

Curricula Vitae

Associate Professor Goh, Yang Miang (Dr)

PhD (Civil Engineering – Construction Management) NUS, B.Eng. (Civil Engineering) (Hons), NUS



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ACADEMIC QUALIFICATIONS

- B.Eng. (2nd Upper Hons) (2000), Department of Civil Engineering, National University of Singapore
- Ph.D. (2005), Department of Civil Engineering, National University of Singapore

EMPLOYMENT RECORDS

- Associate Professor, Department of Building, NUS (2017- current)
- Assistant Professor, Department of Building, NUS (2012 - 2016)
- Senior Consultant, Det Norske Veritas (2011 - 2012)
- Senior Lecturer, School of Public Health, Curtin University (Western Australia) (2007 - 2010)
- Engineer, Group Leader, Head, Assistant Director (Investigations), Occupational Safety and Health Division, Ministry of Manpower (2005 - 2007)
- Research Engineer/Research Assistant, NUS (2003 - 2004)

ADMINISTRATIVE LEADERSHIP

- Dean's Chair, School of Design and Environment, NUS (May 2020 – April 2023)
- Director, Centre for Project and Facilities Management (formerly known as Centre for Project Management and Construction Law), Department of Building, NUS (2019 – current)
- Deputy Head (Research), Department of Building, NUS (2016 – 2019)
- Deputy Programme Director (B.Sc. Project and Facilities Management), Department of Building, NUS (2013 - 2016)
- Vice Chairman, Safety and Health Committee, Department of Building, NUS (2016- current)
- Member, Institution Construction Safety Committee, NUS (2012 - 2016)
- Member, NUS Board of Inquiry (2013)

PROFESSIONAL/CONSULTING ACTIVITIES

- Institution of Engineers, Singapore (IES)
 - Academic Board Member, IES Academy (2016 – current)
 - Council Member, Institution of Engineers, Singapore (IES) (2015 – 2017)
 - Chairman/Co-Chairman, Health and Safety Engineering Technical Committee, Institution of Engineers, Singapore (IES) (2015 – 2018)
 - Represented IES on the panel of judges for LTA's Annual Safety Awards and Convention (ASAC) competition (2015-2017)
- Standards setting
 - Co-convenor of the Singapore Standards Workgroup for Singapore Standard SS 570:2011 Specification for personal protective equipment for protection against falls from a height – Single point anchor devices and flexible horizontal lifeline systems (2020 – current)
 - Member of the Technical Committee on Workplace Safety and Health, SPRING

- Singapore (2014 – current)
 - Co-Convenor of the SPRING Singapore Workgroup for Singapore Standard for Temporary edge protection systems. Product specification. Test methods (2018 – 2019)
 - Convenor of the SPRING Singapore Workgroup for Singapore Standard (SS607) for Design of active fall protection system (published in 2015)
 - Member of the SPRING Singapore Workgroup for Singapore Standard SS588 Personal equipment for protection against falls – Rope access systems (published in 2013)
 - Member of the SPRING Singapore Workgroup for Singapore Standard SS 510 Code of Practice for Safety in Welding and Cutting (and Other Operations Involving the Use of Heat) (published in 2016)
 - Member of the SPRING Singapore Workgroup for Risk Management; overseeing ISO 31000 – Risk Management standard (2013 – 2015)
- Workplace Safety and Health Council
 - Member of Workplace Safety and Health Council Construction and Landscape Committee (2015 – 2017)
 - Member of the Design for Safety Taskforce – Capability Building Sub-Committee (2014 – 2015)
- Other voluntary or honorary appointments
 - Member of the 1st and 2nd Advisory Committee for Outward Bound Singapore (2018 – current)
 - Member of the 2nd External Review Panel for the Singapore Armed Forces Safety (2017 – current)
 - Adjunct Associate Professor (Honorary), School of Public Health, Curtin University (2010 –2015)
 - Honorary Researcher, Workplace Safety and Health Institute (2014 –2017)
- Training consultancies (2011 – current)
 - Conducted courses for Institution of Engineers, Singapore (IES), Singapore Institution of Safety Officers (SISO) and Singapore Contractors Association Limited (SCAL)
 - Courses include: Advanced Engineers Leadership Programme, Workshop on Accident Analysis Using Event Causation Technique, WSH Leadership Programme, Design of Active Fall Protection System, and Lessons from Construction Accidents
- Expert witness consultancy projects for fatal accident cases (2018 – current)
 - 2018 – Fatal fall from height accident in construction
 - 2018 – Fatal fall into water accident in shipyard
 - 2019-2020 – Fatal structural collapse in construction
- Other consultancies
 - Resource Person in a joint project between the International Labour Organization (ILO) and the International Association of Labour Inspection (IALI), “Drafting of Occupational Safety and Health Regulations in Myanmar” (2020)
- Media interviews (selected)
 - CNA Digital (10 Feb 2020), “Going digital: Singapore’s construction firms embrace artificial intelligence and virtual reality”.
 - Straits Times (FEB 23, 2019), “Fostering culture of open reporting in SAF the right move: Observers”.
 - Live interview on capital 958 城市频道 (11 April 2018), Discussion panel on Workplace Safety and Health.
 - Teen fell from false beams in shopping mall: Straits Times (2 Mar 2017) “Teens fall sparks safety discussion”; New Paper (2 Mar 2017) “Are more safety measures needed?”.
 - Viaduct collapse during construction: Straits Times (18 Jul 2017) “Worksites may have to hold mandatory safety meetings daily”; and other related interviews in Straits Times and Lianhe Zaobao.
 - Live interview on Channel 8’s Hello Singapore 狮城有约 programme (18 Dec 2015), “Hotel false ceiling collapse incident”.

RESEARCH INTERESTS

- Workplace safety and health
- Project management
- Education and training technology
- Machine learning and analytics
- Fall protection

RESEARCH ACHIEVEMENTS

- As of 20 Jan 2021, 2 guest editorials with Accident Analysis and Prevention, 1 guest editorial with Construction Management and Economics (on-going), 2 books, 1 book chapter, FWCI of 2.28 (Scopus) and h-index of 21 in Scopus, and 27 in Google Scholar.
- Total research grant received: >SGD 3 million
- 2 licensing agreement signed to implement SafeSim Hazards in industry; 1 licensing agreement signed to implement FPSWizard in industry

AWARDS

- AUBEA 2018 Best Paper in Technology Stream
- NUS School of Design and Environment School Teaching Excellence Award (STEA) Honour Roll 2019
- NUS Annual Teaching Excellence Award for Academic Year 2017/2018
- NUS School of Design and Environment Teaching Excellence Award (2015/16, 2016/17, 2017/18)
- SPRING Singapore Merit Award (2017) – Contributions to standards setting in Singapore
- Institution of Engineers Singapore (IES) – Outstanding Volunteer Award (2012), Outstanding Committee Award (2015/16)
- Director of Occupational Safety and Health Commendation Award (Ministry of Manpower) – Accident Causal Analysis Tool for OSH Investigation (2007)
- Minister for Manpower Award – recognition of outstanding contribution to the successful implementation of the Occupational Safety & Health Reform in Singapore (2006)
- NUS Research Scholarship (2000-2003)

International Refereed Journal Papers

1. Guo, B. H. W., Weston, R., Jianphinitnan, P., Liu, W., Scheepbouwer, E., van der Walt, D., & Goh, Y. M. (2021). A regulatory perspective on safety in design practices in New Zealand. *Safety Science*, 141, 105352. <https://doi.org/https://doi.org/10.1016/j.ssci.2021.105352>
2. Guo, B. H. W., Zou, Y., Fang, Y., Goh, Y. M., & Zou, P. X. W. (2021). Computer vision technologies for safety science and management in construction: A critical review and future research directions. *Safety Science*, 135(March 2021).
3. Tian, W., Zhong, X., Zhang, G., & Goh, Y. M. (2021). Sustainability analysis of reused industrial buildings in China: an assessment method. *Journal of Civil Engineering and Management*, 27(1), 60–75.
4. Lingard, H., Peihua Zhang, R., Räisänen, C., Miang Goh, Y., Bowen, P. & Bhandari, S. 2021, "Special issue: what have we learnt from the COVID-19 global pandemic: improving the construction industry's abilities to foresee, respond to and recover from future endemic catastrophes", *Construction management and economics*, vol. 39, no. 2, pp. 192-197.
5. Tian, W., Zhong, X., Zhang, G. & Goh, Y.M. 2021, "SUSTAINABILITY ANALYSIS OF REUSED INDUSTRIAL BUILDINGS IN CHINA: AN ASSESSMENT METHOD", *Journal of civil engineering and management*, vol. 27, no. 1, pp. 60-75.
6. Guo, B. H., Zou, Y., Fang, Y., Goh, Y. M., & Zou, P. X. (2021). Computer vision technologies for safety science and management in construction: A critical review and future research directions. *Safety Science*, 135, 105130.
7. Tashrif, S. M., Lim, W. C., Goh, Y. M., Hu, X., & Koh, S. J. A. (2020). Experimental Validation of Energy Balance Approach for Design of Horizontal Lifeline Systems. *International Journal of Occupational Safety and Ergonomics* (2020), 1-43.
8. Lee, R.Y., Samad, H. and Goh, Y.M. (2020) Perceived importance of authentic learning factors in designing a construction safety simulation game-based assignment: a random forest approach, *ASCE Journal of Construction and Engineering Management*, 146(3), 1-11.
9. Lim, W. C., Tashrif, S. M., Goh, Y. M., & Koh, S. J. A. (2019). Validation of the energy balance approach for design of vertical lifeline systems. *International Journal of Occupational Safety and Ergonomics*, 13 pages. doi:10.1080/10803548.2019.1616948
10. Goh, M. & Goh, Y. M. (2019). Lean production theory-based simulation of modular construction processes, *Autom. Constr.* 101 (2019) 227–244. doi:10.1016/j.autcon.2018.12.017.
11. Hossain, M. A., Abbott, E. L. S., Chua, D. K. H., Nguyen, T. Q., & Goh, Y. M. (2018). Design-for-Safety knowledge library for BIM-integrated safety risk reviews. *Automation in Construction*, 94(June), 290–302. <https://doi.org/10.1016/j.autcon.2018.07.010>

12. Goh, Y. M., Ubeynarayana, C. U., Wong, K. L. X., & Guo, B. H. W. (2018). Factors influencing unsafe behaviors: A supervised learning approach. *Accident; Analysis and Prevention*, 118, 77–85. <https://doi.org/10.1016/j.aap.2018.06.002>
13. Poh, C.Q.X., Ubeynarayana, C.U. & Goh, Y.M. 2018, "Safety leading indicators for construction sites: A machine learning approach", *Automation in construction*, vol. 93, pp. 375-386.
14. Guo, B. H. W., Goh, Y. M., & Le Xin Wong, K. (2018). A system dynamics view of a behavior-based safety program in the construction industry. *Safety Science*, 104. <https://doi.org/10.1016/j.ssci.2018.01.014>
15. Goh, Y. M., and Guo, B. H. W. (2017). "FPSWizard: A web-based CBR-RBR system prototype for supporting the design of active fall protection systems." *Automation in Construction*, 85(2018), 40-50.
16. Goh, Y. M., and Ubeynarayana, C. U. (2017). "Construction Accident Narrative Classification: An Evaluation of Text Mining Techniques." *Accident Analysis & Prevention*, 108 (2017), 122–130.
17. Guo, B. H. W., and Goh, Y. M. (2017). "Ontology for design of active fall protection systems." *Automation in Construction*, 82, 138-153.
18. Guo, B. H. W., Yiu, T. W., González, V. A., and Goh, Y. M. (2017). "Using a Pressure-State-Practice Model to Develop Safety Leading Indicators for Construction Projects." *J. Constr. Eng. Manage.-ASCE*, 143(2), 04016092.
19. Goh, Y. M., and Askar Ali, M. J. (2016). "A hybrid simulation approach for integrating safety behaviour into construction planning." *Accident Analysis & Prevention*, 93, 310-318.
20. Goh, Y. M., and Chua, S. (2016). "Knowledge, attitude and practices for design for safety: A study on civil & structural engineers." *Accident Analysis & Prevention*, 93, 260-266.
21. Goh, Y. M., and Goh, W. M. (2016). "Investigating The Effectiveness Of Fall Prevention Plan and Success Factors For Program-Based Safety Interventions." *Safety Science*, 87(August 2016), 186-194.
22. Toh, Y. Z., Goh, Y. M., and Guo, B. H. W. (2016). "Knowledge, Attitude and Practice of Design for Safety: A Study on Multiple Stakeholders in the Construction Industry." *J. Constr. Eng. and Manage. - Am. Soc. of Civ. Eng.*
23. Zhou, Z., Goh, Y. M., and Shen, L. (2016). "Overview and Analysis of Ontology Studies Supporting Development of the Construction Industry." *Journal of Computing in Civil Engineering*, 30(6).
24. Goh, Y. M. (2015). "Empirical Investigation of the Average Deployment Force of Personal Fall Arrest Energy Absorbers." *J. Constr. Eng. and Manage. - Am. Soc. of Civ. Eng.*, 141(1).
25. Goh, Y. M., and Sa'adon, N. F. (2015). "Cognitive factors influencing safety behavior at height: A multimethod exploratory study." *Journal of Construction Engineering and Management*, 141(6).
26. Goh, Y. M., Tan, S., and Lai, K. C. (2015). "Learning from the Bhopal disaster to improve process safety management in Singapore." *Process Safety and Environmental Protection*, 97(0), 102-108.
27. Goh, Y. M., and Wang, Q. (2015). "Investigating the adequacy of horizontal lifeline system design through case studies from Singapore." *J. Constr. Eng. and Manage. - Am. Soc. of Civ. Eng.*, 141(7), 4015017.
28. Hettinger, L., Kirlík, A., Goh, Y. M., and Buckle, P. (2015). "Modeling and simulation of complex sociotechnical systems: Envisioning and analyzing work environments." *Ergonomics*, 58(4), 600-614.
29. Zhou, Z., Goh, Y. M., and Li, Q. (2015). "Overview and Analysis of Safety Management Studies in the Construction Industry." *Safety Science*, 72(February 2015), 337-350.
30. Goh, Y. M., and Chua, D. (2013). "Neural network analysis of construction safety management systems: a case study in Singapore." *Construction Management and Economics*, 31(5), 460-470.
31. Dong, C., and Goh, Y. M. (2013). "Empirical Models for Estimating Maximum Allowable Mass for Personal Fall Arrest Energy Absorbers." *Journal of Health, Safety and Environment*, 29(3).
32. Goh, Y. M., Love, P. E. D., Brown, H., and Spickett, J. (2012). "Organizational accidents: A systemic model of production versus protection." *Journal of Management Studies*, 49(1), 52-76.
33. Goh, Y. M., Love, P. E. D., Stagbouer, G., and Annesley, C. (2012). "Dynamics of safety performance and culture: A group model building approach." *Accident Analysis & Prevention*, 48(0), 118-125.
34. Goh, Y. M., and Love, P. E. D. (2012). "Methodological application of system dynamics for evaluating traffic safety policy." *Safety Science*, 50(7), 1594-1605.
35. Love, P. E. D., Lopez, R., Edwards, D. J., and Goh, Y. M. (2012). "Error begat error: Design error analysis and prevention in social infrastructure projects." *Accident Analysis & Prevention*, 48(0), 100-110.
36. Spickett, J., Katscherian, D., and Goh, Y. M. (2012). "A new approach to criteria for health risk assessment." *Environmental Impact Assessment Review*, 32(1), 118-122.
37. Love, P. E. D., Edwards, D. J., Han, S., and Goh, Y. M. (2011). "Design error reduction: Toward the effective utilization of building information modeling." *Research in Engineering Design*, 22(3), 173-187.
38. Love, P. E. D., Edwards, D. J., Irani, Z., and Goh, Y. M. (2011). "Dynamics of Rework in Complex Offshore Hydrocarbon Projects." *J. Constr. Eng. Manage.-ASCE*, 137(12), 1060-1070.

39. Love, P. E. D., Goh, Y. M., Hogg, K., Robson, S., and Irani, Z. (2011). "Burnout and sense of coherence among residential real estate brokers." *Safety Science*, 49(10), 1297-1308.
40. Goh, Y. M., Brown, H., and Spickett, J. (2010). "Applying systems thinking concepts in the analysis of major incidents and safety culture." *Safety Science*, 48, 302-309.
41. Goh, Y. M., and Chua, D. K. H. (2010). "Case-Based Reasoning Approach to Construction Safety Risk Assessment: Adaptation and Utilization." *J. Constr. Eng. and Manage. - Am. Soc. of Civ. Eng.*, 136(2), 170-178.
42. Goh, Y. M., and Love, P. E. D. (2010). "Adequacy of Personal Fall Arrest Energy Absorbers in Relation to Heavy Workers." *Safety Science*, 48(6), 747-754.
43. Goh, Y. M., and Chua, D. K. H. (2009). "Case-Based Reasoning Approach to Construction Safety Risk Assessment: Case Representation and Retrieval." *J. Constr. Eng. and Manage. - Am. Soc. of Civ. Eng.*, 135(11), 1181-1189.
44. Chua, D. K. H., and Goh, Y. M. (2005). "A Poisson Model of Construction Incident Occurrence." *J. Constr. Eng. and Manage. - Am. Soc. of Civ. Eng.*, 131(6), 715-722.
45. Chua, D. K. H., and Goh, Y. M. (2004). "Incident causation model for improving feedback of safety knowledge." *J. Constr. Eng. and Manage. - Am. Soc. of Civ. Eng.*, 130(4), 542-551.