



Joseph Lim PhD (Heriot-Watt), MSc (Strathclyde)
Associate Professor (Dr.)

akilimem@nus.edu.sg
josephlimdesigns.com

Dr Joseph Lim has a special interest in prototypical structures addressing emergent spatial and environmental need. His architectural and engineering research investigations on repurposing oil rigs for habitable applications was published by Springer in 2020, titled *Oil Rig and Superbarge Floating Settlements*, and receiving interest in the Middle-East. It was also selected for exhibition at the UABBHK Bi-City Biennale of Urbanism\Architecture held in Hong Kong and Shenzhen from December 2019 to March 2020.

Joseph's focus in Industry and Infrastructure explores land intensification through architectural investigations, which have significant implications on the planning of future settlements, townships and infrastructure. In 2008, he pioneered corporation-funded design research studios, collaborating with JTC in 2008-10. MPA-funded research studio followed in 2014, which explored an urban design study for Tuas Port 2027 and was exhibited at the Singapore Maritime Week Exhibition and SG50 NUS Exhibition in 2015. The research studio was also featured in a Channel News Asia documentary - Futuropolis Episode 2: Keeping Afloat televised in 2017 - on the effects of rising sea levels and the viability of floating settlements. In 2016, he completed a Kinetic Sun Screen prototype capable of generating multiple programmed formations from a system with eight degrees of movement. It forms the basis for further research in the area of kinetic facades and other applications such as acoustic and wind diverting structure. Design research investigations in cellular facade geometries mediating light quality and intensity are published online at Form follows Light (www.josephlimdesigns.com). Joseph is often invited to speak at international conferences and also served as Visiting Professor and external examiner internationally.

Joseph was appointed leading architect by Mercy Relief for the post-Tsunami rebuilding efforts in Aceh Indonesia, and his self-sufficient housing proposal won an Honorable Mention at the Institute of Advanced Architecture of Catalonia in 2005. His earlier design projects are published in various media and have won SIA Design Awards and international awards including an Honorable Mention for Lee Treehouse at the Kenneth F. Brown Asia Pacific Culture and Architecture Design Award in 2003; and a Merit Win for Dragon Bridge in URA Southern Ridges Bridge International Design Competition in 2004.

In 2024, Joseph was awarded College of Design and Engineering's Teaching Excellence Award. As educator, he has applied his design research work for studio learning. He is the author of *Bio-structural Analogues in Architecture* (2010) and *Eccentric Structures in Architecture* (2012); both publications are in their third reprint and have been translated in Korean and Chinese languages. His publication, *Skybridge I* investigates forms of air rights structures built over Ayer Rajah Crescent and the research conclusions were presented at the JTC i3C Symposium on Industrial Infrastructure Research in 2017. His latest publication, *Oil Rig and Superbarge Settlements Floating Settlements* researched into repurposing three types of vessels in the marine industry, viz the jack-up platforms, the semi-submersibles and the superbarges, into alternative settlements to existing floating cities. This Springer publication is reference for researchers, industry and engineering coursework.

Students' projects under Joseph's tutelage are distinguished in several regional and international competitions. These include Hannover Expo, International Association for Humane Habitat, International Tropical Architecture Design, Hunter Douglas Awards, Nippon Paint Designer Award, Best Project in 5 Universities Graduation Project Review and the Architecture Drawing Prize in the World Architecture Festival.

In administrative leadership, Joseph was awarded both National Day Award and Ministry of National Development Award for his dedicated and outstanding service in both the university (as former Vice Dean and Program Director for both undergraduate and graduate programs) and the Singapore Architects Board.

Cross Disciplinary Design Thinking underpins Design by Enquiry

Prototypical Structures

- 2025-26 Asatte no Eki Studio
- 2023-24 Vertiports (Arup Collaboration)
- 2022-23 Conceptual Designs for Sultan Shoal Bridge Project (MPA sponsored - \$22,808)
- 2020-21 Filter City (Post-Covid model)
- 2020-21 Tissage Cellulaire (Baelf Collaboration)
- 2019-20 Hudsons Yards, New York City (SCDA collaboration)
- 2017-18 Oilrig Conversions (Keppel Offshore Marine collaboration)
- 2016-18 Megaframe Air Rights Building Project (NUS-JTC i3 Centre funded \$90,000)
- 2013 Sculptural Tessellations
- 2010-14 Kinetic Screen (MND funded \$747,274, collaborators ARUP, GM2000 and Hopetechnik)
- 2008-10 New industrial prototypes, Singapore (JTC funded \$320,000)
- 2004 Geometric Design as Spatial Forms (Arup Singapore collaboration)
- 2000 Building Expedition, Thailand (SIF-SIA sponsored)
- 2000 Aluminium Deployable Structure Research (BCA funded \$10,000). Research on a transportable 15m span structure, which can be configured in square, rectilinear, and circular plan forms with a patented joint system

Future Master Plans

- 2016 Linear City Urban proposal for Jurong 2030 (URA collaboration)
- 2014-15 Mixed-use developments for 320-hectares Tuas Port 2030 (MPA sponsored \$70,000)
- 2000-03 Water infrastructure Master Plan for Public Housing Punggol neighborhood, in collaboration with Prof Ng Wun Jern, and Er. Appan Adhityan from the Engineering Department (ARF funded \$202,000)

Regenerative Settlements

- 2007 Redevelopment of Shenzhen urban village (Archurban Architects collaboration)
- 2005 Autonomous post-tsunami settlement plan for 1000 inhabitants in Aceh Sumatra
- 2006 Industrial redevelopment of 5-hectares Kolkata town (Kolkata Planning Agency collaboration)

RESEARCH BY DESIGN AND SCHOLARLY CONTRIBUTIONS

Design-Research Projects

- 2025-26 Asatte no Eki Studio, co-led with Dr. Shin Yokoo, this design-research studio explored and reimagined some of Japan's train stations along Odakyu and Keio lines, offering innovative and sensitive propositions that transform the potential of older stations into vibrant community spaces, culture corridors, and sustainable infrastructure. The studio forms part of a wider focus on infrastructure as architecture for an uncertain future in the light of climate change. Studio project models are currently exhibited at SDE 3, Level 3.
- 2023-24 Vertiports (**Arup Collaboration**). Research by Design studio investigated small footprint Vertiports for eVTOL and **Advanced Air Mobility** issues concerning urban infrastructure, with input from industry experts Skyports CAAS and SG Technologies. The studio outcome was feature in exhibitions representing CDE in NUS promotional events.
- 2022-23 Conceptual Designs for **Sultan Shoal Bridge Project (MPA sponsored - \$22,808)**. In collaboration with NUS Civil Engineering Department and MPA, the design was for a 180m bridge linking Tuas Megaport and Sultan Shoal Island. **The outcome of the work process was documented in a report submitted to MPA Senior Management, followed by a presentation to CEO Teo Eng Dih on 6 July 2023. MPA has commissioned me to lead a conceptual study for the implementation of the bridge involving CDE and SERIS.** Throughout the semester, both architecture and engineering students benefitted from the interdisciplinary learning brought by MPA Engineers, Civil Engineering colleagues Dr Kong Kian Hau, Prof Tan See Chee and I. Guest Critics Wong Mun Summ and Dr Hossein Joraibi complimented the rigour of the studio investigations at the final presentation.
- 2020-21 Filter City: New Planning perspective for a 40,000 person neighbourhood in the light of the coronavirus becoming an endemic condition. The investigations questioned the relevance of deep plan centralised building clusters and proposed more granulated program mixes in future masterplans enabling economic and environmental resilience. For the benefit of all research studios that explored the same theme, I organised and moderated a **Forum discussing Pandemic Issues on Planning with Mr Kishore Mahbubani, Prof Tan Chorh Chuan and Ms Hwang Yu Ning**, which was very well received.
- Tissage Cellulaire. This **cross-disciplinary studio was conducted with fashion design firm (Baelf) which specializes in 3D printed dresses**. The extrapolation of complex geometric patterns common to the 3D dress and the architecture wall screen was enabled by the LEAP MOTION software. This software translated finger and hand movements into geometric mutations of existing Rhino files (the geometric outcomes were special because they could not be pre-conceived). **The project was documented in a Channel News Asia Insider: How 3D Printing is Redefining Fashion and Jewellery Design I 3D Nation Episode 6 televised on 4 Aug 2022**
- 2019-20 Hudsons Yards, **New York City (SCDA collaboration)**. Conservation and mixed-use redevelopment. FYP and Master students had the opportunity of foreign context exposure with overseas consultants to widen perspectives and rigour.
- 2016-18 Megaframe Air Rights Building Project (**NUS-JTC i3 Centre funded \$90,000**). Above ground new space for knowledge industry at Ayer Rajah Industrial Estate. This obviated the need to demolish old building stock by building over it.
- 2017-18 Oilrig Conversions (**Keppel Offshore Marine collaboration**). Design research explored the possibility of floating settlements with offshore oil exploration vessels. They were showcased at **Singapore International Water Week**, and presented to Senior Minister of State, Masagos Zulkifli who officiated the event.
- 2016 Linear City Urban proposal for **Jurong 2030 (URA collaboration)**. The design investigation was premised on integrating mixed-use developments with transport infrastructure to explore minimum

connected footprints for a city.

- 2014-15 Mixed-use developments for **320-hectares Tuas Port 2030 (MPA sponsored \$70,000)**. Resulting from a positive outcome of an earlier consultancy work with MPA, these sponsored studios research and provided urban design and architectural proposals for the air-rights structures to the Tuas Port. Research output of the NUS team was **exhibited at the MPA Singapore Maritime Week** in April 2015 launched by Minister Lui Tuck Yew. It was also **featured in SG50 exhibitions, Archifest 2015 Exhibition for Future Structures** and **Channel News Asia documentary - Futuropolis Episode 2: Keeping Afloat televised in 2017** - on the effects of rising sea levels and the viability of floating settlements.
- 2013 **Sculptural Tessellations**. The FYP studio empowered students to use their intuitive senses to create form in light. The aesthetic value of their creation was also subject to practical challenges in using material, support, and fabrication to overcome geometric limitations and constraints to form. The studio used Rhino and Grasshopper software. **These projects were also displayed at the Department's City Exhibition 2015, and the SG50 exhibition at URA 'From Urban Design to Envelopes'**. These experimental design projects were supported by my research on external envelopes which explored daylight, rain penetration simulation methods in form finding.
- 2010-14 **Kinetic Screen (MND funded \$747,274, collaborators ARUP, GM2000 and Hopetechnik)**. – Design an external screen that dynamically responds to glare, control, and ventilation. This screen can be used to retrofit existing buildings, or it can be used in new proposals. The structure is to be made of lightweight material, employing simple moving mechanisms which are robust and easily maintained.
- 2008-10 New industrial prototypes, Singapore (**JTC funded \$320,000**). A design enquiry on new production facilities co-located with neighbourhood precincts as early integrated hubs. I coordinated eight design research studios.
- 2007 Redevelopment of **Shenzen urban village (Archurban Architects collaboration)**. The project investigated the condition of the phenomena of the urban village in Shenzhen, and proposed counter propositions to complete demolition for redevelopment.
- 2006 Industrial redevelopment of 5-hectares Kolkata town (**Kolkata Planning Agency collaboration**). The research-by-design studio investigated how economic activity, land use, and socio-cultural practices shaped contemporary housing, community space, and infrastructure in Kolkata, particularly for marginalized yet economically vital communities near the Bay of Bengal. The studio developed a master plan and site-specific housing proposals that addressed social inequity, cultural and landscape erosion, and the fragmented relationship between dwelling, city, and commercial viability.
- 2005 **Autonomous post-tsunami settlement** plan for 1000 inhabitants in Aceh Sumatra. I was **appointed Architect by Mercy Relief Singapore**, for Aceh's Post-Tsunami Permanent Housing rebuilding efforts. My Master Plan proposal for a sustainable housing community integrating economic livelihood with wastewater treatment as environmental landscape received an **Honourable Mention in the First Advanced Architecture Contest organized by the Institute for Advanced Architecture of Catalonia in November 2005**. (published in a research publication entitled Self-Sufficient Housing by ACTAR, Loft Publications in 2006)
- 2004 Geometric Design as Spatial Forms – to **develop design visualization software for high density forms (non-standard)**, in collaboration with Co-PI A/P Tan Tiow Seng of Computer Science Department (**ARF funded**)
- A Building to last 1000 years – a competition addressing sustainability issues (**Arup Singapore collaboration**). Architecture students in my studio participated in an environmental design competition organized by Arup Singapore.

1998-00, 2002-04

Biomimetic Studios. Published in **Bio-structural Analogues in Architecture**, BIS Publisher, Amsterdam, 2009 (also translated in Korean and Chinese editions) – Citation by **Monica Ponce de Leon, Dean of Princeton University** – “*Joseph Lim is at the forefront of an emerging field in architecture and design (biomimicry) and his book Biostructural analogues in architecture is a very significant contribution to this area of study.* Biomimicry is based on the idea that we can learn from nature as the basis for innovation. Jeanine M. Benyus seminal book on the subject, *Biomimicry, Innovation inspired by nature*, published in 1997, brought these ideas into the mainstream. But it is only now that these ideas are beginning to take traction among the architecture community. ***In the field of architecture, Lims work is ahead of his time and will carve significant a path for future researchers, teachers, and designers alike.***”

2000-03 **Water infrastructure Master Plan for Public Housing Punggol neighborhood**, in collaboration with Prof Ng Wun Jern, and Er. Appan Adhityan from the Engineering Department (**ARF funded \$202,000**). **Published report with HDB as reference for Punggol Master Plan.**

2000 Building Expedition, Thailand (**SIF-SIA sponsored**) (Innovative Methodology: In developing technological learning in the architecture curriculum, it is vital to enable design cognition in planning and detailing with constructional considerations in mind. This is limited in the studio environment. **The hands-on project was invaluable in simulating the planning and construction of a single storey building for student learning.** At the same time, students were able to treat the project as an experiment with which to document and record as a case study for analysis, design cognition, and further learning. The results have been the subject of research publications. **Awarded an Honourable Mentions at SIA Architectural Design Awards 2001**

2000 Aluminium Deployable Structure Research (**BCA funded \$10,000**). Research on a transportable 15m span structure, which can be configured in square, rectilinear, and circular plan forms with a patented joint system

Invited Teaching Appointments/ Presentations at scholarly meetings/ workshops

2022 **Invited to give a lecture to graduate students in the Civil and Environment Engineering - Bridge Design Module** where I covered bridge examples in structural action and architectural strategy. The lecture was also attended by senior engineers Er Tan See Chee, Director CPG consultants Infrastructure Group and well-received by both students and faculty.

2020-21 **Invited to contribute a second article in the Singapore Architect Magazine (published n 2021)**, showcasing NUS Architecture graduates' work from AY2019-20. As M.Arch Program Director, I believe in showcasing our students' work to promote the diversity and inter-disciplinary research topics taught in our school, and to engage the professional bodies with discourse on the relationship of our work with industry.

2015 Invited to give a lecture on 'The Exploratory Studio' at DoA's inaugural Architecture Educator Forum

2014 Invited to give a presentation on Shades of Vibrancy, Singapore Dreaming Workshop organized by Ar. William Lim

2013 **Invited by the HDB Research Unit of Public Housing Unit of Singapore** to speak on design processes derived from systems in nature, to address building performance issues. This HDB research seminar was attended by Project Executives and Research Directors of HDB.

Invited as Speaker for the SIA Practice Convention 2013 - Leadership in Architectural Practice on 1 March 2013. I spoke on research developments which impact architectural design process (New Technologies and Approaches to Design). The convention was attended by over 100 practising

architects and professionals.

Keynote Speaker, JTC i3 Centre Symposium: Megaframe Research

2011 **Invited to present my research on Kinetic Structures at MND Urban Sustainability R&D Congress 2011**

Invited to present at **USP Lecture Freshman Seminars** on Cells and Surfaces in Architecture, 16 Feb

2006 **Invited as Visiting Professor, Department of Architecture, Izmir University of Economics, Turkey** (I was invited as advisor to the Department of Architecture to set up their Structures Course; my expertise in terms of bridging relatively technical topics like construction and structure and make them as relevant to an architecture student. I also conducted a 3-week structures workshop for Year 2 architecture students, gave three lectures on structures and one guest lecture to all staff and students of the Faculty of Fine Arts and Design).

2005-06 **Invited as Visiting Professor, Hanyang University**

2004 Invited to conduct a hands-on structures workshop to architecture students in Chiangmai University, Thailand, 29 Nov-3 Dec 2024

Invited to give a lecture at Hanyang University's four-day Winter Workshop, which resulted in an invitation as Visiting Professor the following year.

2003 **Invited by Chair Professor Essy Baniassad** to conduct a studio and give lectures to architecture students in **Chinese University of Hong Kong**

2002 **Invited speaker at 2nd Asian Architectural Education Conference organized by Japan Institute of Architects**, Tokyo, Japan, 21-22 Jan 2002

Invited to give a presentation on 'A Housing Master Plan for the Spatial Incorporation of a Water Infrastructure Proposal' at CW Tech Congress, 6 Nov 2002

Invited to give a presentation on Water Infrastructure research project at a Workshop on Sustainable Urban Infrastructure in Engineering Auditorium, 26 Feb 2002

Invited as Visiting Scholar, Beijing Forestry University

2001 **Invited to give a lecture on 'Hands-on Architecture' at a workshop on Critical Thinking through Adventure Education, organized by the University Scholars Programme and the Singapore International Foundation**, 2 Aug 2001. The participants consisted of deans from the universities, principals of JCs, polytechnics, and ITEs; and MOE officials, NUS Vice Chancellor was also invited.

Invited to give a talk on 'Building Expedition as Community Project' for Rotary Club, Tanglin, 17 Sep 2001

Pioneering Studio Pedagogy

2008- Research driven design is dovetailed with Design teaching in my Masters studio, enhanced through my network of industry partners to bring experience and live project vehicles into studio learning.

2010 **In rationalizing the evaluation of academic design work, I developed a matrix for relating design inception, articulating design parameters, concept communication, production drawings and models with assessment method and assessment criteria. This document made transparent individual studio methods by detailing the deliverables and content of design proposals to enable parity in assessment between studios.** This document also served as reference for the

relationship between deliverables as a means of design communication and in the assessment of specific concept claims. The matrix also enables individual project assessment as group participation to encourage cross learning of design processes and outcomes.

- 2007 **The Atelier system in Thesis Year was initiated** with encouraging results in the AY07/08 graduating year. Subsequently, **I coordinated the cross-atelier Public Housing studio** in AY2012/2013. Workshops and seminars were arranged to assist in the process of inception to solution. Now, the **Atelier system has evolved into Research Clusters but carries the same principles.**
- 2006- **I initiated the use of CAD-CAM processes in the fourth and fifth year studios and the integration of physical and digital simulation processes at schematic and detailed design level.** My studio projects emphasize the three-dimensional exploration of materials and structure systems in generating envelope and spatial possibilities. Integrating energy and daylight simulation software in design process, as well as selective Integration of digital fabrication and digital modelling processes in FYPs. Examples of digital tools and applications include Leap Motion, Rhino, Enscape, etc.
- 1998-00 Research activity and learning were generated by 'live' architectural and planning projects in the Graduate design courses:

NUS Master Plan. This project researched into specific areas of user requirements and their relationship to academic operations to determine Master Planning Criteria essential for the foundation of Master Plan Policies). **This pre-policy form of design research has direct impact on future NUS operation.** During my research effort in this Master Plan, **I supervised Thesis and M Arch 1 projects exploring the issues of technopreneurial activity in relation to physical planning requirements** and University Operations. I was part of the Master Plan Brief formulation team led by A/P Milton Tan.

Faculty of Business Administration Proposal. I prepared the overall proposal for the development of the Faculty Complex. In doing so, there was a need to consider the Academic Plan for Postgraduate, Undergraduate and Executive Development Programmes including Research. I also **conducted a study of existing space facilities to relate usage and activities to programme requirements of space.**

I proposed a realistic construction programme for the client in all nine schemes developed by a studio of M.Arch Level I students under my direction and tutelage. **I conducted Client Review Sessions with FBA representatives** and finally one solution was proposed to Vice-Chancellor for *implementation*. As a result of this presentation, FBA are modifying their proposals with input from VC, DVC Hang and DVC Shih, who represented the Senior Establishment in the presentation. **This integration of university planning need with design research consultancy has had much impact on the graduate studio learning.**

JTC Projects. The Jurong Town Corporation and the School of Architecture work jointly on design projects which are related to industrial application: new forms of industrial architecture appropriate in the context of land and water scarcity, industry waste processing and disposal and the interface between architectural space and industrial appliances.

I positioned MArch Studios as Design Think Tank and organised graduate studio-led research to explore the design issues of mixed developments with industrial components in 84 hA of land using a wastewater recycling system related with industrial production requirements of tenants and which formed the visible aspect of the urban landscape (waterscape). **JTC indicated keen interest in the ideas generated to inform the Master Plan Strategies for future implementation. These projects were of strategic importance to National Development and continue to be useful as learning/ teaching vehicles for graduate design studies.** The projects profiled the Department as **thought leaders** in industrial architecture.

SMU Project. In early 1999, the SMU were initiating their Master Plan developments with URA given sites. **My graduate design studio proposed a Master Plan with Architectural proposals for**

Departmental buildings in individual sites. The client body represented by the **SMU project Director sat in the design review sessions** which incorporated an **in-house design forum between professional and industrial representatives of the Arts community in Singapore.**

The ideas generated in this studio under my tutelage were taken into consideration by the SMU in their Master Plan formulation. The SMU development was an important project in identifying the NUSchool's expertise in the subject of planning for Institutions of Higher Learning.

The impact of these research by design projects by SOA profiled NUS as design thought leaders in key development projects.

AWARDS/ HONOURS AND PROFESSIONAL RECOGNITION

- 2024 College of Design and Engineering, Teaching Excellence Award
- 2023 Best Mentor Award, Nippon Paint Designer Award
- 2021 Meritorious Award by Minister of Home Affairs (for my contribution to the nation)
- 2014 National Day Awards, the Long Service Medal, PMO Singapore
- 2012 Ministry of National Development Award for Dedicated Service to the Singapore Board of Architect

- 2005 Honourable Mention for Post-Tsunami Housing in Institute for Advanced Architecture of Catalonia, Spain, (published in a research publication entitled Self-Sufficient Housing by ACTAR, Loft Publications in 2006)

- 2004 Merit Win for Dragon Bridge in Urban and Redevelopment Authority (URA) Southern Ridges Bridge International Design Competition. This international competition was organised by Urban Redevelopment Authority (URA), National Parks Board (NPB), and Land Transport Authority (LTA). 65 entries were received including 11 overseas entries from USA, UK, Japan, South Korea and China.

- 2003 Honourable Mention for Lee Treehouse Singapore in Kenneth Brown Asia Pacific Culture & Architecture Design Award 2002 (For 2002, I am the only individual awarded for a project built in Singapore, *The Lee Treehouse*, together with three internationally renowned practitioners for the honourable mentions, notably, Mr Glenn Murcutt, Australia (who is also Pritzker Prize winner 2002), Mr Kerry Hill, Singapore (who is also Aga Khan Award winner 2002) and Mr Shuhei Endo, Japan (who is also winner of 8th Japan Public Architecture Award 2001 and Francesco Borromini Award 2001). Article on the treehouse was featured in The Straits Times Life on 12 April and the win highlighted on 3 May 2003)

- 2002 University Quality Service Award

- 2001 Two Honourable Mentions for NUS Core Curriculum Office & Ban Patai Village School in Singapore Institute of Architects (SIA) Architectural Design Awards

STUDENT EXCELLENCE

Awards/ Achievements by students under my tutelage

- 2024 Winner, Lee Kuan Yew Medal for Graduating M.Arch Thesis and elected Valedictorian (Ryan Quah, Masters)

Winner, Design Excellence Awards in Best Public Design Category (Terence Tan Jia Ren, for his Design 6 BA.Arch project)

- 2023 Winner, Lee Kip Lin Medal for Undergraduate B.Arch (Ryan Quah, FYP)
NUS Achievement Award with distinction (Ryan Quah, FYP)

- 2022-23 Nippon Paint Asia Young Designer Award (Ryan Quah, for his Design 6 BA.Arch project)
Yen Tzu Hao and Zhang Jiasheng FYP (under my tutelage) were selected for exhibition on CDE coursework during Deputy Prime Minister Heng Swee Keat's visit to the SDE3 Opening Ceremony.
- Master student Goh Yi Fan (under my tutelage) was invited to share his thesis conclusions with NParks and URA
- 2018 Winner, NUS-JTC i3 Centre Innovation Medal and Prize. (Lim Zhihan's FYP addressed the theme of innovation in the design of industrial facilities and infrastructure)
- 2017 Winner, The Architecture Drawing Prize, World Architecture Festival (Christopher Wijatno, Masters)
Winners, Lim Chong Keat Award for pioneering thesis (Christopher Wijatno, Chen Qisen, Wang Yigeng, Bek Tai Keng, Sakinah Halim, Roy Tay, Davis Wong - Masters)
- 2015 MPA Project Thesis team was nominated by the Department for the RIBA Competition for Visualising the Future of the City (Kew Xun Long, Clifford Au Yong Wen Li, Verna Ho Jing Yu, Jessica Tan Su-Ann, Joanne Gay Hui Yan)
- 2014 Top Thesis Project (selected by External Examiners) was nominated for the Archiprix International Entry hosted in Barcelona
- 2013-14 Award for Most Experimental Thesis (Teo Zitong, Masters)
- Winner, Best Project in 5 top Asian Universities Graduation Project Review (Teo Zitong, FYP).
Teo Zitong's Year 4 studio project - Kinetic Pavilion under my tutelage won Best Diploma Project in the '5 Universities Graduation Projects Review' held at the University of Tokyo on 28 February 2013.
A total of 13 undergraduate studio projects from the University of Tokyo, Tokyo Institute of Technology, Tokyo Institute of Art, Tam Kang University Taiwan, and National University of Singapore were presented.
The jury comprised Kazuhiro Kojima (Professor, Yokohama National University), Hiroshi Naito (Professor Emeritus, University of Tokyo), Jo Nagasaka (Schema Architects), Taira Nishizawa (Nishizawa Taira Architects and Lecturer at Tokyo University of Science, Nihon University), Yung Ho Chang (Professor, Tonji University, MIT). The jury comments were as follows:
Kojima: 'The computer model, sections and plans demonstrate that the student pursued the performance of the devices quite seriously'.
Naito: 'The work is refreshing as it brings spirit and precision of industrial design into architecture'.
Nishizawa: 'Taking into account the fact that the field of environmental design is encroaching into that of architecture, the approach that the work demonstrated is valuable and totally valid although seemingly different from conventional one'.
- Teo Zitong also represented NUS at the 2014 Design Forum in Archiprix SEA at Taylor's College.
- 2012 First prize, 2nd International Tropical Architecture Design Competition (Teo Weiling, Masters) for IHLs organized by BCA, SIA, and the Singapore Green Building Council
- 2008 Third prize, 6th International Association for Humane Habitat Student Design Competition (Chen Yuxun, Tan Ruixiang, Eugene Aw, Grace Chen, Heng Yinghui - FYP)
- Winner, Hunter Douglas Award (Liew Kok Fong, FYP)
- Honorable Mention, Present Architecture's Challenge Ion Minchu Bucharest (Liew Kok Fong, FYP)
- 2007 Winner, Hunter Douglas Award - Innovative Use of Technology (Foo Yuet Yee, FYP)
- 2000 Special Appreciation Prize, Hannover EXPO 2000 Student Competition (Julian Song Ming Siang, Masters)
- 1999 Honorable Mention FABSTRUCT International Membrane Structure Student Competition (Leong Wey-

SERVICE TO NUS, PROFESSION AND NATION

Administrative Leadership:

- 2020-26 Member (2024) and Chair (2025), Research by Design Search Committee
Member, SDE MTAR committees
Chair, Department Workshop Committee overseeing SDE 3 renovation, budget, and procurement
M.Arch Admissions Committee, Architecture Aptitude Test Panel, AIP Academic Advisor
- 2019-23 Undergraduate Unit Leader, in leading an entire year of UG studio teachers, many skills are involved. My contributions include the mentoring of staff with different strengths, different experiences and capabilities in teaching and professional design; and to galvanize such teams to bring out the best in students. In designing program vehicles for parity between different Units, it was important to translate learning objectives and assessments into a range of studio methods.
- 2017-21 M.Arch Program Director, Together with HOD and Deputy Head Academic, I led and coordinated the reframing of the current MArch programme as a two-year programme and obtaining approval from Senate and Board of Architects. The consolidation of the M.Arch programme into a two-year framework provides sufficient curriculum space to develop critical practitioners with thinking tools for design inquiry and the implementation of schemes fulfilling a wider agenda. In addition to a research driven curriculum, there are components of an embedded industry internship, exchange opportunities, a wider range of elective modules and design studios with which to develop exploratory and conceptual thinking in design-research investigations. The 2 year MArch programme commenced in AY2018/19. Continued to organise design research lectures with industry speakers on landmark projects (such as Louis Vuiton House in Seoul, TaiKwun Center in Hong Kong) to benefit the School and the profession.
- 2000-03 M.Arch Course Director and BA.Arch Year 2 Coordinator – organized impactful technology workshops with leading Visiting Professors and Professionals (Ricardo Bertoni, Jean Francois Blassel, Hossein Rezai-Jorabi, Alan J. Brookes, Jon Portwood). The Atelier system in Thesis Year was initiated with encouraging results in the AY07/08 graduating year. The new structure strengthened thesis investigations by specialized focus groups (ateliers) and to allow a range of thesis type projects to benefit from group expertise tutoring.
- 2015 Revamped NUS Open Day 2015 and outreach strategies – augmented reality and MRT posters.
- 2010-14 Vice Dean, Academic (Undergraduate) – chairs FTEC and ATEA, oversee BUS, UCEP, UGR portfolios including CDP proposals and curriculum changes, led the development of the Masters in Urban Planning program
- 2011 Taskforce Member and co-Chair, SDE Workshop on Sustainable Cities
- 2007-09 Deputy Head, Research – oversee various portfolios including chairing PhD Oral Defense Exam
Deputy Head, Academic – oversee various portfolios (FTEC, DEC, etc.) including developing the 4+1 architecture curriculum, and refinement of MArch specialisations and defining their course pedagogies.
- 1998-00 Chair of Design Symposium of Asian Architectural Education and various Department's Exhibitions (HKIA visit, School Exhibition, International Design Forum, 8th City Exhibition, Manfredi Nicoletti Exhibition
- Chair, Roundtable on NUS Core. The University reviewed its Master Plan to cope with the increasing demands of new research and curriculum restructuring. A roundtable was organised with university representatives and the DVCs to discuss planning issues in the re-shaping of the campus to address the

entrepreneurial visions of NUS, resulting in a white paper proposal to DVC Prof Shih.

Sub-Dean, Faculty of Architecture, Building & Real Estate, NUS overseeing various committees: Talent Development Programme Steering Committee, Core Curriculum Steering Committee, SEP, Faculty Education Development Committee, Faculty Resource Committee

STRATEGIC APPOINTMENTS

Representation in Professional Organizations

- 2023 Taskforce for the EW1 and SDE2 redevelopment
- 2022 Speaker at Archifest 2002 themed The Order of Love. I was invited by Ar. Tan Szue Hann, Hon. Secretary, SIA 62nd Council. This was a closed-door conversation on prevailing issues impacting the Built Environment and the profession, held at the URA Centre. The event was attended by leading practitioners and various key stakeholders in the industry.
- 2017 Invited by the Police Commissioner to provide the strategy to preserve the Senior Police Officers Mess building as part of local Heritage. Consequently, the Police Force retained its 'Istana' when its leasehold expired, and the land plot was to be surrendered to URA for redevelopment.
- 2015 Invited Speaker to share the MPA research design project, and the implications on Pathways and Challenges to design in the Profession at SIA's newly renovated premises for Archifest 2015. In the same exhibition, I curated the works of DoA colleagues. Research-driven studios which explored emergent future need were articulated in design propositions on land, air, and sea space. This exhibition is vital for public and professional education and outreach to potential students
- 2014-21 Appointed by MHA (in my capacity as Architect) to advise HomeTeamNS Development Committee and PMO on HTNS infrastructure. I was involved in advising the construction of HTNS clubhouses (Khatib, Bedok, Balestier and Sembawang). Khatib Clubhouse was conferred the Second Award at the Rethinking the Future Awards, under Sports and Recreation (Built) category.
- 2011-17 Appointed Co-Director, NUS JTC i3 Centre. Together with A/P Qian Xudong, we restructured workflow processes to shorten response time, conceive research framework and strategized and implemented plans to utilize research funding effectively. I initiated and we planned a series of working forums during the 2nd Call for Research Proposal followed by presentations by faculty of shortlisted research proposals. This encouraged collaborations amongst JTC personnel, Engineering and Architecture faculty. As a result, review of research proposals could be fast tracked and awarded in six months after CFRP. We have achieved the i3 Centre targets whilst working within the decision-making processes of JTC management.
- 2011 Leader, JTC-NUS Research Unit Thrust
- 2005-09, 2022-current
Board Member, Board of Architects (BOA) Singapore – holding various positions including Chair, Sect 15(1)c Examination Panel, Review Committee on Architectural Qualification, Recognized Universities and represented the BOA at a Focus Group Meeting with NParks on the Gardens by the Bay Design Competition
- 2003-08 Member, Committee for Design Review of Infrastructure Projects, NUS
- 2002-04 Member, NUS Campus Green Committee
- 2002 Member, inaugural Conference Advisory Council of Civil Works Technologies Congress
- 2001 Chair, International Conference on Transportable Environments
- 1998-03 Council Member, Singapore Institute of Architects, responsible for developing joint research

programmes of benefit to both the profession and the School of Architecture

Academic Review Committees

- 2025- Head of SIA Academy (consultancy basis) – to develop professional/ CPD courses for the architects
- 2022-25 External Examiner, LaSalle College of the Arts Diploma in Interior Design
- 2021 Co-Supervisor with CEE Dr. Kong Kian Hau on student's FYP on long span air-rights structures. The design research investigations were sought by FoE following my sponsored research studio on air-right structures.
- 2018-22, External Examiner, B.Arch Part 2 CDP, City School of Architecture, Sri Lanka
- 2020 Reviewer, International Forum for Architecture Thesis Design (Taiwan & SE Asia, hosted by National ChengKung University)
- 2017-21 External Examiner, Ngee Ann Poly School of Design and Environment, Diploma in Sustainable Urban Design and Engineering
- 2012 Chair, Academic Review of School of the Arts (SOTA) IB curriculum
- 2011 Technical Reviewer, MND A*Star Research Grants
Member, Arts@Utown Committee
- 2008 Member, SDE International Advisory Panel Task Force
- 2006-08 Chair, Board of Examiners in Diploma Courses, BCA Academy
- 2006 Panel member, Course Review Committee of Singapore Polytechnic Diploma in Architecture
Reviewer, Paper submissions for mAAN 6 Tokyo Conference: Memory, Disaster and Revitalisation
- 2004-05 Panel Assessor, University Grants Committee, Hong Kong University & CUHK
- 2002 Panel member, Course Validation of Singapore Polytechnic Advanced Diploma in Architectural Design and Technology
- 2001-03 Chair, Interior Design Department Advisory Committee, LASALLE-SIA
- 1999-00 Restructured the M.Arch Building Technology Course to to address the following problems:
- Its **scope of content was to be appropriate for application in practice** and to be also academically challenging and enriching.
 - The course **content which was cross disciplinary was to be interconnected and not compartmentalised** whilst giving a depth of understanding on the subject matter.
 - The course was to **bridge the traditional gap between design teaching and the teaching of building technology**.
 - Improving the content from a **professional practice perspective**.

As a result, students can **apply the learning and effectively relate the understanding of technological aspects with design concepts and strategies**.

Involvement in Design Competition Jury

- 2026 Nominated Member, Tender Assessment Panel (as the Expert Representative from SDE), for BIZ3 Multi-Disciplinary Consultancy (2-stage with Design Competition)
- 2021 Jury, Final Round Student Competition for IHLs, in conjunction with Design Asia Congress
Jury, Final Round of Built Environment Case Competition on the theme of Floating Structures on 31 July, organized by NUS Civil and Engineering Department and sponsored by Keppel Land. (I was invited as jury following by design research work on Floating Settlements)

- 2018 Design Jury for Singapore Island Country Club Redevelopment
- 2008 Member, Assessment Panel for NUS Education Resource Centre
Tender Evaluation Committee for D&B Project at Punggol West Contract 25
- 2007 Member, Assessment and Selection Panel for NUS Business School
- 2006-10 Design Jury Panel for HDB Design Awards,
Reappointed in 2008 by HDB Chair as Member, HDB Architectural Design Panel
- 2006 Member, Jury Panel for International Stadium Competition, Guangzhou, China
- 2004-07 Design Award Assessor Panel for Building and Construction Authority (BCA) Best Buildable Design Awards
- 2003 Design Competition Assessor Panel for NUS High School
- 2002 Design Competition Assessor Panel for Republic Polytechnic
- 2002 Design Jury Panel member by ITE Education Building Committee
- 2001 Panelist for JTC Vista Master Plan International Competition
Design Competition Assessor Panel for ITE Regional Campus at Simei Avenue
- 1998 Design Competition Assessor Panel for the Redevelopment of ITE MacPherson

Consulting Activities

- 2023-25 Chair, Techno Edge 2 Renovation
When the interior bids by conventional interior decorators did not meet the brief requirements, I advised the committee and UCI to reject all bids, to maintain the original intention of a Digital Display Gallery. As designer, I guided the Committee on specifying robust finishes to create a neutral backdrop for screen content and to direct expenses on the acoustic performance of the ceiling to meet the acoustic precision of the premium BARCO projection system. Specially aligned acoustic ceiling panels were simulated by the sound engineers before being distributed between the a/c ducts to meet desired reverberation times. The outcome is a delightful reading room cum display gallery with flexible lighting control to accentuate the coloured furniture pieces specially selected to set off the neutral background. Budget investment would have been unfocused, if a designer academic were not in the Committee to lead cost effective design decisions.
- 2019-21 Advisor to Minimum Viable Product (MVP) Studio in NUS Liaison Office (collaboration between MVP studio and BCA). As part of ILO's technology commercialisation efforts, the MVP Studio builds and helps NUS start-ups build MVP prototypes to demo NUS technologies to companies. Following my MND funded project on Kinetic Screen, I was consulted on MVP's project on Kinetic Structures for Solar Connector.
- 2017-18 Research output from Megaframe Air Rights Buildings projects was presented to CEO, JTC and senior management and contributed to Greater One North Master Plan for JTC's pre-policy planning
- 2013 Invited by Prof Wang Chien Ming from NUS civil engineering as architectural design consultant to NUS research project on the Gateway Complex planned by MPA as first phase for the 2027 Tuas Terminal development. I provided the architectural concept for the organization of ICA, Customs and Excise operational controls for inbound and outbound container traffic from the port yard and distriparks. In addition, the terminal design accommodated MPA, PSA, ICA Customs offices and container distribution complex co-located with mixed use commercial space for lease. The design received positive responses from MPA's Board of Directors and port operators. This resulted in further collaborations with two FYP studios in 2014.
- 2013 Invited as Design Critic, Review of Professional Works of Ong & Ong design units. The other critics were Ar. William Lim, Ar. Tang Guan Bee, and A/P Thomas Schroepfer.

- 2010 Invited by People Association and Bukit Timah CC to design an experimental facade capable of natural ventilation, daylighting, and rain proof functions, serving as public communal space. Invited presentation by MPA JTC CEOs to initiate ESC strategic plan to intensify economic potential of existing port infrastructure
- 2009 Research Feasibility Study for Floating Dormitory (commissioned by JTC), followed by an Invited presentation by JTC Engineering Division to study implementation of Floating Dormitories and selected project proposals for hybrid compact high density industrial prototypes
- 2008-10 Appointed by CEO BCA as Expert Panel, Sino-Singapore Tianjin Eco-City Project
- 2005 Architect for Mercy Relief Singapore in Post-Tsunami Permanent Housing Project for 1000 inhabitant in Aceh, North Sumatra, Indonesia
- 2003 Advisor to CAAS on interior landscape in Terminal 2 at the finger piers. CAAS initiated an in-depth feasibility study following my recommendations
- 2001 Appointed by Singapore Children's Society to design play structures and treehouses on an honorary basis
- 1998-07 Architect for NUS Interior architecture/ building projects:
- Kent Vale Residential Apartments, 2006-07
 - McDonald's Restaurant beside Engineering Canteen, 2001-02
 - Statistics Consulting Centre, 2000-03
 - American Studies Centre, 1999-00
 - English Language and Literature Department, 1998-00
 - Career Office Faculty of Science, 1998-99
 - Dean's Office Layout and Reception Counter, 1999
 - Theatre Pavilion (Extension to UCC Courtyard), 2001 – invited by CFA Director Prof Edwin Thumboo to propose an architectural design which was presented to President Shih C.F. and Dr. Liu Thai Ker)

Built Works:

- 2001 The construction of a two-storey timber tree house at Gallop Park (published in Urbis Magazine, New Zealand in 2007; Tree Houses, Loft Publications in 2005; and Singapore Architecture, Periplus Editions in 2004. Project was also featured in documentary series: Incredible Living Spaces on Arts Central on 17 Nov 2002)
- 2000 Village School Project in North Thailand (published in Singapore Institute of Architects Journal, Issue #210. Project was also featured in documentary series: Building Dreams on Arts Central on 4 April 2002)
- 1998-00 The interior of the American Studies Centre, NUS (published in ISH, Mar 2001, issue2.4)
The interior of the Core Curriculum Office, NUS (published in D. Vol. 1, No. 3)
- 1995 The construction of a timber tree house at 5 Pandan Valley (published in Singapore Architect No.199/98)
The reconstruction of an intermediate terrace house at 76 Jalan Pemimpin (published in Interiors Quarterly, December 1995)
- 1993 The restoration of a 1950 Bungalow at No 5 Jalan Lateh (published in Singapore Institute of Architects Journal, May/June 1993 No. 178)

The interior of F&B Outlet, Ngee Ann City
The interior of Cairnhill Plaza Apartment Bungalow at Yarwood Avenue
The interior of medical clinic at The Exchange

Publications/ Conferences

- 2020 Lim, J, **Oil Rig and Superbarge Floating Settlements** (Lecture Notes in Civil Engineering), Springer
- 2020 Lim, J, **Designing a Kinetic Screen from an Origami Fold, chapter in Automating Cities**, Wang, C.M. and Wang, B. T. (eds.), Springer
- Lim, J, **Bio-structural Analogues in Architecture, Analogic: Studio Architecture and Urbanism Magazine, Issue 18, Italy**
- 2018 Lim, J, Skybridges 1: Air Rights Structure, Singapore
- 2014 Lim J E M, Sheikh Hakim, Scarcity, control, and negotiations: an interpretation of form in urban informal settlements, *Planum Journal of Urbanism* n.29 Volume 2
- 2013 Lim J E M, et al., **Planning for an Open Pit Underground Habitat**, Asian Pacific Conference on Structural Engineering
- 2011 Lim J E M, **Eccentric Structures in Architecture**, BIS Publisher, Amsterdam (also translated in Korean and Chinese editions)
- 2009 Lim J E M, **Bio-structural Analogues in Architecture**, BIS Publisher, Amsterdam (also translated in Korean and Chinese editions) – Citation by **Monica Ponce de Leon, Dean of Princeton University** – **“Joseph Lim is at the forefront of an emerging field in architecture and design \biomimicry\ and his book Biostructural analogues in architecture is a very significant contribution to this area of study.** Biomimicry is based on the the idea that we can learn from nature as the basis for innovation. Jeanine M. Benyus seminal book on the subject, *Biomimicry, Innovation inspired by nature*, published in 1997, brought these ideas into the mainstream. But it is only now that these ideas are beginning to take traction among the architecture community. ***In the field of architecture, Lims work is ahead of his time and will carve significant a path for future researchers, teachers, and designers alike.*”**
- 2008 Lim J E M, Sung-woo Shin and Byum-seok Han, **“Symbol and Structure in the Architecture of the Korean World Cup Stadiums**, Basheer Graphics Publications
- 2006 Lim J E M, **Post-Tsunami Village: Self Sufficient Housing**, 126-127, Barcelona, Actar Publications
- Lim J E M, 10 Singapore Projects, *Foundation Day Journal*, Centre for Built Environment, India
- 2005 Lim J E M, Design Generation of High-Density Forms in Asia-Pacific Network for Housing Research Conference – Housing and Globalization, Kobe University, Osaka, Japan, September 2005
- 2004 Lim J E M and A K H Lee, CFD Simulation in the Architectural Strategy for the Ventilation of Public Podium Spaces in a Local Hospital Building, in CIB2004 World Building Congress, Toronto, Canada, May 2004
- Lim J E M, **Design Cognition in a Building Expedition, International Journal of Technology and Design Education**, The Netherlands
- 2003 Lim J E M, **Structural Prototypes from Seashells, Journal of Architectural Education**, United States Editors Kronenburg R, Y C Wong and Lim J E M, *Transportable Environments 2*, Taylor & Francis
- 2002 Lim J E M and V Kallianpur, The Integration of SBR Treatment in Hypothetical Urban Housing Master Plan, Proceedings of the 12th Joint Kaist-Kyoto- NTU-NUS Symposium in Environmental Engineering, pp.299-308, Taipei, Taiwan, June 2002
- Lim J E M and V Kallianpur, Architecture as Water Instrument, IAHS World Congress on Housing - An Interdisciplinary Task, pp. 1155-1162, Coimbra, Portugal, Sep 2002
- Lim J E M, W J Ng, V Kallianpur and L C Koh, A Model for Decentralised Grey Wastewater Treatment System in Singapore Public Housing, *Water, Science and Technology*, Vol. 46, Issue 9, United Kingdom
- Lim J E M, Learning in a Building Expedition, Proceedings of the Second Symposium on Teaching and Learning in Higher Education, Centre for Development of Teaching and Learning, NUS, pp.164-169, 4-6 Sep 2002
- Lim J E M, The Spatial Integration of Water Infrastructure in the Physical Planning of Urban Housing, *INNOVATION*, a triannual publication of the Office of Research, NUS
- 2001 Lim J E M, W J Ng, L C Koh and V Kallianpur, A Model for Decentralised Grey Wastewater Treatment

System in Singapore Public Housing, The International Water Association Conference on Wastewater Management for Developing Countries, Vol.1, pp.489-497, University Teknologi Malaysia, Malaysia, 29-31 Oct 2001

Lim J E M and V Kallianpur, Urban Housing Strategies in the Spatial Incorporation of Infrastructure – A Study using Punggol Site in Singapore, Proceedings of the 11th Joint Kaist-Kyoto-NTU-NUS Symposium in Environmental Engineering, pp.1-14, Osaka, Japan, June 2001

Lim J E M, Design Learning in a Twelve Day Building Expedition, Architectural Education for the Asian Century Proceedings of the ACAE Conference on Architectural Education, CASA (NUS),

Lim J E M, Choo W C, Seng S H, Operation Najort, an interactive CD that chronicles the December 2000 building expedition by NUS architecture students

Lim J E M Architecture Design Education on a 12-day Building Expedition in Teaching and Learning, CDTLink, triannual publication for CDTL

Lim J EM Urban Design and Building Strategies for Public Housing in relation to the Spatial Incorporation of a Wastewater Recycling System, INNOVATION, triannual publication of the Office of Research

2000 Lim J E M, Complexities in the Development of the Design Mind, Reflections on Teaching, a commemorative publication by CDTL

1998 Lim, JEM, "The Designer's Tool Kit". In Forum II, Architectural Education for the 3rd Millenium, 22 – 24 April 1998, edited by Ayse Sentureer and Sezi Ozersay, compiled by Eastern Mediterranean University and Istanbul Technical University, pp. 355-366. Gazimaguza: Eastern Mediterranean University, pp. 355-366. Gazimaguza: Eastern Mediterranean University and Istanbul Technical University

1993 Cappleham, Owen, Michael Jordan and JEM Lim, Foundations in Architecture: An Anthology of Best Beginning Design Projects. 1 vols. United States: MacGraw Hill, 1993. 150 pp. (The 2nd Year studio focusing on structures in relation to architecture is featured in this anthology of Best Beginning projects in architecture schools worldwide).