

# CURRICULUM VITAE

## MICHAEL BUDIG

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Michael is an enthusiastic designer, educator, and technology innovator who operates at the intersections of culture, technology, and entrepreneurship. He is an Associate Professor of Practice in Architecture at the National University of Singapore and the director of the ReAL Lab for Research in Renewable and Regenerative Architecture, which pushes the boundaries of design and construction, driven by digital technologies and a desire to provide innovative solutions for decarbonisation in the built environment. The ReAL Lab engages in cutting-edge research in renewable materials, digitalisation, robotic fabrication, and circular construction.

His primary targets are bringing wood back into the architectural discourse, including the Global South, and expanding renewable materials' capabilities through hybridisation. He uses high-performance synthetic materials to enhance wood and, in return, investigates how wood can supplement building structures to increase their adaptability and reduce embodied carbon. The work extends to the interfaces between architectural spaces and robotic technologies, developing and designing solutions for better integrating autonomous machines in building environments. His built projects include industrial buildings such as a metal recycling company, soap production facilities in Innsbruck, and residential projects. The building, furniture, and industrial designs have won multiple international awards.

Previously, Michael was the founding CEO of the educational robotics startup Wefaa and an Assistant Professor in Architecture and Sustainable Design at Singapore University of Technology and Design. He held academic positions at MIT, ETH Zurich / FCL Singapore, the University of Applied Arts Vienna, and the University of Innsbruck. He also practised as an architect and principal of Moll Budig Architecture, a multi-disciplinary office focused on architecture, urbanism, and design strategies in Austria. He has taught design to around 3,000 students, covering first-year introductory and prototyping courses to design studios, thesis projects, and building technology courses at both undergraduate and graduate levels.

His volunteer work includes serving on various committees, such as the Building and Construction Authority (BCA), the Singapore Civil Defence Force (SCDF), and as a Young Urban Leader for the World Cities Summit from 2014 to 2022. He is also a member of the School Advisory Committee at Northland Primary School.

Architekt Dipl.-Ing 

274 Miltonia Close  
SG 768323, Singapore

+65 8488 4650  
michael.budig@me.com

\* 15 06 1972  
Austrian citizen  
Singapore permanent  
resident

Married, 2 children



<https://real.sutd.edu.sg>

ORCID:  
0000-0003-4479-7392

Web of Science  
ResearcherID:  
AAA-2721-2022

# PROFESSION

|   |  |
|---|--|
| <b>National University of Singapore</b><br>Associate Professor of Practice in Architecture<br>Department of Architecture (DoA)  | 2025 – present<br>cde.nus.edu.sg/arch/   |
| <b>Wefaa Robotics Pte Ltd</b><br>CEO and Executive Director<br>Educational Technologies start-up with reconfigurable robots at its core   | 2023 – 2025<br>wefaarobotics.com   |
| <b>Singapore University of Design and Technology</b><br>Adjunct Associate Professor<br>Architecture and Sustainable Design (ASD)<br>Adjunct Research Fellow<br>Engineering Product Development (EPD); Robotics Automation Research (ROAR) Lab<br>Assistant Professor<br>Architecture and Sustainable Design Pillar<br>Director, R <sup>E</sup> AL Renewable Architecture Lab<br>Research in Renewable and Reconfigurable Architecture | 2014 – 2025<br>2025<br>2023 – 2024<br>2014 – 2023<br>asd.sutd.edu.sg<br>real.sutd.edu.sg |
| <b>Woxsen University, Hyderabad</b><br>Adjunct Professor – School of Business   | 2022 – 2026  |
| <b>Massachusetts Institute of Technology</b><br>Affiliate Faculty<br>Department of Architecture, MIT-SUTD International Design Center   | 2016   |
| <b>ETH Zurich: Future Cities Laboratory / Singapore ETH Centre</b><br>Senior Researcher / Module Coordinator<br>Architecture and Digital Fabrication: Design of Robotic Fabricated High Rises   | 2011 – 2014  |
| <b>Vienna University of Applied Arts: Studio Zaha Hadid</b><br>University Assistant (Senior Lecturer) – Studio Prof Zaha Hadid  | 2010 – 2011  |
| <b>Moll Budig Architektur – Architecture, Urbanism, Design Strategies</b><br>Director / Co-Founder – Practising Architect   | 2004 – 2011  |
| <b>University of Innsbruck – Institute of Experimental Architecture</b><br>University Assistant (Senior Lecturer) – Studio Prof Patrik Schumacher (Zaha Hadid Architects) and Prof Kjetil Thorsen (Snøhetta Architects)   | 2001 – 2011  |
| <b>Kleboth und Dollnig ZT GmbH</b><br>Architecture Executive  | 2000 – 2001  |

## OTHER APPOINTMENTS AND PROFESSIONAL AFFILIATIONS

|                         |   |             |
|-------------------------|---|-------------|
| PROFESSIONAL<br>LICENSE | <b>ZT Ziviltechniker Austria</b><br>Licensed and Accredited Architect<br>Staatlich geprüfter und beeideter Ziviltechniker (accredited with the Austrian Board of Architects, effective in the European Union – currently dormant) | 2004        |
| MEMBERSHIPS             | <b>Singapore Institute of Architects</b><br>Associate Member  | 2017 – 2022 |
| APPOINTMENTS            | <b>Future Cities Laboratory Phase 2</b><br>Collaborating Researcher<br>Alternative Construction Materials, Singapore ETH Centre and ETH Zurich  | 2015 – 2015 |
|                         | <b>Young Urban Leader – World Cities Summit</b><br>Appointed by Minister of State Desmond Lee, Singapore  | 2014 – 2022 |

# EDUCATION

|   |             |
|---|-------------|
| <b>PhD – Royal Melbourne Institute of Technology</b>  | 2025        |
| Practice Research Symposia (PhD programme by invitation): <b>Tectonic Accentuations</b>         |             |
| Advisors: Assoc Prof Graham Crist, Prof Nicholas Boyarski                                       |             |
| Passed, graduation procedure in progress as of May 2025   |             |
| <b>MArch (Dipl.-Ing.) – University of Innsbruck</b>   | 1999        |
| Thesis Project: <b>Stealth Agency</b>   |             |
| <b>Pre-Diploma in Architecture – Bartlett School of Architecture, University College London</b> | 1998 – 1999 |
| Design Unit 19 (Neil Spiller and Phil Watson)   |             |
| <b>University of Texas at Arlington</b>   | 1996 – 1996 |
| Design Studio Prof Neil Denari (UCLA)   |             |
| <b>Mount Saint Mary's University</b>  | 1990 – 1991 |
| Scholarship for Track and Field (Decathlon), Emmitsburg, MD/ USA                                |             |
| <b>Matura (A Levels) – Akademisches Gymnasium Salzburg</b>                                      | 1990        |

## ADDITIONAL QUALIFICATIONS

|                            |  |      |
|----------------------------|--|------|
| PROFESSIONAL QUALIFICATION | <b>ZT Ziviltechnikerprüfung Austria</b>  | 2004 |
|                            | State Exam and Accreditation   |      |
|                            | Bundesministerium für Wirtschaft und Arbeit (Ministry of Economics and Labour)   |      |
| CERTIFICATES               | <b>Collaborative Institutional Training Initiative</b>   | 2020 |
|                            | CITI Program, ID: 790050; Social & Behavioural Research – Stage 1  |      |
|                            | <b>Collaborative Institutional Training Initiative</b>   | 2019 |
|                            | CITI Program, ID: 7900501; Conflicts of Interest– Stage 1  |      |
|                            | <b>MIT Kaufman Teaching Certificate</b>  | 2016 |
|                            | Massachusetts Institute of Technology Teaching and Learning Laboratory   |      |
| TRAININGS                  | <b>Robot Made – University of British Columbia, Vancouver</b>  | 2017 |
|                            | Robotic timber fabrication workshop in collaboration with ICD Institute for Computational Design and Construction, University of Stuttgart |      |
|                            | <b>Distributed Leadership Course – MIT Sloan School of Management</b>  | 2016 |
|                            | Independent Activity Period Program, IAP 15.339  |      |

# DESIGN PRACTICE

## BUILT PROJECTS SELECTION

|   |                    |
|---|--------------------|
| <b>MHF Metallhandel Grassmayr GmbH</b><br>New building for a metal recycling company, €1,400,000 (~S\$2,100,000), Innsbruck/AT<br>All architectural design stages, qualified person (QP) services, and contract administration  | 2006 – 2009 / 2018 |
| <b>SSW Private Residential Renovation</b><br>Renovation, adaption of a terraced house, €35,000 (~S\$50,000), Salzburg/AT<br>All architectural design stages, qualified person (QP) services, and contract administration  | 2006               |
| <b>KMG Gollhammer Keramik GmbH</b><br>Adaptive reuse of a farming estate into a ceramics manufacturing building and industrial showroom, €1,200,000 (~S\$1,800,000), Seewalchen am Attersee/AT<br>Architectural lead design   | 2005 – 2006        |
| <b>SSO C.A.Walde KG</b><br>Adaptive reuse of an industrial building into a soap and candles manufacturing building with industrial showroom, €1,000,000 (~S\$1,500,000), Innsbruck/AT<br>All architectural design stages, qualified person (QP) services, and contract administration | 2004 – 2005        |
| <b>FSR Private Residence</b><br>New building for a private residence, €650,000 (~S\$1,000,000), Innsbruck/AT<br>All architectural design stages, qualified person (QP) services, and contract administration, in collaboration with Comfort Architekten, Brunico/IT                   | 2002 – 2005        |

## DESIGN PROJECTS SELECTION

|  |             |
|--|-------------|
| <b>MTB2 Wood Bloom*</b><br>Prototype bench design made from engineered wood and enhanced with carbon fibre reinforcement<br>Design, prototyping and manufacturing  | 2023 – 2024 |
| <b>MTB1 Wood Bloom – Mapletree Design Partnership 2</b><br>Public bench design made from reclaimed wood planks and enhanced with carbon fibre reinforcement, full design services and prototyping, manufacturing supervision for Mapletree Investments Pte Ltd and Mapletree Business City Pte Ltd, S\$42,000, Mapletree Business City II, Singapore                       | 2019 – 2022 |
| <b>SGF Samsung Galaxy Folded Launch Pavilion</b><br>Public pavilion for the 2019 global launch of <i>Samsung Galaxy Fold</i> , lead design, coordination of production, with Buero Schaetz, Passau/DE for Samsung Pte Ltd, S\$200,000, Paragon Shopping Mall, Singapore  | 2019        |
| <b>Design Partnership for the BCA Pavilion at the IBEW 2019</b><br>Design development with Kenneth Tracy and students, S\$10,700, Marina Bay Sands Convention Centre, Singapore  | 2019        |
| <b>MTI Tiny Threads   Massive Blocks – Mapletree Design Partnership 1</b><br>Public bench design made from reclaimed wood planks and enhanced with carbon fibre reinforcement, full design services and prototyping, manufacturing supervision, for Mapletree Investments Pte Ltd and Mapletree Business City Pte Ltd, S\$60,000, at Mapletree Business City II, Singapore | 2016 – 2018 |
| <b>OHE SUTD Open House Exhibition 2017</b><br>Public 2-day event with 4,000-5,000 registered visitors, design, curatorial work, execution planning and coordination of contractors, S\$70,000, SUTD  | 2016 – 2017 |

## BUILDING PROPOSALS SELECTION

|   |                |
|---|----------------|
| <b>CAT Carbon Activated Timber</b><br>Design study for a fibre reinforced timber construction system  | 2019 – present |
| <b>NGH Next Generation Highrise</b><br>Design study for a residential high-rise typology with renewable materials (hybrid concrete and wood) and a reconfigurable construction system, funded by SUTD-MIT International Design Centre (IDC), S\$381,540 | 2018 – 2021    |

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|--|-------------|
| <b>rMacchina – Rieder Faserbeton-Elemente GmbH</b>   | 2009 – 2010 |
| Design consultation contract for a new entrance area, industry showroom, and conference spaces, consolidation and research on current product line, Rieder Group, Rosenheim/DE |             |
| <b>Kini Shop – MX Sportsline GmbH</b>  | 2008        |
| Design consultation contract for a new shop design and F&B spaces, Heinz Kinigadner, Uderns im Zillertal/AT  |             |
| <b>plugIN Private Residence</b>  | 2008        |
| Design consultation contract for the private residence of a drywall company owner, demonstration of the technology's design potentials, Rum in Tirol/AT                        |             |
| <b>Winner: Graz West Urban Development Plan – International Competition</b>  | 2000 – 2001 |
| Masterplan and urban development with Kleboth und Dollnig ZT GmbH, invited competition, 1st Prize (Runner-up: MVRDV), Graz/AT  |             |

## AWARDS AND RECOGNITIONS SELECTION

|                 |  |      |
|-----------------|--|------|
| DESIGN AWARDS   | <b>Winner: A'Design Award 2020 Bronze</b>  | 2020 |
|                 | Carbon Activated Timber Bench (Tiny Threads   Massive Blocks public bench)   |      |
|                 | <b>Winner: Singapore Good Design SG Mark Award 2019</b>  | 2019 |
|                 | Tiny Threads   Massive Blocks public bench   |      |
|                 | <b>Winner: Singapore Good Design SG Mark Award 2019</b>  | 2019 |
|                 | Generic Dwelling Templates for Future Urban Habitation (Next Generation Highrise residential design)                               |      |
|                 | <b>Winner: German Design Award 2018</b>  | 2018 |
|                 | The Face of Recycling (Metallhandel Grassmayr), nomination by invitation only  |      |
| RESEARCH AWARDS | <b>Winner: Arup Global Research Challenge 2019</b>   | 2019 |
|                 | Next Residential High-Rise, 5 awardees selected from 75 submissions (including ETH, EPFL, Stanford University, Harvard University) |      |
| TEACHING AWARDS | <b>Winner: First Award in Rethinking the Future RTF Awards 2017</b>  | 2018 |
|                 | Design Studio 'Micro-Towers' in the category of Housing (Concept), the RTF Award is part of the World Architecture Community       |      |
|                 | <b>Winner: Best Poster Award – 2<sup>nd</sup> Prize</b>  | 2016 |
|                 | 2nd Asian Materials Education Symposium 2016, Design Studio 'Building Skins', National University of Singapore                     |      |
|                 | <b>Winner: Busan International Architectural Design Workshop 2015</b>  | 2015 |
|                 | <b>First Prize by the President of Pusan National University</b>   |      |
|                 | 2nd Prize overall, Student and mentee Joshua Dieu  |      |
|                 | <b>Honourable Mention by the BIADW Organising Committee</b>  |      |
|                 | Student and mentee Bai Xueni   |      |
|                 | <b>Winner: International Kalzip Student Award – 2<sup>nd</sup> + 3<sup>rd</sup> Prize</b>  | 2007 |
|                 | Hochbau 2 students Brigitte Bertignoll, Katharina Riedl, Maria Schuler, Jury members: CJ Lim et al.                                |      |
|                 | <b>Winner: International OF.F.Lines Ideas Competition – 2<sup>nd</sup> Prize</b>   | 2005 |
|                 | Hochbau 2 student Peter Maierhofer   |      |

## EXHIBITIONS SELECTION

|               |  |      |
|---------------|--|------|
| INTERNATIONAL | <b>17th Venice Biennale of Architecture Exhibition</b>   | 2021 |
|               | Future Hybrid Highrise Commune – contribution in <i>to gather: The Architecture of Relationships</i> , Singapore National Pavilion                 |      |
|               | <b>Seoul Architecture Biennale – Singapore Exhibition Pavilion</b>   | 2017 |
|               | Exhibition design, with Chong Keng Hua, Carlos Banon, Felix Raspall, Kenneth Tracy, Christine Yogiama, Dongdaemun Design Plaza, Seoul, South Korea |      |
|               | <b>2015 Busan International Architectural Cultural Festival</b>  | 2015 |
|               | Busan-Chicago Sister-city Special Exhibition 'Chicago and Busan, Present with Past': SPACE-SYMBIOSIS: More Easy, More Slowly and Together          |      |
|               | MHF Metallhandel Grassmayr GmbH, Busan, South Korea  |      |

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|----------|--|------|
|          | <b>Swiss Positions + Swiss Scales</b><br>Design of Robotic Fabricated High Rises in <i>Innovative Technologies</i> , with Marcel Bruelisauer, Lin Kuek, Matthias Mast, Tobias Wullschleger, Swiss Embassy Seoul, South Korea           | 2013 |
|          | <b>2020: Housing China Symposium and Exhibition</b><br>Design of Robotic Fabricated High Rises, Department of Architecture, Hong Kong University   | 2013 |
|          | <b>12th Venice Biennale of Architecture Exhibition</b><br>Parametric Design Studios at Austrian Pavilion, exhibition of student work   | 2010 |
|          | <b>7th Venice Biennale of Architecture Exhibition – Future Cities Competition</b><br>Digital exhibition and publication, with K.Heinz Machat, selection committee included Peter Cook, Greg Lynn, Paul Virilio and Massimiliano Fuksas | 2000 |
| NATIONAL | <b>Venice Biennale 2021 Homecoming exhibition</b><br>Future Hybrid Highrise Commune<br>URA (Urban Redevelopment Authority) Gallery, Singapore  | 2022 |
|          | <b>Build Eco Xpo (BEX) Asia - Research Exhibition</b><br>Fibre Reinforced Mycelium, exhibition as part of the BCA Pavilion at the Green Building Week 2019; Marina Bay Sands Convention Centre, Singapore                              | 2019 |
|          | <b>Build Eco Xpo (BEX) Asia - ASD Exhibition</b><br>Exhibition of ASD research, design, curatorial work, fabrication, Green Building Week 2018, S\$6,000, Marina Bay Sands Convention Centre, Singapore                                | 2018 |
|          | <b>Construction Productivity Week BCA</b><br>Design of Robotic Fabricated High Rises, Singapore Expo   | 2013 |
|          | <b>Austrian Design Avant-Garde</b><br>Selected projects by Moll Budig Architektur, "Successful examples of Austrian design + architecture," Design Center Linz, Austria  | 2011 |

## MEDIA COVERAGE SELECTION

|               |  |      |
|---------------|--|------|
| INTERNATIONAL | NGH Next Generation Highrise in <b>Neumayr, R. (2022): 'Chapter 1.5 Digitalism in Morphogenetic Practices for Empathetic Human-Centric Design Thinking – A Performative Animated Gestalt through Parametricism?'</b> in Kanaani, M. (ed) The Routledge Companion to Ecological Design Thinking: Healthful Ecotopian Visions for Architecture and Urbanism. New York: Routledge   | 2022 |
|               | NGH Next Generation Highrise in <b>Arup Research Review Issue 4: Digital Tools for Resilience: Calculating Our Way to Net-Zero Cities</b> , <a href="https://www.arup.com/perspectives/publications/research/section/rethinking-systems-research-review">https://www.arup.com/perspectives/publications/research/section/rethinking-systems-research-review</a> , external-facing publication showcasing research at Arup. | 2021 |
|               | NGH Next Generation Highrise on <b>ArchDaily: Meet the Full List of the 60 National Pavilions at the Venice Biennale 2021</b> , <a href="https://www.archdaily.com/962010/meet-the-full-list-of-the-60-national-pavilions-at-the-venice-biennale-2021">https://www.archdaily.com/962010/meet-the-full-list-of-the-60-national-pavilions-at-the-venice-biennale-2021</a>  | 2021 |
|               | MTI Tiny Threads   Massive Blocks on <b>DESIGNERS.org: Carbon Activated Timber Bench - Sustainable Product Design Award Winner</b> , <a href="http://www.designers.org/design.php?ID=89216">http://www.designers.org/design.php?ID=89216</a>   | 2021 |
|               | MTI Tiny Threads   Massive Blocks in <b>DESIGNDIFFUSION.com: A'Design Award &amp; Competition announces the winners of the 2019/20 edition</b> , <a href="https://www.designdiffusion.com/en/2020/05/26/a-design-award-2019-20-the-winners/">https://www.designdiffusion.com/en/2020/05/26/a-design-award-2019-20-the-winners/</a>   | 2020 |
|               | MTI Tiny Threads   Massive Blocks in <b>INSPIRATIONIST.net: WDR Announces World Design Rankings In Arts, Architecture And Design</b> , <a href="http://inspirationist.net/wdr-announces-world-design-rankings-in-arts-architecture-and-design-2/">http://inspirationist.net/wdr-announces-world-design-rankings-in-arts-architecture-and-design-2/</a>   | 2020 |

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|----------|---|------------|
| NATIONAL | R <sup>F</sup> AL Lab Research on <b>3Sat (European international broadcaster): Heißes Pflaster Stadt Warum wir mehr Pflanzen brauchen</b> (Hot Pavement in the City: Why We Need More Green), interview for a TV documentary on smart cities (episode 2), Wednesday, 12 12 2018 6:40 – 8:15pm; Duration: 52 Min                        | 12 12 2018 |
|          | R <sup>F</sup> AL Lab Research on <b>ORF Austria, 3Sat, ARTE (Austrian national and European international broadcasters): 'Newton Wissenschaft'</b> , TV Interview for a documentary on smart cities, Saturday, 21 10 2017 6:40 – 7:10pm and repeated broadcasts, duration: 25 Min  | 21 10 2017 |
|          | Wefaa Robotics Startup in <b>LOOKAUT (Austrian Economic Chamber): 10 Milliarden Roboter: Mehr als nur Maschinen</b> (10 Billion Robots: More Than Machines); <a href="https://lookaut.tv/">https://lookaut.tv/</a>  | 20 12 2023 |
|          | Wefaa Robotics Startup in <b>LOOKAUT (Austrian Economic Chamber): Wie stehst du zu Künstlicher Intelligenz?</b> (What's Your View on Artificial Intelligence); <a href="https://lookaut.tv/">https://lookaut.tv/</a>  | 22 11 2023 |
|          | Wefaa Robotics Startup on <b>ORF2 (Austrian national public broadcaster): 'konkret'</b> TV Interview on the role and impact of robotic technologies, 12 06 2023, 18:30 – 18:50 Uhr; 1 Min 20 Sec  | 12 06 2023 |
|          | Wefaa Robotics Startup in <b>Der Standard: Transformers, ein Österreicher entwickelt gestaltwandelnde Roboter</b> (Transformers, an Austrian Develops Shape-changing Robots) in Der Standard newspapers with a reach of 0.5 million readers (Wikipedia), 1-page article   | 12 06 2023 |
|          | MTI Tiny Threads   Massive Blocks in <b>Best Design Singapore: Bench Design Michael Budig and Kenneth Tracy</b><br><a href="http://bestdesignsingapore.com/?ID=89216">http://bestdesignsingapore.com/?ID=89216</a>  | 25 11 2021 |
|          | NGH Next Generation Highrise in <b>Salzburger Nachrichten Wenn Holz und Beton enge Nachbarn sind</b> (When Wood and Concrete Are Close Neighbours) in Salzburger Nachrichten newspapers with a reach of 100,000 readers (Wikipedia), 1-page article   | 23 07 2021 |
|          | NGH Next Generation Highrise in <b>indesignlive: 5 Notable Installations at the Singapore Pavilion at Venice Architecture Biennale</b> ,<br><a href="https://www.indesignlive.sg/happenings/singapore-pavilion-venice-architecture-biennale">https://www.indesignlive.sg/happenings/singapore-pavilion-venice-architecture-biennale</a> | 2021       |
|          | Design of Robotic Fabricated Highrises on <b>Channel News Asia: Singapore Revealed – Planning Singapore</b> , TV Interview, 02 03 2014 8:00pm   | 02 03 2014 |
|          | Design of Robotic Fabricated Highrises in <b>Build Smart Magazine: Technology Knows No Bounds</b> , article by Minister for National Development Khaw Boon Wan, Building Construction Authority (BCA), Editors: Leong Ee Leng   | 07 2013    |
|          | Design of Robotic Fabricated Highrises in <b>TEC 21: Digitale Fabrikation für Hochhäuser</b> (Digital Fabrication for High-rises), Article by Lilian Pfaff, Editors: J. Solt et al, Zurich, ISSN 1424-800X  | 07 2013    |

# RESEARCH GRANTS

## EXTERNAL RESEARCH GRANTS

|              |  |                |
|--------------|--|----------------|
| PI           | <b>Research Studies in Sustainable Construction</b><br>Research collaboration funded by Hilti Corporation, Liechtenstein, S\$71,500                                    | 2022           |
|              | <b>JTC SUTD Design Teaching Partnership in 3.007 DTI</b><br>Teaching collaboration funded by Jurong Town Corporation (JTC), S\$20,000                                  | 2022           |
|              | <b>Mapletree Design Partnership 2</b><br>Design collaboration funded by Mapletree Investments Pte Ltd, S\$42,000   | 2019 – 2022    |
|              | <b>Arup Global Research Challenge Collaboration</b><br>Research collaboration funded by Arup, S\$66,000  | 2019 – 2021    |
|              | <b>BCA Design Partnership for the IBEW 2019 Pavilion</b><br>Design collaboration funded by Building Construction Authority BCA, S\$10,700                              | 2019 – 2019    |
|              | <b>Mapletree Design Partnership</b><br>Design collaboration funded by Mapletree Investments Pte Ltd, S\$60,000   | 2017 – 2018    |
| CO-PI        | <b>Advanced ROS2-Native Platform Technologies for Cross-sectorial Robotics Adoption</b><br>Co-PI (2022-23), Adjunct Research Fellow (since 2023), A*STAR, S\$1,985,100 | 2022 – present |
|              | <b>Maintainability Design Appraisal System</b><br>Research collaboration with Surbana Jurong, NTU, funded by Building Construction Authority BCA, S\$1,180,000         | 2017 – 2019    |
| COLLABORATOR | <b>Artificial Intelligence for Assessment in Design Education (AIDE)</b><br>MOE Tertiary Education Research Fund Grant MOE2020-TRF029                                  | 2021 – 2022    |
|              | <b>Innovative Planning &amp; Design of Age-Friendly Neighbourhoods</b><br>NRF Tier 2 Grant   | 2017 – 2019    |

## INTERNAL RESEARCH GRANTS

|              |   |             |
|--------------|---|-------------|
| PI           | <b>Course Health – Monitoring and Nurturing Attributes in Students</b><br>Pedagogy Innovation Grant, S\$13,000  | 2021 – 2022 |
|              | <b>Next Residential High-Rise - Comparative Study and Analytical Modelling for Flexible Housing Typologies Based on Modularity and Composite Structural Systems</b><br>SUTD-MIT International Design Centre (IDC), S\$381,540 | 2018 – 2020 |
|              | <b>Start-up Research Grant</b><br>MOE Startup Research Grant, S\$100,000  | 2015 – 2018 |
| CO-PI        | <b>Design and Robotic Fabrication of 3D composites</b><br>DManD Research Grant, S\$1,290,227  | 2016 – 2019 |
|              | <b>Analysis of Architectural Elements for Tropical Climates</b><br>SUTD, MOE Tier 1 Grant, S\$100,000   | 2016 – 2018 |
| COLLABORATOR | <b>From Big-D to Big-D+: An SUTD Community Led Development of Next-Gen Design Education</b><br>Pedagogy Leadership Grant  | 2021 – 2023 |

## GRANT MANAGEMENT AND RESEARCH COORDINATION

|  |   |             |
|--|---|-------------|
|  | <b>Design of Robotic Fabricated High Rises</b><br><b>Future Cities Laboratory - Architecture and Digital Fabrication</b><br>Senior Researcher / Module Coordinator<br><b>Project Lead and Scientific Management</b><br>Strategic, financial management, S\$ 2,500,000<br><b>Research and PhD Coordination</b><br>Robotic Systems for architectural design teaching + research | 2011 – 2014 |
|  | <b>Design research collaboration with Kalzip / Corusgroup</b><br>Geometric and formal advancement of envelope systems, €10,000 (~S\$15,000)   | 2008 – 2009 |



# RESEARCH OUTPUT

## BOOK CHAPTERS

- Acharya, D.<sup>1</sup>, Boucher, E.<sup>2</sup>, Boyd, R.<sup>2</sup>, **Budig, M.**<sup>3</sup>, Magnini, E.<sup>2</sup>, Walmsley, N.<sup>1</sup>; 2022  
<sup>1</sup> Arup Singapore, <sup>2</sup> Arup London, <sup>3</sup> SUTD. (2022) '**Toolkits for Renewable and Regenerative Buildings**', in Heckmann, O. (ed.) *Future Urban Habitation: Transdisciplinary Perspectives, Conceptions, and Designs*. Oxford: John Wiley and Sons
- Budig, M.** (2019) '**Wood on the Rise: A Speculative Approach to Timber Construction and Joinery in Southeast Asia**', in Hudert, M. and Pfeiffer, S. (eds) *Rethinking Wood - Future Dimensions of Timber Assembly*. Basel: Birkhauser Architecture, pp. 46–55.
- Budig, M.** (2012) '**Bildsprache - Die Rolle der Zeichnung im Zeichensaal**', in Haid, E. and Prossliner, J. (eds) in *Architektur Zeichensaal 4*. Vienna: Springer, pp. 64–65.

## JOURNALS

- Steven Mlote, D., Cheah, L., **Budig, M.** (2024) '**Adaptability of Buildings: A Systematic Review of Current Research**', in *Resources, Conservation and Recycling Journal*. <https://10.3389/fbuil.2024.1376759>
- Ezhilarasu, A., Muthugala, M.A.V., Jia, J.J.P., **Budig, M.**, Mohan, R.E. (2024) '**Enhancing Robot Inclusivity in the Built Environment: A Digital Twin-Assisted Assessment of Design Guideline Compliance**' in *Buildings*. <https://doi.org/10.3390/buildings14051193>
- Zeng, Z., Yeo, M.s.K., Borusu, S.C.S., Muthugala, M.A.V.J., **Budig, M.**, Elara, M.R., Wang, Y. (2024) '**A Framework for Auditing Robot-Inclusivity of Indoor Environments based on Lighting Condition**', in *Buildings*. <https://doi.org/10.3390/buildings14041110>
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- Budig, M.** Heckmann, O., Hudert, M., Ng, A.Q.B., Xuereb Conti, Z., Lork, C.J.H. (2020) '**Computational screening-LCA tools for early design stages**', in *International Journal of Architectural Computing*. <https://doi.org/10.1177/1478077120947996>

**Budig, M., Lim, J. and Petrovic, R. (2014) 'Integrating Robotic Fabrication in the Design Process',** in *Architectural Design - Made by Robots*. Edited by F. Gramazio, M. Kohler, and H. Castle, (229), pp. 22–43.  
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| <b>Budig, M., Heckmann, O., Boon, A.N.Q., Hudert, M., Lork, C., Cheah, L. (2020) 'Data-driven Embodied Carbon Evaluation of Early Building Design Iterations',</b> in Holzer, D. et al. (eds) <i>RE: Anthropocene, Design in the Age of Humans - Proceedings of the 25th International Conference on Computer-Aided Architectural Design Research in Asia, CAADRIA</i> , pp. 303–312.                      | 05 – 08 08 2020 |
| Heckmann, O., <b>Budig, M.</b> , Conti, Z.X., Cheng, R., X.C., Lo, S.T.T. (2020) <b>'User-driven parcellation of high-rise units for future urban habitation',</b> in Holzer, D. et al. (eds) <i>RE: Anthropocene, Design in the Age of Humans - Proceedings of the 25th International Conference on Computer-Aided Architectural Design Research in Asia, CAADRIA</i> . pp. 751–760.                      | 05 – 08 08 2020 |
| Heckmann, O., <b>Budig, M.</b> , Hudert, M., Ng, A., Cheah, L. (2019) <b>'Next-Generation Residential High-Rise: Advancing Flexibility and Circular Design by Evaluative Computational Means',</b> in <i>IAAC Responsive Cities Symposium 2019: Disrupting Through Circular Design</i> . Barcelona: Institute for Advanced Architecture of Catalonia.  | 13-14 11 2019   |
| <b>Budig, M., Heckmann, O., Hudert, M., Ng, A.Q.B. (2019) 'Next Generation Residential High-Rise: Evaluating and Comparing the Global Warming Potential of Different Structural Systems and Materials',</b> in Lazaro, C., Bletzinger, K. U., and Onate, E. (eds) <i>IASS Annual Symposium 2019 – Structural Membranes 2019 Form and Force</i> . Barcelona.  | 07-10 10 2019   |
| Heckmann, O., <b>Budig, M.</b> and Boon, A. N. G. Q. (2019) <b>'Next Generic Residential High-Rise - Flexible Housing Typologies and their Social and Environmental Sustainability',</b> in <i>CIB World Building Congress 2019 Constructing Smart Cities</i> , 17-21 June 2019, Hong Kong, China. Hong Kong: The Hong Kong Polytechnic University.  | 17-21 06 2019   |
| <b>Budig, M. (2017) 'Parametric Wood / A Parametric Design Approach to Wood Construction, Joinery, and Hybrid Materials',</b> in Nataliwati, S. A. (ed.) <i>The Green Initiatives: Ideas on Environment, Culture and Wood Innovation in Japan, Indonesia, the Philippines and Singapore</i> . Jakarta: Center for Japanese Studies, Universitas Indonesia and Archi Depot Corporation, Japan, pp. 187–196. | 28 10 2017      |
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| Khabazi, Z. and <b>Budig, M. (2016) 'Materiality in Its Minimum - Minimum Material Consumption through Design with Mathematics',</b> in <i>Parametricism Vs. Materialism: Evolution of Digital Technologies for Development - 8th ASCAAD Conference Proceedings</i> . London, pp. 29–38.   | 07 – 08 11 2016 |

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|                   | Khabazi, Z. and <b>Budig, M.</b> (2016) ' <b>Adaptive Fabrication - Cellular Concrete Casting Using Digital Moulds</b> ', in Hernejoja, A., Österlund, T., and Markkanen, P. (eds) <i>Complexity &amp; Simplicity - Proceedings of the 34th eCAADe Conference</i> , pp. 83–92.  | 22 08 2016      |
|                   | <b>Budig, M.</b> and Turakhia, D. (2016) ' <b>Crafting skins : Spatial and structural properties of laminated surfaces</b> ', in Weber, P. (University C. L. (ed.) <i>Research Based Education 2016</i> . Association of Architectural Educators AAE Conference 2016. The Bartlett School of Architecture, UCL, pp. 218–230.              | 08 04 2016      |
|                   | <b>Budig, M.</b> et al. (2014) ' <b>Design of Robotic Fabricated High Rises</b> ', in McGee, W. and Ponce de Leon, M. (eds) <i>Robotic Fabrication in Architecture, Art and Design 2014</i> . Springer International Publishing, pp. 111–129.   | 17 05 2014      |
|                   | <b>Budig, M.</b> and Neumayr, R. (2009) ' <b>Associative Processes : Adaptive Potential of Script Based and Generative Design</b> ', in Gengnagel, C. (ed.) <i>Design Modelling Symposium</i> . Berlin: Universität der Künste Berlin, pp. 1–10.  | 07 10 2009      |
|                   | Neumayr, R. and <b>Budig, M.</b> (2009) ' <b>Generative Processes – script based design research in contemporary teaching practice</b> ', in Paoletti, I. (ed.) <i>Innovative Design and Construction Technologies: Building complex shapes and beyond</i> . Milano: Maggioli S.P.A.  | 07 05 2009      |
| SHORT PAPERS      | <b>Budig, M.</b> (2018) ' <b>Parametric Wood - A parametric design approach to wood construction, joinery, and hybrid materials</b> ', in Fukuda, T. et al. (eds) <i>CAADRIA 2018 - Learning, Prototyping and Adapting</i> . Beijing  | 17 05 2018      |
| ABSTRACTS + TALKS | Silva, A., Yogiaman, C., <b>Budig, M.</b> , Mohan, R.E. (2021) ' <b>Design in the freshman year: the roles of prototyping, Mathematics, Physics, Social Science and Arts and Humanities</b> ', in Clive L. Dym Mudd Design Workshop XII: <i>Designing Through Making: 2-D and 3-D Representations of Designs in Campus Facilities</i> .   | 05 2021         |
|                   | <b>Budig, M.</b> , Heckmann, O., Cheah, L., Ng, A.Q.B. (2019) ' <b>Integrating Building Information Modeling (BIM) in Life Cycle Assessment for Early Stages of Design</b> ', in <i>International Conference on Industrial Ecology (ISIE2019), Industrial Ecology for Eco-Civilization</i> . Beijing: Tsinghua University Beijing, China. | 07-11 07 2019   |
|                   | <b>Budig, M.</b> (2019) ' <b>New Tools, New Approaches</b> ', in <i>Future Urban Habitation Symposium 2019</i><br>Session chair and invited speaker   | 29-30 01 2019   |
|                   | <b>Budig, M.</b> (2018) ' <b>Curved Bending and Stitching of Wood Panels</b> ', in <i>S.ARCH 2018 The 5th International Conference on Architecture and Built Environment with Awards</i> . Venice, p. 09.222.   | 22 05 2018      |
|                   | <b>Budig, M.</b> (2018) ' <b>Re-inventing Wood: Digitally Informed Construction</b> ', in <i>S.ARCH 2018 The 5th International Conference on Architecture and Built Environment with Awards</i> . Venice, p. 04.221.  | 22 05 2018      |
|                   | <b>Budig, M.</b> (2018) ' <b>Re-imagining wood: Implementing computational design and fabrication in education to innovate experimentation in wood construction, joinery and hybrid materials</b> ', in <i>Materials Education Symposium</i> . Cambridge: University of Cambridge.  | 13 04 2018      |
| POSTERS           | Steven Mlote, D., <b>Budig, M.</b> , Cheah, L. (2023) "Building Design for Disassembly and Adaptability – LCA of Flexible Building Structural System", in <i>11th International Conference on Industrial Ecology (ISIE2023)</i> . Leiden  | 02 – 05 07 2023 |
|                   | <b>Budig, M.</b> (2016) ' <b>Crafting skins</b> ', <i>2nd Asian Materials Education Symposium</i> . Singapore.  | 08 – 09 12 2016 |

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| <b>Budig, M. (2008) '2007(07).shell'</b> in <i>Smart Geometry Workshop and Conference</i> . Munich. | 05 03 2008 |
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## BOOK CONTRIBUTIONS

|  |      |
|--|------|
| ASD (2021) <b>Forming - Unforming 3</b> . Edited by E. Viray and K. S. Yeo. Singapore: ASD@SUTD Press.   | 2021 |
| ASD (2018) <b>Forming - Unforming 2</b> . Edited by E. Viray. Singapore: ASD@SUTD Press.   | 2018 |
| ASD (2017) <b>Forming - Unforming</b> . Edited by J. Huang and E. Viray. Singapore: ASD@SUTD Press.  | 2017 |
| Chair of Architecture and Digital Fabrication, E. Z. (2014) <b>The Robotic Touch - How Robots Change Architecture</b> . Edited by F. Gramazio, M. Kohler, and J. Willmann. Zurich: Park Books. | 2014 |
| Architecture.Hochbau, I. for E. (2013) <b>Research and Project Almanac</b> . Edited by M. Colletti. Innsbruck: innsbruck university press.   | 2013 |
| Architecture, I. of, Hadid, Z. and Schumacher, P. (2011) <b>Total Fluidity</b> . Edited by M. Veech-Kosmatschhof et al. Vienna: Springer-Verlag.   | 2011 |

## RESEARCH REPORTS

|   |      |
|---|------|
| <b>Budig, M.</b> , Heckmann, O., Lork, C., Ng, Q.B.A., Cheng, R.X.C., Conti, Z.X. (2022) <b>'Adaptable Buildings: Assessing Resilience to Changing Demands'</b> .   | 2022 |
| <b>Budig, M.</b> , Heckmann, O., Ng, Q.B.A., Cheah, L. (2022) <b>'Review of Simplified Carbon Assessment Tools for Buildings for Early Stage Design'</b> .  | 2022 |
| <b>Budig, M.</b> (ed.) (2014) <i>Robotic High Rises No . 03</i> . Singapore: Research Module of Architecture and Digital Fabrication Future Cities Laboratory ETH Singapore SEC Ltd.  | 2014 |
| <b>Budig, M.</b> , Petrovic, R. and Jenny, D. (eds) (2014) <i>Robotic High Rises No . 02 Design Research Studio 2013</i> . Singapore: Research Module of Architecture and Digital Fabrication Future Cities Laboratory ETH. | 2014 |
| <b>Budig, M.</b> and Petrovic, R. (eds) (2014) <i>Robotic High Rises No . 01 Design Research Studio 2012</i> . Singapore: Research Module of Architecture and Digital Fabrication Future Cities Laboratory ETH.             | 2014 |

## MAGAZINES

|  |                            |
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| <b>Budig, M.</b> (2018) <b>'Tectonic Systems for Tropical Timber A parametric design approach to wood construction, joinery, and hybrid materials'</b> , in <i>Architecture Technique – Learning, Prototyping and Adapting</i> , (275), pp. 76–81. | 08 2018<br>ISSN: 1674-6635 |
| Petrovic, R., <b>Budig, M.</b> and Lauer, W. (2013) <b>'Design of Robotic Fabricated High Rises'</b> , in Hebel, D. and Cairns. S. (eds) <i>FCL Magazine</i> , pp. 6–21. Singapore: ETH Singapore SEC.   | 08 2013<br>ISSN: 2339-5427 |
| Gramazio, F., Kohler, M. and <b>Budig, M.</b> (2013) <b>'The Tectonics of 3d Printed Architecture'</b> , in Cairns. S. (eds) <i>Gazette Future Cities Laboratory</i> , pp. 6–21. Singapore: ETH Singapore SEC.                                     | 07 2013                    |

# TEACHING

|                           |   |             |
|---------------------------|---|-------------|
|                           | <b>Undergraduate Students</b><br>2,697 students, 710 projects<br><b>Graduate Students</b><br>135 Master students, 81 projects | 2001 – 2022 |
| PROGRAMME LEAD            | <b>Architecture PhD Programme Coordinator, SUTD</b>   | 2018 – 2021 |
| COURSE LEAD + DEVELOPMENT | <b>Architecture Science and Technology, SUTD</b>  | 2014 – 2022 |
| COURSE LEAD               | <b>Design Thinking and Innovation, SUTD</b>   | 2019 – 2022 |
|                           | <b>Design Integrated Project II, SUTD</b>   | 2019 – 2022 |
|                           | <b>Design Studio Option 2, SUTD</b>   | 2017        |
|                           | <b>Design Studio Robotic Fabricated High Rises, ETH Zurich + NUS</b>  | 2012 – 2013 |
| COURSE INSTRUCTOR         | <b>Capstone Programme, SUTD</b>   | 2025        |
|                           | <b>Design Thinking and Innovation, SUTD</b>   | 2025        |
|                           | <b>Master Thesis Preparation, SUTD</b>  | 2024        |
|                           | <b>Computational Thinking for Design, SUTD</b>  | 2020 – 2022 |
|                           | <b>Master Thesis Preparation and Thesis, SUTD</b>   | 2017 – 2022 |
|                           | <b>Design Studio Option 1, SUTD</b>   | 2015 – 2018 |
|                           | <b>Design and Diploma Studio Hadid, Die Angewandte Vienna</b>   | 2010 – 2011 |
|                           | <b>Design Studios, University of Innsbruck</b>  | 2001 – 2011 |
|                           | <b>Hochbau 2 (Advanced Construction Design), University of Innsbruck</b>  | 2001 – 2011 |
|                           | <b>Hochbau 1 (Fundamentals in Construction Design), University of Innsbruck</b>   | 2001 – 2009 |
| PhD COMMITTEES            | <b>PhD Thesis Examination Committee Member</b>  | 2021 – 2022 |

## FABRICATION PROGRAMME LEAD

|  |  |                   |
|--|--|-------------------|
|  | <b>Robotic Teaching and Research Lab, ETH Zurich</b><br>3 x Universal Robots UR5, Güdel ZP3 Linear Axis System | 07 2011 – 02 2012 |
|  | <b>Rapid Prototyping and 3D Printing Lab, University of Innsbruck</b>  | 2004 – 2011       |

## MENTORING AND TRAVEL PROGRAMMES

|                               |  |             |
|-------------------------------|--|-------------|
| RESEARCH TRAINING             | <b>12 Research Assistants</b>  | 2015 – 2022 |
| STUDENT TRAINING              | <b>Undergraduate Research Mentoring, 55 students</b>   | 2015 – 2022 |
| TRAVEL PROGRAMMES (SELECTION) | <b>Independent Activity Programme IAP (2020), field research Sepulut Sustainable Forest Management, Borneo, Malaysia S\$16,200</b><br><b>Pearl River Delta (2013), S\$10,000,</b><br><b>Singapore Hinterlands (2012), S\$5,000</b><br><b>Tokyo (2012), S\$10,000</b><br><b>London (2006), €5,000 (~S\$7,500)</b> | 2006 – 2020 |

# ACADEMIC SERVICE

## SERVICE INTERNATIONAL COMMUNITY

|       |  |            |
|-------|--|------------|
| TALKS | <b>Alliance University</b> , Bangalore   | 18 10 2023 |
|       | <b>RoboSoft 2023</b> , 6th IEEE-RAS International Conference on Soft Robotics<br>Sands Expo & Convention Centre, 10 Bayfront Ave, Singapore  | 06 04 2023 |
|       | <b>International Conference of Additive Manufacturing for a Better World</b> ,<br>session chair, SUTD, Singapore   | 24 08 2022 |
|       | <b>Woxsen University</b> International Lecture Series, Hyderabad, online   | 26 10 2021 |
|       | <b>Bond University</b> , Abedian School of Architecture, Australia, online   | 18 06 2021 |
|       | <b>Pratt Institute School of Architecture</b> , New York City, online  | 16 06 2021 |
|       | <b>Archifest Singapore</b> , Panel Moderation, Digital Craft Session, URA<br>Singapore   | 07 10 2021 |
|       | <b>Digital Manufacturing and Design Centre DManD</b> , Wednesday Seminar<br>Series on Sustainability and Circular Economy, SUTD  | 16 06 2021 |
|       | <b>National University of Singapore NUS</b> , Research by Design Symposium,<br>session chair   | 26 02 2021 |
|       | <b>Austrian Embassy in Kuala Lumpur</b> , Live-Webinar: Sustainable Building In<br>ASEAN, Malaysia   | 19 03 2021 |
|       | <b>Building Construction Authority BCA</b> , Environmental Sustainability Group,<br>Super Low Energy Buildings Department, Singapore, online   | 19 02 2021 |
|       | <b>Arup Singapore</b> Pte Ltd, online  | 19 01 2021 |
|       | <b>Centre for Liveable Cities</b> , World Cities Summit WCS Young Leaders<br>Webinar, online   | 28 10 2020 |
|       | <b>Archifest Singapore</b> , Panel Moderation, Digital Craft Session, URA<br>Singapore   | 02 10 2020 |
|       | <b>Digital Manufacturing and Design Centre DManD</b> 2020 Symposium, SUTD,<br>Singapore  | 03 09 2020 |
|       | <b>Tongji University</b> , College of Architecture and Urban Planning, DigitalFutures<br>2020 international symposium and workshops, Shanghai, online                                  | 27 06 2020 |
|       | <b>ARCHI-DEPOT Corporation</b> , Tokyo (organiser): Green Initiative Week in the<br>Philippines 2020, University of San Carlos, SAFA, Department of Architecture,<br>Cebu, Philippines | 03 03 2020 |
|       | <b>Archifest Singapore</b> , Panel Moderation, Digital Craft Session, URA<br>Singapore   | 02 10 2019 |
|       | <b>Archifest Singapore</b> , Panelist, Machining Touch: Artisans & Fabricators, URA<br>Singapore   | 28 09 2019 |
|       | <b>International Built Environment Week IBEW</b> 2019, Green View Seminar<br>session, Marina Bay Sands Convention Centre, Singapore  | 06 09 2018 |
|       | <b>Future Urban Habitation Symposium</b> 2019, session chair and invited<br>speaker, National Design Centre, Singapore   | 30 01 2019 |
|       | <b>EduTECH Asia</b> 2018, Suntec Convention Centre, Singapore  | 10 10 2018 |
|       | <b>Chu Hai College of Higher Education</b> , Hong Kong   | 16 11 2018 |
|       | <b>National University of Singapore</b> , Research by Design Symposium: Making<br>+ Scholarship  | 17 01 2018 |
|       | <b>ARCHI-DEPOT Corporation Tokyo</b> (organiser): Green Initiative Week,<br>University of Indonesia, Jakarta, Indonesia  | 28 10 2017 |
|       | <b>Architectural Association</b> visiting school Shanghai, City Smart Symposium,<br>Shanghai   | 12 07 2017 |

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|                       | <b>Conference on Urban Planning and Property Development</b> , Global Science & Technology Forum, Singapore   | 10 10 2016 |
|                       | <b>University College London</b> , Association of Architectural Educators AAE 2016  | 08 04 2016 |
|                       | <b>Royal Melbourne Institute of Technology (co-organiser)</b> : National Design Centre, Intricate Reifications – Exploring the Architecture of Digital Translations, Singapore  | 02 11 2015 |
|                       | <b>Conference on Urban Planning and Property Development</b> , Global Science & Technology Forum, Singapore   | 05 10 2015 |
|                       | <b>University of Michigan</b> , RobArch2014, Ann Arbor, USA   | 17 05 2014 |
|                       | <b>MIT Enterprise Forum Singapore</b> , The Future of Smart Cities, Singapore   | 11 12 2013 |
|                       | <b>Yonsei University Seoul</b> , Architecture Tomorrow Symposium, Seoul, South Korea  | 08 11 2013 |
|                       | <b>Centre for Liveable Cities Singapore</b> , Innovation and the City   | 25 10 2013 |
|                       | <b>Green Building Forum</b> , Kuala Lumpur Convention Centre, Malaysia  | 05 07 2012 |
|                       | <b>Berlin University of the Arts</b> , Design and Modelling Symposium, Germany  | 07 10 2009 |
|                       | <b>Politecnico Milano</b> , Innovative Design + Construction Technologies Conference, Italy   | 07 05 2009 |
|                       | <b>Innsbruck University</b> , Austria   | 12 01 2009 |
|                       | <b>Design Factory</b> , Bratislava, Slovakia  | 15 08 2008 |
|                       | <b>Radiokulturhaus</b> , Vienna, Turn-on Architecture Festival, Austria   | 07 03 2008 |
| INVITED CRITIC        | <b>National University of Singapore</b><br><b>Massachusetts Institute of Technology</b> , Asst Prof Brandon Clifford, Prof Sheila Kennedy, Prof John Ochsendorf<br><b>Pratt Institute</b> , Prof Karl S Chu, Prof Peter Macapia<br><b>The Cooper Union</b> , Prof Guido Zuliani<br><b>Harvard Graduate School of Design</b> , Prof Martin Bechthold<br><b>Hong Kong University</b> , Asst Prof Jason Carlow, Asst Prof Christian Lange, Prof Karl Chu, Prof Tom Verebes<br><b>Innsbruck University</b> , Prof Bart Lootsma<br><b>Tokyo University</b> , Prof Yusuke Obuchi<br><b>Tongji University Shanghai</b><br><b>Tsinghua University Beijing</b> |            |
| INVITED WORKSHOPS     | <b>Pusan National University</b> , Busan International Archit. Design Workshop 2021<br><b>Tongji University, Shanghai, DigitalFutures 2020</b> , Workshop and Lecture<br><b>Pusan National University</b> , Busan International Archit. Design Workshop 2019<br><b>Pusan National University</b> , Busan International Archit. Design Workshop 2018<br><b>Chu Hai College</b> , Hong Kong, Back to Earth Construction and Digital Fabrication Workshop, 2018<br><b>Pusan National University</b> , Busan International Archit. Design Workshop 2016<br><b>Design Factory</b> , Bratislava/SLK, re:mix workshop, 2008                                  |            |
| JUDGING INTERNATIONAL | <b>GADA 2019</b> , Global Architecture Design Awards<br><b>GADA 2018</b> , Global Architecture Design Awards<br><b>UDAD2018, Urban Design and Architecture Design Awards</b><br><b>IAA 2018</b> , International Architecture Awards   |            |
| JUDGING NATIONAL      | <b>Singapore Science and Engineering Fair (SSEF) 2022</b><br><b>URA Sparks Challenge 2022</b><br><b>URA Sparks Challenge 2019</b><br><b>URA Sparks Challenge 2019</b>   |            |

## JOURNAL AND MANUSCRIPT REVIEW

|                      |   |
|----------------------|---|
| EDITORIAL BOARD      | <b>Frontiers of Sustainable Design and Construction</b> , Sustainable Design and Construction (specialty section of Frontiers in Built Environment) |
|                      | <b>Frontiers of Digital Architecture</b> Digital Architecture (specialty section of Frontiers in Digital Humanities)                                |
| JOURNAL REVIEW       | <b>Energy and Buildings</b> , Elsevier Publishers   |
|                      | <b>International Journal of Architectural Computing</b> , SAGE Publishers   |
|                      | <b>Construction Robotics Journal</b> , Springer Nature Publishers   |
| SCIENTIFIC COMMITTEE | <b>Rob Arch 2012, 2016</b> , Conference on Robotic Fabrication in Architecture, Art and Design  |
| REVIEW               | <b>SimAUD 2018, 2019, 2020, 2021, 2022</b> , Symposium on Simulation for Architecture and Urban Design  |
|                      | <b>CAADRIA 2017, 2018, 2019, 2020, 2021, 2022, 2023</b> , Association for Computer Aided Architectural Design Research in Asia                      |
|                      | <b>IASDR2021</b> , 9th Congress of the International Association of Societies of Design Research, Hong Kong Polytechnic University                  |
|                      | <b>IASS2018</b> , Symposium of the International Association for Shell and Spatial Structures   |
|                      | <b>UPPD 2016, 2017, 2018</b> , International Conference on Urban Planning and Property Development  |
|                      | <b>Fabricate 2014</b> , Fabricate International Conference and Publication  |

## ORGANISATION OF SYMPOSIA, WORKSHOPS AND LECTURES

|   |            |
|---|------------|
| <b>SUTD-NUS Joint PhD Symposium</b><br>Co-organisation with Assoc Prof Rudi Stouffs (NUS), at SUTD  | 26 04 2021 |
| <b>Hiroshi Naito Master Workshop</b><br>Seminar session with Hiroshi Naito, SUTD  | 2019       |
| <b>Tectonic Intersections Symposium</b><br>Symposium at SUTD, Co-organisation with Adjunct Assoc Prof Lai Chee Kien   | 2018       |
| <b>Intricate Reifications Symposium – Exploring the Architecture of Digital / Material Translations</b><br>Co-organisation with Roland Snooks (Royal Melbourne Institute of Technology), at National Design Centre Singapore, with Fabio Gramazio (ETH Zurich), Tobias Wallisser (LAVA)   | 2015       |
| <b>Intricate Correlations - International Symposium and Workshops</b><br>University of Innsbruck / Obergurgl, with Patrik Schumacher (Zaha Hadid Architects), Hanif M. Kara (Harvard University), Tobias Wallisser (LAVA), Lawrence Friesen (Buro Happold), Claudia Pasquero (Ecologic Studio), Wolfgang Rieder (Rieder Group), Gernot Riether (Georgia Tech), Wolfgang Löschnig (TU Graz); €10,000 (~\$15,000)   | 2010       |
| <b>Lectures (Selection)</b><br>Christopher Lee (Harvard University, Serie Architects), 2015 (SUTD)<br>Alejandro Zaera-Polo (Princeton University, AZPML Architects), 2015 (SUTD)<br>Tom Verebes (Hong Kong University), 2015 (SUTD)<br>Roland Snooks (RMIT Melbourne), 2015 (SUTD)<br>Bostjan Vuga (Sadar Vuga, Slovenia), 2015 (SUTD)<br>Antoine Picon (Harvard University), 2012 (ETH)<br>Achim Menges (Stuttgart University), 2013 (ETH)<br>Francois Roche (R&Sie), 2012 (ETH)<br>Philippe Block (ETH Zurich), 2012 (ETH)<br>Thomas Bock (TU Munich), 2012 (ETH) |            |



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**Ringvorlesungen Lecture Series (University of Innsbruck)**

2009 – 2011

Lectures by Tom Wiscombe (Emergent Architecture), Roland Snooks (kokkugia), Alessio Erioli, Andrea Graziano (co-de-it), Kristy Balliet (studio lynn vienna); €10,000 (~S\$15,000)

Lars Spuybroek (Georgia Tech), 2006 (University of Innsbruck)

Michael Hensel (AHO), 2005 (University of Innsbruck)

Marcelo Spina (SCI-Arc), 2002 (University of Innsbruck)

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**International Student Competition OF.F.LINES**

2005

With Erich Gutmorgeth, for OITAF (International Organisation for Transportation by Rope)

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**SERVICE NATIONAL COMMUNITY**

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**National Institutions**

- **Northland Primary School Advisory Committee**, Ministry of Education (MOE) Singapore, 2024 – 2026
- **iBuildSG Tripartite Committee**, Building Construction Authority (BCA) Singapore, 2019 – 2022
- **Fire Code Review Committee**, Singapore Civil Defence Force, 2019 – 2022
- **Built Environment Skillsfuture Tripartite (BEST) Taskforce**, Building Construction Authority (BCA) Singapore, 2017 – 2018
- **BCA Universal Design Mark**, Advisory Committee, Building Construction Authority (BCA) Singapore, 2016 – 2017

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**Service University**

- **Freshmore 1D 2D Taskforce (SUTD)**, Undergraduate Committee, 2020 – 2021
- **Institutional Review Board (SUTD/IRB)**, 2019 – 2022
- **Board of Graduate Studies (SUTD)**, 2018 – 2021
- **Faculty Educational Development Committee (SUTD)**, 2018 – 2020
- **Risk Management Working Committee (SUTD)**, 2017
- **Curriculum Committee (Innsbruck University)**, 2010 – 2011
- **Board of the Faculty (Innsbruck University)**, 2004 – 2007