

MOHD NASIR TAMIN

CEng, MIMarEST, MIEEEE, EPS Chapter

Professor

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81200 Johor Bahru, Johor, MALAYSIA.

Academic Background:

- April 1997 Ph.D. Mechanical Engineering and Applied Mechanics
University of Rhode Island, Kingston, Rhode Island, USA
Dissertation: Fatigue Damage Mechanisms of SiC/Ti Metal Matrix Composites
- Dec. 1987 M.Sc. Mechanical Engineering
Washington State University, Pullman, Washington, USA
Thesis: Elasto-Plastic Finite Element Analysis and Numerical Study of a Compact
Tension Specimen
- March 1984 B.Sc. Mechanical Engineering, Northrop University, Inglewood, California, USA

Professional Experience:

- 2015 - 2017 Deputy Dean (Research and Innovation), Faculty of Mechanical Engineering, Universiti
Teknologi Malaysia (UTM)
- 2006 - Professor, Faculty of Mechanical Engineering, UTM
- 2006 - Head and Founder, Computational Solid Mechanics Laboratory (CSMLab), UTM
- 2005 – 2007 Head, Department of Materials Engineering, Faculty of Mechanical Engineering, UTM
- 2004 - 2006 Director, Center for Composites (PUSKOM), UTM
- 2000 – 2005 Head, Department of Applied Mechanics, Faculty of Mechanical Engineering, UTM

Honors and Awards:

Visiting Professor

1–30 June 2012 & Institut Supérieur de l'Automobile et des Transport, Nevers, France
9 May–10 June 2008

6-13 Mac 2012 Collège of Engineering, Dongguk University, Seoul, Korea

July 2008-June 2010 Faculty of Mechanical Engineering, UTeM Melaka

Jan 2019 (2 years) University of Southampton (Malaysia Campus)

1999 Sophia Lecturing-Research Award, Sophia University, Tokyo, Japan.

University Excellence Award (UTM) 1998; 2005; 2009; 2013, 2018

Research Experience (as the *Principal Investigator*):

Field 1: Mechanics of FRP Composite Laminates

Successfully completed the funded projects on the design and construction of efficient body structure for electric vehicles, the establishment of the unified methodology for damage assessment of structural composites. And the development of damage-based models for FRP composite laminates.

An on-going research program involves the testing of new CFRP composite laminates, utilization of DIC system for property measurements, and the development of damage-based model for failure prediction of the laminates under monotonic and fatigue loading.

Field 2: Characterization of Advanced Materials

Successfully characterized the cast Ti-Al intermetallic alloy for fatigue applications, moisture-induced oxidation-creep of austenitic stainless steel foils for recuperator system of microturbines, and a new study in fracture mechanics based on combination of fractal mathematics and probabilistic theory.

An on-going research involves the damage-based fatigue life prediction of steel wire ropes under fretting fatigue and fretting wear condition.

A project member of the RESET - **RE**liability and **S**afety **E**ngineering and **T**echnology program for Large Maritime Engineering Systems, funded by the *HORIZON H2020 Marie Curie RISE Program*. The program is coordinated by Liverpool John Moores University (UK), 2017 – 2021, The UTM Project Leader is Dr. M.F. Abdul-Hamid.

Field 3: Reliability of Microelectronic Components

Successfully completed series of Intel funded research on the development of damage-based model for reliability assessment of solder joints and TSV in microelectronic packages.

Selected latest publications (6):

1. M.S. Khan, A. Abdul-Latif, S.S.R. Koor, M. Petru and M.N. Tamin, "Representative Cell Analysis for Damage-Based Failure Model of Polymer Hexagonal Honeycomb Structure under the Out-of-Plane Loadings," *Polymers*, Vol 13(1), 52,2020, pp. 1-23. (IF: 3.426, Q1).
<https://doi.org/10.3390/polym13010052>
2. M.A. Khattak, S. Zaman, S. Kazi, H. Ahmed, H.M. Habib, H.M. Ali and M.N. Tamin, "Failure Investigation of Welded 430 Stainless Steel Plates for Conveyer Belts," *Engineering Failure Analysis*, Vol. 116, Oct 2020, 104754. (IF: 2.897) <https://doi.org/10.1016/j.engfailanal.2020.104754>
3. M. Johar, K.J. Wong, S.A. Rashidi and M.N. Tamin, "Effect of Strain Rate and Moisture Content on Mechanical Properties of Adhesively Bonded Joints," *Journal of Mechanical Science and Technology*, 30 April 2020, On-line (IF: 0.761). <https://doi.org/10.1007/s12206-020-0404-0>
4. F.M. Nor, J.Y. Lim, M.N. Tamin, H.Y. Lee and D. Kurniawan, "Effects of Starter Defect on Energy Release Rate of Three-Point End-Notch Flexure Tested Unidirectional Carbon Fiber Reinforced Polymer Composite," *Polymers*, 12(1), 904, 2020, pp. 1-12. (IF: 3.164, Q1)
<https://doi.org/10.3390/polym12040904>
5. M.S. Khan, S.S.R. Koor and M.N. Tamin, "Effects of Cell Aspect Ratio and Relative Density on Deformation Response and Failure of Honeycomb Core Structure," *Materials Research Express*, 7, 015332, 2020, pp. 1-16. (IF: 1.449) <https://doi.org/10.1088/2053-1591/ab6926>
6. S.S.R. Koor, A. Karimzadeh, N. Yidris, M.R. Ayatollahi, J. Loughlan, and M. N. Tamin, "An Energy-based Concept for Yielding of Multidirectional FRP Composite Structures using a Mesoscale Lamina Damage Model," *Polymers*, 12(1), 157, 2020, pp. 1-18. (IF: 3.164, Q1)
<https://doi.org/10.3390/polym12010157>

Research Book

Mohd Nasir Tamin and Norhashimah Mohd Shaffiar, Solder Joint Reliability Assessment – Finite Element Simulation Methodology, Advanced Structured Materials Series, Vol 37, Springer, May 2014 (ISBN 978-3-319-00091-6) <https://www.springer.com/gp/book/9783319000916>