

ALEXANDER LIN (Dr)

PhD (Structural Engineering, Mechanics and Materials) UC Berkeley, MSc (Structural Engineering, Mechanics and Materials) UC Berkeley, BSc (Civil Engineering) National Taiwan University



Department of the Built Environment
School of Design and Environment
National University of Singapore
4 Architecture Drive, SDE1-04-26
Singapore 117566
Tel: (65) 6516 5894
Email: bdgal@nus.edu.sg

ACADEMIC QUALIFICATIONS:

- Ph.D. (Structural Engineering, Mechanics and Materials) (2017), Department of Civil and Environmental Engineering, University of California at Berkeley (UC Berkeley)
- Master of Science (Structural Engineering, Mechanics and Materials) (2013), Department of Civil and Environmental Engineering, UC Berkeley
- Bachelor of Science (2012), Department of Civil Engineering, National Taiwan University

EMPLOYMENT RECORDS:

- Senior Lecturer, Department of the Built Environment, School of Design & Environment, National University of Singapore (NUS) (July 2021 - Present)
- Senior Lecturer, Department of Building, School of Design & Environment, NUS (May 2019 - Jun 2021)
- Research Fellow, School of Design & Environment, NUS (Mar 2019 - Apr-2019)
- Research Fellow, NUS Environmental Research Institute (March 2018 - Feb-2019)
- Graduate Student Researcher, Department of Civil & Environmental Engineering, UC Berkeley (2013 - Dec 2017)
- Graduate Student Instructor, Department of Civil & Environmental Engineering, UC Berkeley (Spring-2016, Fall-2016 and Fall 2017)

ADMINISTRATIVE LEADERSHIP:

- Co-lead for AM Enabled Design and Environment, Centre for Additive Manufacturing, NUS (Oct 2020 - Present)
- Student Representative, Safety Committee, UC Berkeley (2014 - 2017)

PROFESSIONAL/CONSULTING ACTIVITIES:

- Lectures, Course name: Engineering Risk Analysis (CIV ENG 193), Davis Hall 544, UC Berkeley (29 Aug 2017, 28 Sep 2017 and 19 Oct 2017)

- Oral presentation, topic: Using Waste Materials in Mortars for Modifying Rheological behavior and Microstructural Buildup for Concrete 3D Printing, Engineering Mechanics Institute Conference, Online presentation (28 May 2021)
- Oral presentation, topic: Multi-scale Pull-Out Resistance of Steel Reinforcing Bar embedded in Hybrid Fiber Reinforced Concrete (HyFRC), Fibre Concrete 2017 International Conference, Hotel DAP, Prague, Czech Republic (15 Sep 2017)
- Oral presentation, topic: Synergy between Hybrid Fiber Reinforced Concrete (HyFRC) and Rebar, Federal Highway Administration meeting, Davis Hall 542, UC Berkeley (23 Jan 2015)

TEACHING:

- Structural Systems
- Advanced Measurement
- Advanced Building Materials and Structures

RESEARCH INTERESTS:

- Construction 3D printing
- High performance and green construction materials
- Offshore structures
- Design and shape/topology optimization of novel structures

SELECTED PUBLICATIONS:

- **Lin A**, Tan YK, Wang CH, Kua HW, Taylor H. Utilization of Waste Materials in a Novel Mortar–Polymer Laminar Composite to be Applied in Construction 3D-Printing. *Composite Structures*. 2020-Dec (Vol. 253, 112764) (Impact factor: 5.138)
- Li X, **Lin A**, Young CH, Dai Y, Wang CH. Energetic and economic evaluation of hybrid solar energy systems in a residential net-zero energy building. *Applied Energy*. 2019 Aug (Vol. 254, 113709) (Impact factor: 8.848)
- **Lin A** and Ostertag CP. Interaction between High Performance Fiber Reinforced Cement-based Composite and Steel Reinforcement. *Engineering Structures*. (Under review) (Impact factor: 3.548)
- **Lin A**, Goel A, Wong DH, Yeo C, Chung J, Pang SD, Wang CH, Taylor H, Kua HW. Modular design of compressive load-dominated mortar components for rapid fabrication and assembly. Automation in Construction. (Submitted) (Impact factor: 5.669)
- Afroughsabet V, Geng G, **Lin A**, Biolzi L, Ostertag CP, Monteiro PJ. The influence of expansive cement on the mechanical, physical, and microstructural properties of hybrid-fiber-reinforced concrete. *Cement and Concrete Composites*. 2019 Feb (Vol. 96, pages 21-32) (Impact factor: 6.257)
- Arora S., Jung J., Liu M., Li X., Goel A., Chen J., Song S., Anderson C., Chen D., Leong K., Lim SH, Fong SL, Ghosh S, **Lin A**, Kua HW, Tan TW, Dai Y, Wang CH. Gasification biochar from horticultural waste: An exemplar of the circular economy in Singapore. *Science of The Total Environment*. 2021-Mar (Vol. 781, 146573) (Impact factor: 6.551)
- Hu X, Goh YM, **Lin A**. Educational Impact of An Augmented Reality (AR) Application for Teaching Structural Systems to Non-Engineering Students. *Advanced Engineering Informatics*. (Under review) (Impact factor: 3.879)

- **Lin A**, Ostertag CP. Multi-Scale Pull-Out Resistance of Steel Reinforcing Bar Embedded in Hybrid Fiber Reinforced Concrete (HYFRC). In IOP Conference Series: Materials Science and Engineering 2017 Sep (Vol. 246, No. 1, p. 012022). IOP Publishing.
- **Lin A**, Barthes C and Ostertag CP. Investigation of Bond Behavior between Steel Reinforcing Bar and Hybrid Fiber Reinforced Concrete (HyFRC) with a Rebar Pull-out Test Program Supported by Digital Image Correlation (DIC) and Vibration Tests. Composite Structures. (Under preparation)
- **Lin A** and Ostertag CP. Synergy between Macro and Micro Fibers in Cement Composite. Construction and Building Materials. (Under preparation)

AWARDS:

- SDE Teaching Excellence Award, National University of Singapore, 2019/2020
- Popert Fellowship, University of California, Berkeley (2014)
- Presidential Awards (Three times) (Academic 5%), National Taiwan University (Fall-2010, Fall-2011, Spring-2012)
- Chinese Institute of Civil and Hydraulic Engineering Scholarship (2011)