

Chew Yit Lin, Michael (Dr.)

Professor

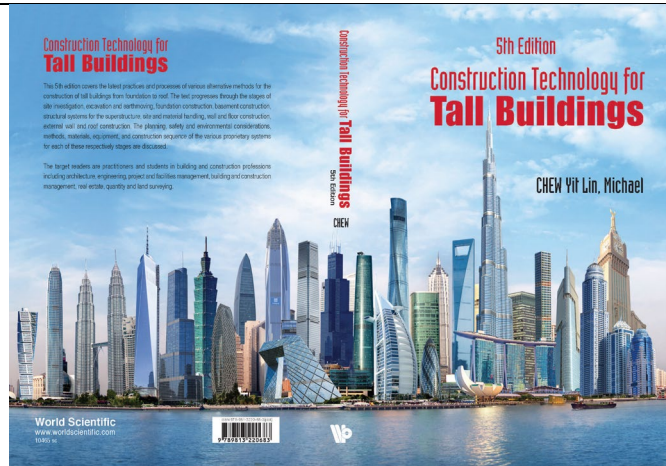
Ph.D. (NSW), M.Eng.Sc (Struc.Eng.) (Sydney)
B.Build (Hons)(NSW), MIES, MAIB, MIFireE

Email: bdgchewm@nus.edu.sg

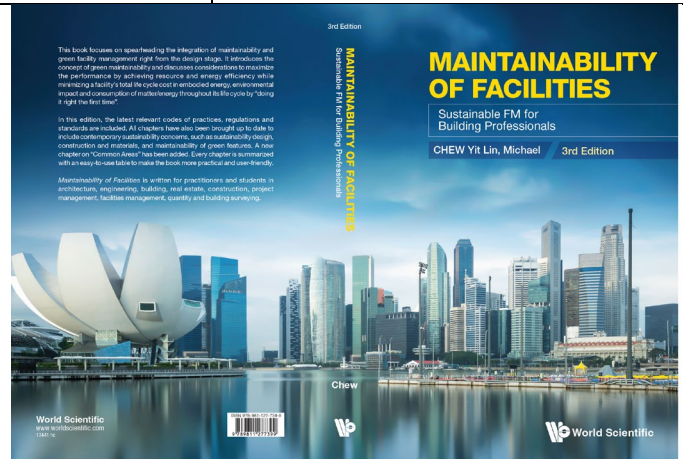
Tel: (+65) 6516-3496

Fax: (+65) 6775-5502

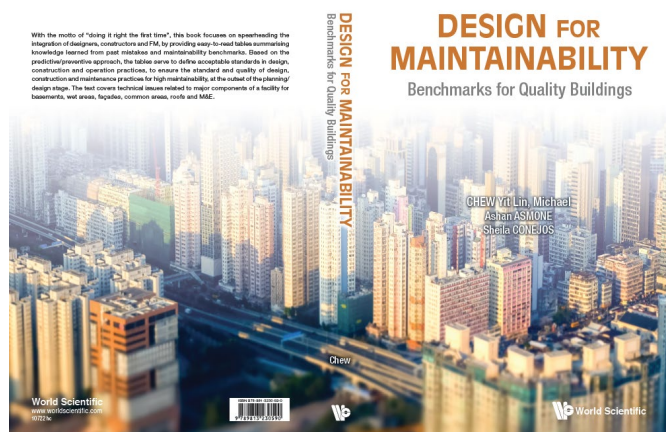
Department of the Built Environment
School of Design and Environment
National University of Singapore
4 Architectural Drive
Singapore 117566



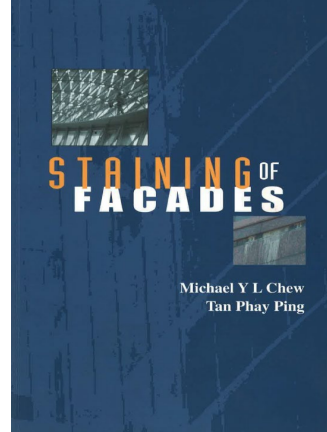
Construction Technology for Tall Buildings
– 5th edition, 2018



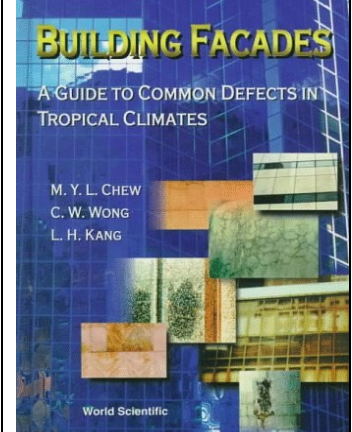
Maintainability of Facilities
Sustainable FM for Building Professionals – 3rd edition, 2024



Design for Maintainability
Benchmark for Quality Buildings, 2018



Staining of Facades
2003



Building Facades
A Guide to Common Defects in Tropical Climates, 1998

Academic and Professional Qualifications

1986 University of New South Wales
1988 University of Sydney
1990 University of New South Wales

B. Building (Hons)
Master of Engineering Science (Structural Engineering)
PhD (Fire Science)

Awards

- 2023 Outstanding Paper, Built Environment Project and Asset Management, Emerald Awards 2023 Literati
- Stanford University World's Top 2% Scientists (Built Environment & Design) out of 100,000 top scientists - 2022
- 2022 Singapore Patent 10202251352F, Building Façade Inspection System (Backend), ILO Ref: 2021-309-01
- 2022 Singapore Patent 10202251351F, User Experience (UX) algorithm to digitally match annotations to 3D model, ILO Ref: 2021-313-01
- 2021 Minister's Award for TR78:2020

- Stanford University World's Top 2% Scientists (Built Environment & Design) out of 100,000 top scientists - 2021
- Stanford University World's Top 2% Scientists (Built Environment & Design) out of 100,000 top scientists -2020
- R&D on maintainability of facilities adopted as a new national standard, the first of its kind globally, launched in 2019/2020
- Best Paper Prize (First Prize), "Development of a Green Maintainability Design Decision Support System", IISBE, Prague, 2019
- Highly Commended Paper Award, Emerald 2018 Literati Awards - 2018
- Best Paper Award, ICiRMBEE - 2017
- Annual Teaching Excellence Award (STEA - Honour Roll – 2017-2019)
- Merit Award - "Sustainable facilities management and the requisite for green maintainability" - SMART Facilities Management Solutions Regional Focus Group - 2016
- Annual Teaching Excellence Award (ATEA - Honour Roll – 2015-2019)
- Annual Teaching Excellence Award (ATEA) 2012/2013
- School Teaching Excellence Award (STEA) 2012/2013
- School Teaching Excellence Award (STEA) 2011/2012
- Annual Teaching Excellence Award (ATEA) 2010/2011
- School Teaching Excellence Award (STEA) 2010/2011
- Annual Teaching Excellence Award (ATEA) 2009/2010
- School Teaching Excellence Award (STEA) 2009/2010
- School Teaching Excellence Award (STEA) 2008/2009
- US patent granted on an In-situ non-destructive elastic recovery tester - P-No. US6,513,369 B1.
- US patent granted on heat and hot water resisting polyurethane – P-No. US6,855,765
- Singapore patent granted – Patent No: 86332
- Singapore patent granted – Patent No: 105389

Biography

Michael CHEW Yit Lin graduated from the University of New South Wales with B. Building (Hons) in 1986. He then graduated from the University of Sydney with a Master of Engineering Science (Structural Engineering). He completed his PhD at the University of New South Wales in Fire Science – the use of thermoluminescence in the assessment of fire-damaged concrete and masonry in 1990.

Research

Michael's research areas are:

- Building System and Diagnostics
- Maintainability of Buildings
- Fire Technology
- Façade Technology

Michael has been the principal investigator of many research projects and has been successful in attracting external research funding, with a total project value exceeding S\$7m. His R&D on joint sealant testing and product development, and his work on the maintainability of buildings, have resulted in six patents awarded in the US and Singapore. He has seen his products licensed and commercialized, with his R&D brought from the laboratory to on-site applications including airports, buildings and civil structures both local and overseas. He is the founder of an NUS spin-off company incorporated in April 2003. Michael has authored more than 200 IRJ and conference papers. He is the author of 5 books, some of which have been recommended as text or reference books by some overseas and local institutions.

Among Michael's earlier research includes the "Concrete Durability" project. The project has resulted in the development of techniques for quality management in the same way as cost planning and network diagrams for the control of cost and time. Another major project the "Evaluation of Concrete Repair" evaluated the properties of various repair systems under various climatic conditions, surface preparation and workmanship. The work also involved the evaluation of existing failed repairs, methods for cutting back, cleaning and preparation of the substrate and the corroded reinforcement. Michael is a pioneer in the assessment of fire-damaged concrete and masonry. He conducted an extensive study on the use of thermoluminescence to assess the maximum temperature distribution within fire-damaged concrete

members. He has been invited as a consultant to numerous fire damage assessments by authorities and professionals, both local and overseas. He has set up a fire technology unit equipped with high-tech instrumentation including a cone calorimeter, smoke chamber and toxicity chamber.

Another Michael's research interests is in the area of building systems and diagnostics. His research on the Maintainability of Buildings in the Tropics has attracted much attention. The research focuses on spearheading the integration of maintainability and green facility management right from the design stage to maximize the performance of a facility by achieving resource and energy efficiency while minimizing the total life cycle cost in embodied energy; environmental impact and consumption of matter/energy throughout the life cycle of a facility, by "doing it right the first time". Other than an extensive defect library and a material manual, another useful deliverable is the development of a model that assesses the whole life quality throughout the delivery process. His R&D on the maintainability of facilities was adopted as a new national standard, the first of its kind globally, launched in 2019/2020 titled Singapore Standard 652:2019 Maintainability of Facilities.

Teaching

Michael's teaching areas are:

- Construction Technology
- Maintainability of Facilities
- Green Facilities Management
- Fire Technology

Michael has been the winner of teaching excellence awards at the university level and is on the honour roll from 2015 to 2019. He has abstained from receiving teaching awards since 2015.

His recent textbooks include:

- Chew Yit Lin, Michael, "Maintainability of Facilities – Sustainable FM for Building Professionals 3rd Edition", World Scientific, 2024.
- Chew Yit Lin, Michael, "Construction Technology for Tall Building - 6th Edition", World Scientific, 2024.
- Chew Yit Lin, Michael, Ashan Asmone, Sheila Conejos, "Design for Maintainability – Benchmarks for Quality Buildings", World Scientific, 2018.

Services

Michael has been invited as keynote speaker, external examiner, advisor, judge, editorial board member, referee and reviewer by reputable universities, research and professional institutions. His contribution to services includes:

2021+	Head, Department of the Built Environment, National University of Singapore
2019+	Head, Department of Building, School of Design & Environment, National University of Singapore
2017+	Chair, CityU 5-year Review of Academic Excellence for BST
2016+	Facilities Management Roadmap Working Committee
2015+	Judge, LTA Safety Award Convention
2015+	Technical Committee Member, Building Maintenance & Management, SPRING Singapore.
2014+	Technical Reviewer and Technical Evaluation Panel (TEP) member, Land and Liveability National Innovation Challenge (L2 NIC) Call for Proposals (Full Proposal Stage)
2014+	Programmed External Assessor, University of Malaya
2013+	NUS Baba House Architectural Conservation Committee
2011+	Core Leader, Facilities Management Program, DOB
2010+	Member, Strategic Planning Advisory Committee (SPAC), 2010.
2008-2010	Deputy Head (Admin & Finance), Department of Building
2006-2010	Member, Steering Committee for Interactive and Digital Media (IDMSC)
2002-2007	Vice Dean (Research), School of Design and Environment
2002-03	Member, Evaluation Committee for Academic Research Funding more than S\$500,000, Ministry of Education
2002-03	Member, University Remake NUS Task Force
2000-02	Deputy Head (Research), Department of Building