

Curriculum Vitae



Associate Professor Alan Lim Teik Cheng

Head, PhD (Engineering) and Master of Engineering Programmes
School of Science & Technology

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Education Qualifications

2001	PhD, National University of Singapore
1996	BEng (Hons), National University of Singapore

Academic and Professional Experience

2013 – Present	Head of PhD (Engineering) and Master of Engineering Programmes
2007 – Present	Lecturer, Senior Lecturer, Associate Professor, Singapore University of Social Sciences
Feb – Aug 2022	Professor (Part-Time, Online), Harbin Institute of Technology, China
2022	PhD External Examiner for the Hong Kong Polytechnic University, HK
2021	MPhil External Examiner for the Hong Kong Polytechnic University, HK
2018, 2022	PhD External Examiner for the Faculty of Science, University of Malta, Malta
2019	PhD External Examiner for National Institute of Technology Calicut, India
2012	PhD External Examiner for the School of Medical Science and Technology, Indian Institute of Technology (IIT), Kharagpur, India
2011	Evaluation Team Member for the Engineering Accreditation Board (EAB)
2009	PhD External Examiner for the Department of Applied Mechanics & Hydraulics, National Institute of Technology Karnataka, Surathkal, India
2007	Evaluation Team Member for the Engineering Accreditation Board (EAB)
2001 – 2006	Research Fellow, Professional Officer and Program Manager, National University of Singapore
2000 – 2001	Applications Engineer, Instron Singapore Pte Ltd
1999	Graduate Tutor, National University of Singapore

Memberships and Professional Activities

2007 – Present	Member, Institution of Engineers Singapore (IES)
2007 – Present	Member, International Association of Engineers (IAENG)
2003 – 2006	Member, American Society of Mechanical Engineers (ASME)

Consultancy and Executive Experience

2022 – 2024	Appointed Reviewer of the SUSS Working paper Series
2023	Enterprise Singapore (ESG) Working Group Member on Technical Reference Maintenance regime for the pump and drainage system in railway tunnels and stations
2023	Technical Committee Member, 7th International Conference on Advanced Manufacturing and Materials (ICAMM 2023) in Cambridge, United Kingdom during July 11-13, 2023
2023	Technical Committee member, 12th International Conference on Engineering Mathematics and Physics (ICEMP 2023), Kuala Lumpur, Malaysia on July 5-7, 2023
2019, 2021 – 2023	Judge for the Singapore Science and Engineering Festival (SSEF)
2022	Invited Speaker, 7th International Conference on Composite Materials and Material Engineering (online)
2021	Reviewer for European Research Council
2019	Speaker, NUS-MRS Workshop on Functional Materials
2015 – 2017	Judge for the Energy Innovation Challenge competition, organized in conjunction with the National Engineers Day (NED)
2015	Committee member, International Conference on Mechatronics and Mechanical Engineering (ICMME 2015), Singapore.
2015	Scientific committee member, 6th International Conference on Auxetics and other materials and models with negative characteristics, Malta.
2014	Scientific committee member, 5th International Conference and 10th International Workshop on Auxetics and related systems at Poznan
2012	Scientific committee member, 4th International Conference and 9th International Workshop on Auxetics and Related Systems, Bolton
2011	Scientific committee member, 8th International Workshop on Auxetics and Related Systems, Szczecin
2011	Consultancy team member for evaluating the effectiveness of e-learning in Home Team Academy (HTA)
2009	Scientific committee member, 6th International Workshop on Auxetics and Related Systems, Bolton
2002 – Present	Peer reviewer for international journals

Research Interests

- Mechanical Metamaterials
- Auxetic Materials and Structures
- Negative Thermal Expansion Materials
- Negative Compressibility Materials
- Negative Hygroscopic Expansion Materials
- Solid Mechanics
- Composites

Awards

2010 – 2011	UniSIM CFAR research grant no. RF10SST01. As PI.
2006 – 2009	A*STAR SERC Grant, Grant number 062 120 0017. As Co-PI.
2005 – 2008	NUS Academic Research Fund, WBS no. R-265-000-192-112. As Co-PI.
1996 – 1999	NUS Research Scholarship
1995/96	Faculty of Engineering Annual Book Prize (Applied Mechanics), NUS

Selected Publications

Selected Books:

- Teik-Cheng Lim, “A Partially Auxetic Metamaterial Inspired by the Maltese Cross”, Cambridge University Press, 2022. <https://doi.org/10.1017/9781009246415>
- Teik-Cheng Lim, “Mechanics of Metamaterials with Negative Parameters”, Springer Nature, 2020. <https://doi.org/10.1007/978-981-15-6446-8>
- Teik-Cheng Lim, “Auxetic Materials and Structures”, Springer Nature, 2015. <https://doi.org/10.1007/978-981-287-275-3>

Selected Book Chapters:

- Teik-Cheng Lim, “Sensing materials: Composites and hybrid materials”, in Encyclopedia of Sensors and Biosensors, Volume 2, 2023, Pages 187-195. <https://doi.org/10.1016/B978-0-12-822548-6.00003-0>
- Govardhana Rao Banna, Teik-Cheng Lim, and Kotireddy Rama Bhupal Reddy, “Productivity gain by combination of lean manufacturing and mass customisation methods in aviation industry”, in Lecture Notes in Networks and Systems, Volume 335. Springer, Cham, 2022. https://doi.org/10.1007/978-3-030-90532-3_35
- Teik-Cheng Lim, “Modeling and simulation of polymeric nanocomposite processing” in Recent Advances in Elastomeric Nanocomposites, Eds: Vikas Mittal, Jin Kuk Kim and Kaushik Pal, Advanced Structured Materials, 2011, Volume 9, Part 2, 119-134. https://doi.org/10.1007/978-3-642-15787-5_4

Selected Refereed International Journals Papers:

- Teik-Cheng Lim, "A metamaterial with sign-programmable thermal expansivity and Poisson's ratio constructed from a hybrid of rotating and non-rotating rigid units", International Journal of Solids and Structures (in press) <https://doi.org/10.1016/j.ijsolstr.2023.112510>
- Teik-Cheng Lim, "Metamaterials with Poisson's ratio discontinuity by means of fragmentation-reconstitution rotating units", Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences 479, 20230442 (2023) <https://doi.org/10.1098/rspa.2023.0442>
- Teik-Cheng Lim, "A metamaterial with negative thermal expansivity and programmable Poisson's ratio based on rotating triangles and quivering rhombi", European Journal of Mechanics - A/Solids 100, 104986 (2023) <https://doi.org/10.1016/j.euromechsol.2023.104986>
- Teik-Cheng Lim, "An anisotropic negative thermal expansion metamaterial with sign-toggling and sign-programmable Poisson's ratio", Oxford Open Materials Science 2, itac007 (2022) <https://doi.org/10.1093/oxfmat/itac007>

Selected Refereed International Conference Papers:

- Teik-Cheng Lim, "Aspect ratio and size effects of a metacomposite with interconnected Y-elements" Journal of Physics: Conference Series 2047, 012029 (2021) <https://doi.org/10.1088/1742-6596/2047/1/012029>
- Teik-Cheng Lim, "A reinforced kite-shaped microstructure with negative linear and area hygrothermal expansions", Key Engineering Materials 803, 272-277 (2019) <https://doi.org/10.4028/www.scientific.net/KEM.803.272>
- Teik-Cheng Lim, "A negative hygroscopic expansion material", Materials Science Forum 928, 277-282 (2018) <https://doi.org/10.4028/www.scientific.net/MSF.928.277>

For a complete list of publications, see

https://scholar.google.com.sg/citations?hl=en&user=hEgHJmIAAAAJ&view_op=list_works&sortby=pubdate

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