Kenny, CEO, Reach Education, Hong Kong  Professor Arnoud de Meyer, President, Singapore Management University, Singapore	
11.30 - 12.00pm	Professor Arnoud de Meyer, President, Singapore Management University, Singapore  Panel Discussion + Q&A Facilitator: Maxine McKew	
11.30 - 12.00pm 12.00 - 12.30pm	Professor Arnoud de Meyer, President, Singapore Management University, Singapore  Panel Discussion + Q&A Facilitator: Maxine McKew Panel: Professor Arnoud de Meyer, Peter Kenny, Bunker Roy and Meagan Fallone	
11.30 - 12.00pm 12.00 - 12.30pm 12.30 - 1.30pm	Professor Arnoud de Meyer, President, Singapore Management University, Singapore  Panel Discussion + Q&A Facilitator: Maxine McKew Panel: Professor Arnoud de Meyer, Peter Kenny, Bunker Roy and Meagan Fallone  Lunch with Trade Exhibitors	
11.30 - 12.00pm 12.00 - 12.30pm 12.30 - 1.30pm 1.30 - 5.00pm	Professor Arnoud de Meyer, President, Singapore Management University, Singapore  Panel Discussion + Q&A Facilitator: Maxine McKew Panel: Professor Arnoud de Meyer, Peter Kenny, Bunker Roy and Meagan Fallone  Lunch with Trade Exhibitors  Site Tours (14 tours to select from)	

# Thursday 13 July 2017

8.00 - 8.30am	LEA General Meeting	
	Thematic Forum 1A: Density and Urban Schools	Thematic Forum 1B: Learning Experience Transforming Lives
8.30 - 10.00am	Building More on Less: A Comparative Study of 3 Vertical Schools Wong Mun Summ, Director, WOHA Richard Leonard, Hayball Melbourne Deb O'Riley, Dept of Education, SA Adam Hannon, Cox Architects, SA Wayne Dixon, DesignInc, SA	Schools As Agents of Change Dr Faye D. Yung, Head of Education Div, Project Little Dream, Hong Kong  Mechai Bamboo School: A New Dawn in Rural Thai Education Mechai Viravaidya, Chairman, Mechai Viravaidya Foundation
10.00 - 10.30am	Panel Discussion + Q&A Facilitator: Prof Wong YunnChii (NUS)	Panel Discussion + Q&A Facilitator: Maxine McKew
10.30 - 11.00am	Refreshments wit	th Trade Exhibitors
	Thematic Forum 2A: Collaboration and Community	Thematic Forum 2B: Technology and Innovation
11.00 - 12.30pm	Collaborate: Bridging Academia & Industry  Tan Gan Hup, Associate Director, SMU-X, Singapore Management University  Maker Education: Linking Science, Technology, Art and Culture Veerappan Swaminathan, Director and Co-Founder, Sustainable Living Lab Pte Ltd	Future of Education Sector: Digital Disruption - Emerging Ideas and Innovations to Transform Education in a Smart Nation Adrian Lim, Director (Education, Sectoral Innovation Group) IMDA, Singapore  The Innovative Learning Environment and Teacher Change Project (ILETC): What are we learning? Ben Cleveland Dr Marian Mahat Chris Bradbeer Assoc Prof Wesley Imms  Disrupting Class with CLaaS Leslie Loh, Entrepreneur and CEO, Lithan
12.30 - 1.00pm	Panel Discussion + Q&A Facilitator: Prof Erwin Viray, SUTD	Panel Discussion + Q&A Facilitator: Maxine McKew
1.00 - 2.00pm	Lunch with Tr	rade Exhibitors

### 2.00 - 3.00pm

### **Mini Session 1A**

### Presentation: Case Study: A High-Rise School in

**Sydney** 

Rob Fraser, Director, Property and Facilities Management, DEC, NSW. Australia

#### **Mini Session 1B**

# **Panel Discussion: Global Citizenship**Crystal Lim Leahy,

Director, Future-Ready Graduates, NUS + Kuik Shiao Yin,

Co-Founder, The Thought Collective, Singapore

Chair: Maxine McKew

#### **Mini Session 1C**

# Presentation: The Next Generation

**Library Experience**Charlotte Gill, Librarian,
Singapore Institute of
Technology

#### **Mini Session 1D**

### Workshop:

### Innovative Learning: pedagogy, Practice & Environment

Jacque Allen Education Consultant, Cognition Education, N7

### 3.00 - 3.30pm

### Afternoon Tea with Trade Exhibitors

#### 3.30 - 4.30pm

### **Mini Session 2A**

# Workshop: A Different Class: Preschool Spaces Redefined

Ong Ker-Shing and Joshua Comaroff, Lekker Architects, Singapore

### **Mini Session 2B**

### Workshop: Learning Experience Design (LED)

Teoh Swee Bing, UXC, Singapore Polytechnic, Singapore

### **Mini Session 2C**

### Presentation: Future of Academic Workspace

Tan Pheng Chee, SVP, CPG Consultants Pte Ltd, Singapore

### **Mini Session 2D**

### Workshop:

Interpreting and Exploring the Architectural Language of Contemporary

### **Design in Education**

Dr Scott Alterator and Associate Professor Craig Deed, La Trobe University, Australia

4.30 - 6.00pm

Pre-Dinner access to the Flower Dome (complimentary with Dinner ticket)

6.00 - 10.00pm

Conference Dinner and Awards Presentation

# Friday 14 July 2017

9.00 - 9.45am	<b>SkillsFuture - An Integrated Ecosystem for Learning and Innovation</b> Dr Gog Soon Joo, Chief Research Officer, SkillsFuture Singapore	
9.45 - 10.30am	<b>Technology Disruptions and The Future of Skills, Work and Learning</b> Ayesha Khanna, CEO of ADDO	
10.30 - 11.00am	Refreshments with Trade Exhibitors	
11.00 - 12.00pm	<b>'School in The Cloud'</b> Sugata Mitra, Professor of Educational Technology at the School of Education, Communication and Language Sciences at Newcastle University, England	
12.00 - 12.30pm	Panel Discussion + Q&A Facilitator: Maxine McKew Panel: Dr Gog Soon Joo Ayesha Khanna Sugata Mitra	
12.30 - 12.50pm	Introduction to Learning Environments Australasia's 18th Annual Conference in 2018 and an update on the 2018 Mayfield Project	
12.50 - 1.00pm	Conference Closing Address	

# LEA LIST OF SITE TOURS

TOUR 1	Nanyang Technological University (NTU) – Learning Hub (The Hive)  Nanyang Technological University (NTU) – School of Art Design and Media
TOUR 2	National University of Singapore (NUS) – University Town  Yale – NUS College Campus
TOUR 3	Caterpillar's Cove Kindle Garden
TOUR 4	GSK Asia House
TOUR 5	The Academia Yong Loo Lin School of Medicine
TOUR 6	Learning Experience Design, Singapore Polytechnic
TOUR 7	Singapore Management University (SMU) – School of Law & Li Ka Shing Library
TOUR 8	Trehaus Co-Work library@orchard
TOUR 9	Singapore University of Technology and Design (SUTD)
TOUR 10	United World College, South East Asia (UWCSEA) Glocal Connect Village, Temasek Polytechnic
TOUR 11	Enabling Village Lifelong Learning Institute
TOUR 12	GEMS World Academy Singapore American School
TOUR 13	West Spring Primary School  Crest Secondary School
TOUR 14	Sungei Buloh Wetland Reserve  Wallace Environmental Learning Lab (WELL)

TOUR 1 Site 1

# Nanyang Technological University (NTU) – Learning Hub (The Hive)







Open for classes in August 2105, The Hive at NTU represents the most recent example of NTU's transformation of the built environment in terms of student learning. Since 2010, NTU has converted all its front-facing tutorial rooms to collaborative, technology-rich learning spaces. The classrooms at The Hive draw on the model of these converted rooms, but overall, the building adds a number of new features. Importantly, The Hive is open 24/7. Students can use the classrooms at any time they are available by using their access cards. Furthermore, The Hive was built so that no two classrooms are joined together and there are informal learning spaces between each of the rooms and around the atrium areas. Integrating formal and informal learning spaces has been a key to The Hive. It also contains a Library Outpost, Language and Communications drop-in centre, a small lecture theatre and a student run café and shop. The Hive is spectacular in its appearance as well as providing more than 50 new innovative classrooms.

This site visit is proudly sponsored by





TOUR 1 Site 2

# Nanyang Technological University (NTU) – School of Art, Design and Media





Over the last 10 years, Nanyang Technological University's School of Art, Design and Media (ADM) has established itself as one of Singapore's most creative centres of tertiary education. Underneath the building's distinctive, sloping grass roof you will discover five floors of highly equipped classrooms, auditoriums, studios, darkrooms and digital media labs where those who are curious and passionate about the arts can explore, play, learn and create. The school sits is a wooded valley which was supposed to be left as a green lung. In order to keep to the original intention of the master plan, a habitat was carved out from the constraints of the valley and thus allowing the landscape to mould the building. NTU-ADM is the creation of a "non-building", allowing the original greenery of the site to creep and colonise.

The key feature of the building is its transparency and connectivity - both within the interior spaces and the external environment. There is a great sense of continuity in the interior, from the entrance to the main foyer to various spaces inside and right into the turfed roofs. Internal glass walls enhance this visual connectivity and flow, allowing one to see beyond rooms thus promoting interaction and creative exchange. The building design challenges the traditional linear system of education with a clear teacher-student arrangement. Here, different types of spaces are created - from the formal auditorium seating to the more informal studios, lobbies, passageways and breakout lounges. Cosy outdoor corners and a sunken plaza is formed by the embracing arms of the building and the turfed roofs.

TOUR 2 Site 1

# National University of Singapore (NUS) – University Town (UTown)







National University of Singapore (NUS) University Town®, or UTown® for short, is a 19 hectare mixed-use residential, sports, educational and research where undergraduate and graduate students, staff and researchers work, live, learn and play, nestled within a lush tropical landscape. Strategically integrated with the Kent Ridge Campus via a vehicle and pedestrian bridge, UTown has created a lively intellectual, social and cultural environment that distinguishes the University through excellence in learning and student engagement.

Leading the charge towards environmental sustainability, UTown was the first educational institution to be awarded the Green Mark District GoldPLUS Certification in Oct 2009. Specially built around existing trees, the Education Resource Centre was awarded the Building and Construction Authority of Singapore's Green Mark Platinum. Similarly, the Stephen Riady Centre was awarded the Green Mark Platinum, the UTown Residence received the Green Mark Gold Plus while the first two residential colleges, Cinnamon College (USP) and Tembusu College, were awarded the Green Mark Gold.

TOUR 2 Site 2

# **Yale-NUS College Campus**



The Yale-NUS College Campus is the first liberal art college in Singapore involving collaboration of National University of Singapore and Yale University. Sprawling over a 4.6ha undulating site, the campus is planned as interlocking courtyards around the Campus Green centred on 6 heritage trees. 5 residential dormitories towers of different heights (varying from 15 to 28 storeys) punctuate the roof scape to form a distinctive skyline.

The Yale-NUS College Campus is designed with a unique architecture that reflects the traditions of Singapore and Yale University. Adapting New Haven's low-rise student residences to Singapore's high rise tropical environment, the development achieves high density with low rise environment with a sense of place that reflects the campus' Singaporean context, climate and culture. The campus features a series of interlocking courtyards of varying sizes, each resembling closely the collegiate courtyards in New Haven. The landscape is organised around the concept of an arboretum (or "learning garden") where each courtyards is grouped according to themes such as ecological, historical and cultural.

The campus is planned with human scale and the need to create a sense of community and intimacy. The nested communities from the student suites, student neighbourhood, to the college, to the entire campus community layered themselves on campus architecture at different scales.

TOUR 3 Site 1

# **Caterpillar's Cove**



The Caterpillar's Cove @Jurong East was intended as the first of a new generation of preschools in Singapore. It arises from the belief that design can do much more to serve young children—that our youngest have a right to environments that will arouse their imagination and creativity. It was funded by the Lien Foundation in the belief that Singapore may become a centre of excellence in early childhood education, giving rise to spaces that will equal the quality of our teachers and curricula. This was the belief of our clients, NTUC First Campus, and the school's director, Ms. Geraldine Teo-Zuzarte.

As with many Singaporean pre-schools, however, Cove 2 was sited within a somewhat generic office space, lacking many of the elements one would expect in a vibrant or attractive educational setting. To create a sense of place, the designers at Lekker Architects returned to the classic image of the schoolhouse—actually re-constructing one within the neutral column-field of the office unit. Teachers' offices and infant care rooms were imagined as the interior of this little building-within-a-building, set in a loose arrangement of windows and gables. The space around the "house" becomes something like a schoolyard: four open-planned learning zones set under columns re-cast to resemble trees. Overhead, a drifting curvilinear trellis conceals services and evokes a sheltering bank of cloud.

Within this "schoolyard" there are a number of innovations. All furniture was custom designed, to support the teaching philosophy of Cove 2 and to promote the ergonomic needs of the students. Tables and benches were manufactured at incremental sizes, so that students of different ages and stages could use them comfortably. In addition to conventional classroom furniture, seating was re-imagined as a collection of soft topographical forms, rather than conventional chairs—allowing students to occupy them in a broad range of ways. Because the windows of the original office unit are positioned above a child's eye-level, a periscope was developed that allows the students to look out. An observation booth (for trainee teachers) is designed as a timber garden shed, and can be used by children who desire a quiet moment or an intimate space to retreat.

The design program of Cove 2 continues to the outside, as the unit extends to a small covered exterior space. This area was not well suited for a conventional playground, and was re-considered as a series of micro-environments for imaginative play. The team created a set of follies, suggesting storybook themes in a highly abstract design language of form and colour. There is a tiny house, which alternately resembles a factory, a theatre, and a crocodile. There is a winding river of sand, and a shelter in the woods. There is also a range of conical "hills"—a hybrid of Aldo Rossi and "Yellow Submarine"—that can be climbed. Topographical seats and stairs extend the formal theme of the interior to the outside. Additionally, a lush perimeter garden of native plant species forms a jungle-y backdrop for play.

TOUR 3 Site 2

## Kindle Garden



Kindle Garden is Singapore's first inclusive preschool, built at the SGEnable campus in Redhill for a student body of 40% disabled children. "Disabled," in this case, included ASD, hearing and visual impairments, Down Syndrome, and motor-neuron diseases. The interior architecture was based upon research into best design practices for these conditions—in terms of spatial environments, furniture, and therapeutic needs. By necessity, this extended to investigations of the impact of colour and pattern, materiality, and visual cues to the comfort and enrichment of children with disabilities generally. This work was interesting, and challenging, because few publications exist which describe sensory triggers for this population. That is, we have little understanding as to how well (or poorly) existing architecture serves them.

The Kindle Garden classroom spaces are partially enclosed, and are defined by a dominant colour. To keep the environment visually calm, a mini-spectrum (within each colour) was created, so that variation could still exist. All therapeutic devices have been redesigned to resemble play elements—in order to erase the stigma associated with disability, and create an environment that all students will find comfortable. Soothing experiences, in the form of swings and hammocks, are found at the edges of principal spaces. Areas for moments of aggression and anxiety have been redesigned, also, without stigma. In contrast to the conventional "padded room" model, these are simply nest-like partial enclosures at the edges of the classrooms, with a restricted visual palette and soft materials to prevent self-harm.

The Kindle Garden school faced much skepticism and opposition during the planning and design process, but opened to a long waiting list of parents of both special-needs and typically developing children.

# **TOUR 4**

## **GSK Asia House**





GSK Asia House is designed to achieve a Greenmark Platinum rating with key features including a high performance façade that uniquely responds to the Singapore climate, under floor air displacement system throughout the open plan floor plates, an activated roof-deck, cascading landscaped sky terraces, energy efficient fixtures and fittings, storm water recycling for the whole site including the refurbished heritage bungalows that will be integrated into GSK's new Asia headquarters based in Singapore.

GSK's vision is for a human-centric workplace to encourage knowledge transfer. The development will be a beacon for GSK and its focus on Asia, empowering its people to work in a more connected way both locally and globally.

Sited within a landscaped public realm, the distinctive building has been designed with tiered horseshoe-shaped floors wrapping around a central atrium. Its various features work together to activate visual and physical interaction across the workplace.

TOUR 5 Site 1

# The Academia, Singapore General Hospital (SGH)







Strategically sited in Singapore General Hospital (SGH) campus, The Academia is about the creation of communities of collaboration and continuous learning.

Pathology and Research are expressed vertically in two towers (Diagnostic and Discovery) while Education connects horizontally at lower levels. Office for the medical faculty is placed between Education and Pathology and Research Towers. This stacking and co-location of disparate programmatic elements is intended to create synergies not previously possible when the elements are distributed across the campus. Spaces that encourage interaction between all healthcare professionals, researchers, educators and students are the main palette in the architectural design.

TOUR 5 Site 2

# Yong Loo Lin School of Medicine, National University of Singapore (NUS)









Yong Loo Lin School of Medicine is the second part of an expansion and modernisation of the National University of Singapore's (NUS) School of Medicine and School of Nursing facilities. Yong Loo Lin School of Medicine, containing both laboratory and teaching spaces, is the centrepiece of the Yong Loo Lin project. The design expresses the integrated and collaborative nature of teaching and research. The incorporation of engineering requirements and the accommodation of a variety of temporary and long-term site constraints influenced both the internal and exterior form.

Structural design considerations, in particular, have shaped the south side of the project. The concrete structure has been developed to emphasise buildability, and to shape the columns to maximise the utility of the space. MEP equipment is located at basement level, a mid-height mechanical floor and in the rooftop penthouses. Air handling units are divided between 100% fresh outside air for laboratories and re-circulating systems for public spaces. Sustainability analyses have significantly influenced the design of both the exterior envelope and environmental control equipment for the educational and research spaces.

### TOUR 6

# Learning Experience Design, Singapore Polytechnic





A meaningful learning experience enables learners to achieve the desired learning outcome in a human-centric and holistic environment.

In this workshop session, you will gain some understanding of the holistic design principles, process and tools that empower multiple stakeholders to collaborate with our design team to co-create the desired learning experience for learners in Singapore Polytechnic.

You will also get a taste of Design Thinking methodology in space design through a couple of simple exercises, followed by a learning tour to view selected learning spaces in our campus. These selected learning spaces were designed through collaborative efforts of our staff and students to support our new pedagogical approach, with meaningful integration of desired learning culture and values.

### TOUR 7

# Singapore Management University (SMU) – School of Law and Li Ka Shing Library



Singapore Management University (SMU) is a city campus situated in the heart of Singapore's civic, cultural and business district. The SMU School of Law (SOL) building is a new facility completed in Dec 2016. A central component of the SOL building is its Law Library, named the Kwa Geok Choo Law Library. Other key features include a 1400-seater Flexi-Theatre, teaching and learning facilities (seminar rooms, classrooms, lecture theatres etc.), the David Marshall Moot Court, a Pro-bono Centre as well as Research Centres. A key design challenge is to ensure seamless integration of the facility with its city context and park setting. The SOL building is designed to be a distinctive landmark with a strong civic presence and a symbol for inspirational learning. The building is seen as a campus connector, with future connections to adjacent safeguarded plots planned for, to ensure a connected campus as the University expands in the future.

The SMU Li Ka Shing Library underwent a major revamp and refurbishment exercise (completed in 2015) to create a dynamic, flexible, innovative library/learning space for SMU community that is in line with SMU's learning and teaching pedagogy. Besides incorporating the know-how of architects and interior designers with expertise in learning space design, the University also engaged students and faculty in focus groups, interviews and surveys to understand their current and future needs. A number of new innovative learning spaces were created as a result, including a Learning Commons (a 24/7 learning space for individual and group study), Learning Labs, an Investment Studio (equipped with high-end financial databases), HIVE (a multi-purpose event, workshop and study space), a new Graduate Lounge and 38 project rooms. All these facilities are equipped with innovative technologies and flexible seating to facilitate active learning.

TOUR 8 Site 1

### **Trehaus**



Trehaus, Singapore's first co-working space equipped with child- minding and learning facilities opens in the Orchard district at Claymore Connect. Founded by working mothers Rachel Teo, Tjin Lee, Elaine Kim and educator Elizabeth Wu, the facility aims to change the landscape for working parents in Singapore by providing an environment where quality work and family life can co-exist.

Spanning a total area of 4000 sq ft, Trehaus is divided into two areas – the Workspace and Kids' Atelier. The Workspace offers private offices, semi-private dedicated desk and a common co-work space while the Kids' Atelier is an open concept space that is outfitted with child-minding services and the option of lessons and programmes for children. The space is also divided into adults-only zones and common zones that include the pantry where parents and children can come together.

Rachel Teo, co-founder of Trehaus says, "There are so many of us who had to make the tough decision of leaving the workforce or struggle to be a business owner when we become a parent because the traditional work arrangements could not support the need to fulfil family commitments. There is a gap where working parents can be further supported and Trehaus hopes to fill this gap by providing a space whereby we can build our careers and businesses with a peace of mind with our children close by. We hope that Trehaus is a start to educating employers and employees that a flexible work-life arrangement can be productive, efficient and definitely beneficial to the workforce in the long run."

Trehaus is designed not only to facilitate conducive and productive work for the parents, but also to encourage workplace collaboration and community engagement amongst them. No matter whether you are an entrepreneur, a freelancer or an employee from corporate offices with flexible work scheme, Trehaus provides the opportunity to network with like-minded individuals and a platform to exchange ideas, share services and build businesses. With the option of bringing children to a work place complete with child-minding assistance and play- based learning activities, working parents can now build their careers, while their little ones build their minds.

TOUR 8 Site 2

## library@orchard



library@orchard is a Design, Lifestyle and Applied Arts library. Built around the tagline, Design is for Everyone, library@orchard is the first public library in Singapore conceptualised using Design Thinking in partnership with Singapore Polytechnic. Through prototyping and public consultation with library- and non-library users, library@orchard became a library developed with users, for users.

Inspired by the concept of a 'Wonderland', the library environment is a 'rabbit hole' of experiences that help expand ideas about design by making people look and think differently, while re-defining the library beyond its traditional roles. Featuring specially crafted spaces, curated collection and themed programmes, library@orchard also speaks design in an everyday language that is engaging and informative to design professionals and those curious about design. In these spaces, library visitors can 'learn and discover' print to digital and visual resources; create user content, 'engage' and share with others; and 'escape' into other creative realities and expression.

### TOUR 9

# Singapore University of Technology and Design (SUTD)



To foster SUTD's innovative curriculum, the master plan puts forth a bold and visionary road map for the campus. Multi-functional and interconnected academic buildings, anchored by the Design Centre and woven together by an outdoor pedestrian network, fosters collaboration, invention and creativity. Student life facilities, housing and recreational buildings are integrated in mixed-use precincts and connected through open spaces, plazas and covered canopies.

Sustainable design plays a large role in campus development, through building orientation, building systems, pedestrian and transit access, stormwater management and landscaping. This results in a campus that has a strong sense of identity, supports a vibrant community and demonstrates a commitment to engaged learning and student development.

TOUR 10 Site 1

# **United World College, South East Asia (UWCSEA)**







UWC South East Asia (UWCSEA) is a mission-driven international school with a passionate belief in the importance of education as a force for good in the world. The K–12 curriculum leads to the IB Diploma by integrating five elements—academics, activities, outdoor education, personal and social education, and service—into an holistic programme that supports each student's individual development.

Part of the global UWC movement, UWCSEA is one 17 schools and colleges worldwide that bring together students from all over the world to foster peace, intercultural understanding and a sustainable future.

The College enrols 5,500 day and boarding students from over 90 countries on two campuses in Singapore making it the largest international school in the world. Both campuses have been awarded Greenmark Platinum, the highest 'green building' award available in Singapore along with other awards for universal design and energy efficiency. The East campus currently has one of the lowest energy intensities of institutional buildings in Singapore.

www.uwcsea.edu.sg

TOUR 10 Site 2

# **Glocal Connect Village**





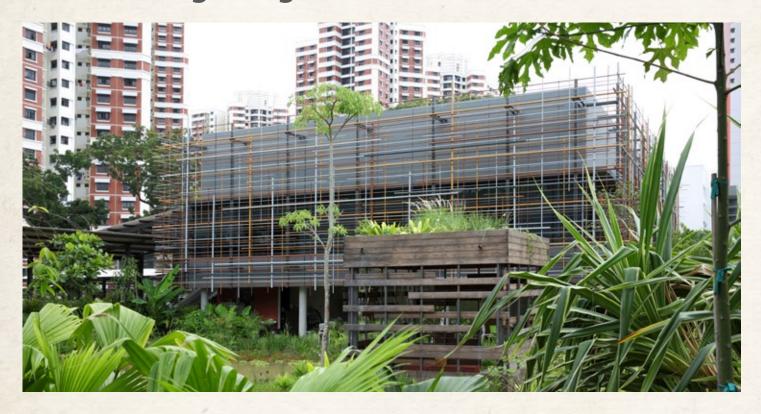
The Glocal Connect Village (GCV) was launched by Prime Minister Lee Hsien Loong on 23 November 2012 as an icon of Temasek Polytechnic's internationalisation strategy.

The aim of GCV is to stimulate among local students and community members a global mindset, provide global experience, foster global partnerships, and promote the global branding of the institution.

The GCV is a physical 'connecting place' for Temasek Polytechnic staff and students, as well as local and international partners. This is where the world comes to TP and TP goes out to the world. The GCV has a portal that serves as a platform for performances and interactions, an Art Gallery, a Multimedia Lab for students to learn foreign languages and cultures, and classrooms. In addition, it has fifty residential learning spaces for students who take the subject Transnational Studies. GCV can also accommodate international exchange programmes.

TOUR 11 Site 1

# **The Enabling Village**



The Enabling Village is an integrated community space that represents a fresh approach to social businesses and community building. It combines retail, lifestyle, and training and employment for persons with disabilities and the public in an all-accessible public space. The goal is to make the Enabling Village a place where people with different abilities can move independently; where they can feel accepted for who they are, and be valued for their contributions.

TOUR 11 Site 2

# **Lifelong Learning Institute**



The Lifelong Learning Institute (LLI) is one of two Continuing Education and Training (CET) campuses set up by SkillsFuture Singapore (SSG) to serve as a gateway to deliver integrated and effective skills upgrading for both workers and employers. The institute houses a community of best-in-class CET providers that offers quality adult training which encompasses both generic soft skills and industry skills training. LLI also offers a suite of career and learning resources through service touchpoints such as Lifelong Learning Exploration Centre, the LLiBrary, Centre for Employability Skills and WSG Career Centre. The guided LLI tour will provide you an insight of Singapore's first Adult training campus; as well as visits to some of these service touch-points. For more information about LLI, visit **www.lli.sg**.

TOUR 12 Site 1

### **Gems World Academy Singapore**



Gems World Academy Singapore is an education facility with a focus on setting children up to be successful global citizens. The learning environment is a mix of diversity in cultures and people - an inspirational, exciting, and welcoming campus located in Yishun New Town Singapore. This vibrant campus facilitates 21st century learning, and the campus is designed as a multi-platform space for Creativity and Innovation, inspiring and moulding thinkers and leaders of the future. The defining theme for the architectural vision for the campus is "Learning in a Tropical Paradise", complimenting Singapore's vision as a 'City in a Garden'. The whole campus has been designed to operate with interconnectivity in mind. The Forest Way has been created as a green corridor to connect each school along a major circulation spine from the main entrance to other facilities that string along this corridor, including the elevated sports pitch. Using the analogy of a Tropical Rainforest, different levels of the school are identified as forest layers to create datum points for the campus to connect the all facilities at various levels, creating a seamless, connected and integrated campus. The design of the campus is unique and provides innovative solutions to maximize land and resources while maintaining a strong image consistent with the philosophies of GEMS which aims at encouraging learning through exploration, experiment and discovery.

TOUR 12 Site 2

# **Singapore American School**



In a culture of excellence, extraordinary care, and possibilities, Singapore American School students learn to think critically and develop the skills necessary to succeed throughout their lives.

The SAS curriculum engages students through American ideals of exploration, risk-taking, innovation, creativity, and excellence. Students direct their learning process, pace, and progress through an increasing focus on inquiry, project-based learning, and an emphasis on social-emotional learning.

The school has 375 faculty and invests heavily in professional development. State-of-the-art facilities on a tropical 36-acre campus include makerspaces, music recording, video production, robotics, art, and photography studios to assist students in their pursuit of passion.

TOUR 13 Site 1

### **West Spring Primary School**







The project challenge was to create spaces within the built environment that continually stimulate students' curiosity in mathematics, arts and culture, linguistics and sports; to create FUN spaces to keep young minds captivated and to promote lifelong learning.

Primary schools in Singapore are going through an important change in pedagogy. As Ministry of Education of Singapore's curriculum changes to more experiential 'hands on' learning, the infrastructure for schools has to evolve and fulfill the MOE's Vision and the Primary Education Review and Implementation (PERI) Report released in January 2009.

This pilot project not only seeks to ensure the school has a unique identity but advances four areas of design; Flexibility in Learning Spaces, Co-Sharing of Facilities, Optimising Land Use and Environmentally Sustainable Initiatives.

With the completion of the project, MOE not only has a school that is in line with current issues like land use and sustainability but also a platform that matches it's changing curriculum to advance learning in Primary school education.

TOUR 13 Site 2

# **Crest Secondary School**





This new specialised secondary school is set up by the Ministry of Education Singapore for (Normal Technical) students to further enhance the quality of students' learning experience. The project calls for retrofitting of an existing secondary school and building of a new Indoor Sports Hall (ISH) to house 900 students with an estimated Gross Floor Area (GFA) of 23,000sqm.

The new Student Galleria serves as the main axis for the new school incorporating life learning experience & physical preparation to face the real world. Group activity & interaction is the main focus to strengthen the character of the student through the design of the interesting space along the axis.

A more informal Garden Walk was introduced as a meandering circulation path linking the academic blocks, connecting the school seamlessly while reducing travelling time.

TOUR 14 Site 1

### **Sungei Buloh Wetland Reserve**



#### An Ecological Jewel | Rich Biodiversity of Wildlife

Sungei Buloh Wetland Reserve being Singapore's first ASEAN Heritage Park and one of the two first Nature Reserves to be gazetted, boosts an intricate ecosystem and a variety of flora fauna residing amongst the Mangroves Mudflats & Wetlands. In recognition of its intrinsic richness of ecology and learning opportunities, the design brief calls for a new Masterplan to redevelop Sungei Buloh Wetland Reserve, with the extension of a new 31 hectare Sungei Buloh Wetland Reserve, formerly known as the Kranji Trail, to strengthen biodiversity conservation and enhancing its status as a premier Outdoor Education Learning Park and Research Centre. The extension is a development by National Parks Board (NParks) Singapore.

#### **Orchestrating Varying Wetland Experiences & Encounters**

A network of three new nature trails provides a 1.65km of experiential encounter with nature, comprising of several walking routes designed at different planes and heights for visitors to experience different niches within the Reserve, ranging from mangroves, river edges to freshwater ponds. The 120m long elevated Mid-Canopy Boardwalk immerses visitors in the understory of the secondary forest and observation pods located at various vantage points offer visitors different perspectives of the Wetland Reserve.

#### "Touching the Earth lightly"

Intended to be the formal gateway to the Sungei Buloh Wetland Extension with minimal interventions to the ground, a new Visitor Center is articulated as a series of pavilion roofs reduced to simple inclined planes with walls that frames the inherent greenery backdrop amidst the thick secondary forest. "Enclosures" exist as unobtrusive elements co-existing with the mature vast greeneries. Sensitivity in the design of the development is also demonstrated from the commencement of the design to the completion of construction such as the adoption of Environmental Impact Assessment, Biodiversity Impact Assessment and implementation of the Environmental Management and Monitoring Plan.

TOUR 14 Site 2

# **Wallace Environmental Learning Laboratory (WELL)**





#### **Background**

The Wallace Environmental Learning Laboratory, WELL, is part of the Wallace Education Centre in Dairy Farm Nature Park. WELL is named after Dr Alfred Russell Wallace (1823 – 1913), an English naturalist, evolutionist, anthropologist, social critic, theorist and author of the classic travel book The Malay Archipelago. Wallace came to Singapore on 20 April 1854 to study the island's natural history and collect specimens.

In 1929 Cold Storage acquired 60 acres of land in Bukit Timah, converted it into a dairy farm with the Friesian cows from Europe, and began production of fresh milk for the local population. It was only natural that the place be called Dairy Farm. Two Dairy Farm cowsheds have remained to this day. The area in which they lie, mostly untouched by modernization, still teems with biodiversity and possesses a heritage of national and ecological significance. These buildings have been refurbished, one of them turned into the Interpretive Centre, run by NParks, and the other into the Wallace Environmental Learning Laboratory, or WELL.

#### **Objectives of WELL**

WELL, established by Raffles Girls' School and NParks, sponsored by GlaxoSmithKline and supported by the Economic Development Board (EDB), is the first outdoor environmental learning laboratory in Singapore. WELL is developed with the objective of promoting environmental education through fieldwork; in parallel with environmental education, many other interdisciplinary learning opportunities are also afforded through WELL, which is a one-stop learning centre for scientific research, national education, community service, teacher training and international exchange.

#### **Facilities & Technology Enabling at WELL**

WELL's design concept is to use sustainable materials for a laboratory set up that allows flexible usage. It is divided into 3 zones; the audio-visual-library corner, display entrance and learning laboratory area. The lab is stocked with equipment and materials including binoculars, microscopes, electronic data loggers, lab apparatus, implements for fieldwork and survey, and a library of books on natural history, botany, and biology. Technological innovations can be used to promote environmental education through the cooperation of teachers and scientists.

### **TOUR 14**

#### **Partnership with Schools and Institutions**

WELL is available for partner participating schools to run their own programmes. This will provide more opportunities for RGS and partner schools to work closer together on programmes, community service or other research projects.

WELL will also provide professional development to equip educators with competency in fieldwork, equipment handling and care for the environment. Formal programme and curriculum development training on-site is needed to equip educators in the proper delivery of field studies and research programmes.

Further, RGS has founded a WELL Community of Teachers (WELLCOT) and will share all training and consultancy for field studies with WELLCOT. WELLCOT, a community of interested educators drawn from different primary and secondary schools, MOE HQ and NIE, is conceived for the purpose of meeting the outcome to ensure WELL can fulfil its objective on a sustainable basis. At present, 23 schools are members of WELLCOT. The team comprises educators from the various disciplines: Geography, History, Biology, Lower Secondary Science and Primary Science.

### **NETWORKING DRINKS (Cost included in Full Registration)**

**Venue** Hibiscus Room Trade Hall, Level 3,

Sands Expo and Convention Centre

**Date** Wednesday 12 July 2017

**Time** 5.00pm – 6.30pm

Dress Smart Casual
Guest Ticket \$80.00 AUD

**Provided** Drinks and substantial canapes







### **CONFERENCE DINNER (This function is an additional cost)**

**Venue** Flower Dome, Gardens by the Bay

 Date
 Thursday 13 July 2017

 Time
 6.30pm - 10.30pm

**Dress** Lounge suit / evening wear

Delegate Ticket \$75.00 AUD
Guest Ticket \$150.00 AUD

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#### **GENERAL INFORMATION**

#### **Marina Bay Sands**

10 Bayfront Ave, Singapore 018956 +65 6688 8868

Marina Bay Sands is a magnificent destination for entertainment, business and shopping, delivering once-in-a-lifetime experiences. This landmark building is situated in the heart of Singapore's central business district. With a luxury hotel, state-of-the art convention and exhibition facilities, theatres, and some of the best shopping and dining in the region, this is the place to go for world-class entertainment.

The three hotel towers are crowned by the Sands SkyPark® on the 57th storey, which offers a 360-degree view of Singapore's skyline. This one-hectare sky oasis will feature lush greenery, beautifully sculptured gardens, restaurants and even an infinity pool. There's no greater feeling than standing at the top of the world.

You can explore the ArtScience Museum at Marina Bay Sands - just look for the boldly iconic lotus-inspired building that is home to the highly raved exhibition, FUTURE WORLD: Where Art Meets Science. The museum also hosts blockbuster touring exhibitions that explore creative processes at the heart of art, science, technology and culture such as Titanic: The Artifact Exhibition, Andy Warhol: 15 Minutes Eternal, Collider and more. The Marina Bay Sands integrated resort is going to be a city within a city, offering a vibrant collage of entertainment and lifestyle choices.



#### INTERNET

Free WiFi is available in your Hotel Room and also at the Exhibition and Convention Centre

#### **PARKING**

There are three car park entry points at Marina Bay Sands:

- South Entrance on Bayfront Link (Recommended)
- North Entrance on Bayfront Avenue
- Entrance at Hotel Tower 3

#### **SELF-PARKING INFORMATION**

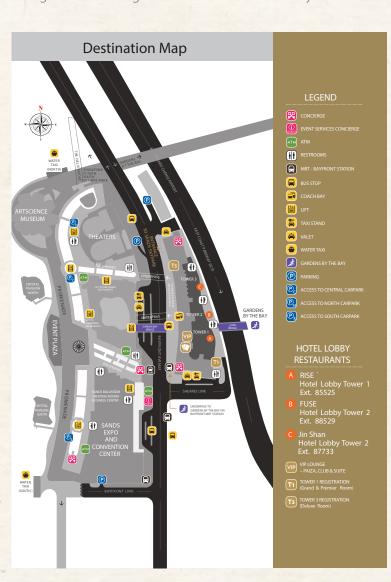
- 7am 7pm, Monday to Friday: S\$7 for first hour and S\$1 for every subsequent half hour
- 7am 7pm, Saturday & Sunday, eve of public holiday & public holiday: \$\$8 for first hour and \$\$1 for every subsequent half hour
- 7pm 7am, Monday to Thursday: S\$7 flat rate
- 7pm 7am, Friday to Sunday, eve of public holiday &
- public holiday: S\$8 flat rate
- Max charge: S\$26 per 24 hours

For in-house Hotel guests: S\$12 per 24 hours (multiple entries allowed)

 For in-house Hotel guests: \$\$8 per 24 hours via coupon (Guests are advised to purchase from Hotel Valet Counter)

#### **VALET PARKING RATES**

 7am - 7pm: \$\$12 for 1st hour and \$\$1 for every subsequent half hour



- 7pm 7am: S\$12 per entry
- · Max charge: S\$26 per 24 hour

Valet Parking is available at Hotel Tower 1 and Casino Driveway, accessible to cars only.

#### **MOTORCYCLES**

Please note that motorcycle parking is not available at Marina Bay Sands.

http://www.marinabaysands.com/company-information/directions-to-marina-bay-sands.html#H5eBxJHMrctAXZF9.97

#### **AIRPORT TRANSFERS**

Taxi from Changi Airport, will take 20-minute along the East Coast Parkway (ECP) expressway. Most Singaporean taxi drivers know the different landmarks of Marina Bay Sands by name, so you can give instructions such as "Take me to Marina Bay Sands, Hotel Tower 1 entrance" to get to the venue.

#### **PUBLIC TRANSPORT IN SINGAPORE - MRT**

Tourist day passes are available for traveling on Singapore's basic bus services, MRT and LRT trains http://www.thesingaporetouristpass.com.sg/ or http://www.yoursingapore.com/travel-guide-tips/getting-around.html

Circle Line (by foot): Exit at **Promenade MRT Station** and take a 10-minute walk from the station to **Bayfront Avenue** via the pedestrian footpath adjacent to the public road.

Circle Line (by bus): Exit at **Promenade MRT Station** and board the public buses (**SBS 133, SBS 97, SBS 97e, SMRT 106**) from bus stop along **Temasek Ave** outside the station.



#### Marina Bay Sands offers guests direct airport transfer.

Cost will vary depending on size of vehicle needed Contact us to make your booking via any of the following:

- Telephone: +65 6688 8868
- Email: Room.Reservations@MarinaBaySands.com
- Hotel Concierge: Located at Hotel Tower 1 from 7:00am to 11:00pm daily

There are many amazing things to do in Singapore during your stay to find out information on these please visit

#### http://www.yoursingapore.com/en au.html

#### **WEATHER**

The southwest monsoon season continues into July in Singapore, with steady rainfall amounts. The average daily temperature sitting at 27°C (about 81°F). If you don't mind dodging a few afternoon and evening thunderstorms, this is a great time of the year.

#### WHAT TO WEAR?

Dress for the conference is **smart casual**. Dress for the Conference Dinner is **lounge suit / evening wear**.

#### **DIETARY REQUIREMENTS**

All dietary requirements can be catered for if ordered in advance. Please include any special dietary requests you may have on your registration form. It would be helpful to make yourself known to catering staff during the Conference if you have special dietary needs. Please look for the table signage "Special Diets" in the catering area.

#### **CONFERENCE PARTNERS' POLICY**

We respectfully remind you that partners accompanying delegates are not eligible to attend Conference sessions and do not qualify for refreshments and lunches during the day unless they have registered. Any partner wishing to attend events not previously selected and paid for in his or her registration may do so at the Conference Registration desk. We would be pleased to accommodate any requests where possible.

#### **VISA**

You do not require a visa if you are coming from Australia and New Zealand

For details on entry visa requirement, please visit the Singapore Immigrations and Checkpoints Authority (ICA) website at http://www.ica.gov.sg/services\_centre\_overview.aspx?pageid=252&secid=165

If you require a Letter of Introduction for visa application purposes so that you could travel to Singapore to attend the 2017 Learning Environment Australasia, LearningScapes – eXperience Asia Conference, please send the following details to email: **info@bccm.com.au**:

- Name (as it appears on passport)
- Passport Number
- Nationality
- Country of Departure
- Job Title
- Organization
- Mailing Address
- Email Address
- Contact No
- Fax No

Kindly ensure that you have completed your registration and have made the payment before sending in your request for visa application document/s to the conference secretariat.

#### **PROGRAM DISCLAIMER**

The speakers, topics, and times are correct at the time of publishing. However, in the event of unforeseen circumstances, the organisers reserve the right to alter or delete items from the Conference Program.

#### **PRIVACY POLICY**

The name, position, organisation/school and email address of everyone that registers for this conference will be incorporated into a delegate list that will be made available to all delegates and Learning Environments Australasia sponsors. By completing this registration form, you acknowledge that the details supplied by you may be used by these organisations. Should you not wish your details to be used for these purposes, please tick the Privacy Policy box on the registration form.

#### **CANCELLATION POLICY**

Registration cancellations will only be accepted if made in writing. Cancellations made before **9 June 2017** will be refunded less 25% of the Conference Registration fee, to cover administration costs. No registration refunds will be given after this date.

#### **CONFERENCE MANAGER**

Please refer any registration queries to: Jude Prentice **info@bccm.com.au** or Ros Christie **ros@bccm.com.au** 

#### **BCC Management P/L**

Level 1, 370 Bay Street, Port Melbourne Vic 3207 Ph: 03 8679 5460 Fax: 03 8679 5469 Mob: 0400 964 696 Website: www.bccm.com.au

#### **Conference Chair:**

Pit Li Phan plphan@mkpl.com.sg MKPL Architects Pte Ltd

150 Cecil Street, Unit 12-00, Singapore 069543 Ph: +65 6223 4633 Fax: +65 6223 4233

#### **REGISTRATION CLOSING DATES:**

Please note that the closing date for registrations with accommodation at Marina Bay Sands is **FRIDAY 9 JUNE 2017**. Accommodation at Marina Bay Sands is regularly at full occupancy. The conference room rate will only apply until our limited supply of contracted rooms is exhausted. We suggest booking early as once our allotment is sold we cannot guarantee availability or room rate.

If you do not require accommodation at Marina Bay Sands the registration closing date is **FRIDAY 23 JUNE 2017**.

### **REGISTER ONLINE**

https://bccm.eventsair.com/2017lea/event-website

www.a4le.org.au





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\*Based on Australian statistics





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