

MOHD NASIR TAMIN

Professor
(Mechanical Engineering and Applied Mechanics)

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Academic Background

May 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

Administrative Experience

2015 - 2017	Deputy Dean (Research and Innovation), Faculty of Mechanical Engineering, Universiti Teknologi Malaysia (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 Researcher, National Research and Innovation Agency (BRIN) Indonesia

1 Aug 2026 (1 month)	Research Center for Aeronautics Technology, BRIN, Indonesia

Visiting Researcher *(HORIZON 2020, RESET Program)*

20 Oct 2022 (2 months)	Liverpool John Moores University, UK
5 July 2019 (1.5 months)	University of Plymouth, UK

Visiting Professor

Jan 2019 (2 years)	University of Southampton (Malaysia Campus)
1–30 June 2012 & 9 May–10 June 2008	*Institut Supérieur de l'Automobile et des Transport*, Nevers, France
6-13 Mac 2012	Collège of Engineering, Dongguk University, Seoul, Korea
July 2008 (2 years)	Faculty of Mechanical Engineering, UTeM Melaka

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

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

Journal Editor/Editorial/Advisory Panel

01 Mar 2011 – 28 Feb 2013	:	Industrial Advisory Panel Member Master in Mechanical Engineering Program Universiti Tenaga National (UNITEN), Malaysia
2022 - 2026	:	Guest editors (M.N. Tamin and S.S.R. Koloors) A Special Issue of *Fractal and Fractional* *Fractal Mechanics of Engineering Materials, 2nd Edition* (IF: 3.3) https://www.mdpi.com/journal/fractalfract/special_issues/TOGL76C235
31 Jul – 4 Aug 2023	:	Subject Matter Expert, Curriculum Development on Aircraft Structural Integrity Course (ASIC) Royal Malaysian Air Force, Sendayan Airforce Base, Malaysia.
2023	:	External Reviewer M.Sc. Mechanical Engineering Qatar University, Qatar
2020	:	External Reviewer (for MQA provisional accreditation) MPhil in Engineerng programme University of Southampton Malaysia (UoSM)

Research Experience *(*as the *Principal Investigator):*

Field 1: Mechanics of FRP Composite Laminates,
Establishing a unified methodology for damage assessment of structural composites. Using a DIC system to study the photo-mechanics of CFRP composite laminates for property measurements. Developing damage-based models to predict fatigue failure of FRP composite laminates. Applying FEA for simulating damage and failure processes.

Field 2: Characterization of Advanced Materials
Characterization of cast *Ti-Al* intermetallic alloy for fatigue applications. Moisture-induced oxidation-creep of austenitic stainless-steel foils for recuperator system of microturbines. A new study in fracture mechanics based on a combination of fractal mathematics and probabilistic theory. Damage-based fatigue life prediction of steel wire ropes under fretting fatigue and fretting wear conditions.

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 – 2022,

Field 3: Reliability of Microelectronic Components
Successfully completed a series of Intel-funded research projects on the development of damage-based models for reliability assessment of solder joints and TSV in microelectronic packages.

Grants secured: INTEL Technology (7 projects); KISWIRE (1 project); AMIC (1 project); CREST (1 project); MOHE-FRGS (2 projects); MOSTI-SCIENCEFUND (2 projects); MOSTI-TECHNOFUND (1 project); MOSTI-IRPA (2 projects); UTM-Internal (3 projects)

Courses Taught

Undergraduate: Engineering Statics, Engineering Programming, Experimental Techniques, Mechanics of Solids, Applied Numerical Methods, Introduction to Finite Element Method, Machine Component Design, Engineering Materials, Failure of Engineering Components and Structures, Fracture Mechanics, Surface Mount Technology, Structural Analysis.

Master's-Level: Fatigue and Fracture Mechanics, Computational Methods in Solid Mechanics, Advanced Engineering Materials, Research Methodology, Finite Element Method

Short Courses Delivered / Workshops Facilitated

1. Introduction to Fatigue and Fracture Mechanics
2. Finite Element Simulations for Structural Engineering Problems
3. Research Methodology Workshop
4. Engineering Failure Analysis
5. Mechanical Testing of Materials
6. Damage Mechanics for Material Failure Processes

Supervision / Host

Main supervisor Ph.D., Graduated (21), M.Sc. (by Research), Graduated (11)
Post-doctoral Fellow (2); International Interns (3); Host of visiting professors (4)

Publications

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

Damage and Fracture of Composite Materials and Structures, Edited by M.N.Tamin, Springer,2012 (ISBN978-3-642-23658-7)

SCOPUS link: (Scopus *h-index: 19)*
https://www.scopus.com/authid/detail.uri?authorId=6603828319&origin=AuthorEval

Google Scholar Link: *(h-index 25; i10-index 57)*
https://scholar.google.com.my/citations?user=yXycqBcAAAAJ&hl=en&oi=ao

Selected latest journal publications (6)

1. K.J. Wong a a, H.A. Israr, T. Dickhut, S.S.R. Koloor, and M.N. Tamin, “Mode-II Interlaminar Damage in Carbon/Epoxy Composites Fabricated via Hot-Press and Vacuum-Bagging Techniques,” *Polymer Testing,* Vol. 154, 2026. https://doi.org/10.1016/j.polymertesting.2025.109055
2. A.A. Rezvanfar, A.F. Nejad, M.N. Tamin, T. Dickhut, and S.S.R. Koloor, “Data-Driven Machine Learning and Finite Element-Informed Surrogate Modeling for Design Optimization and Failure Prediction of Reinforced Thermoplastic Pipes,” *J. Mater Res Technol,* Vol. 42, 2026. https://doi.org/10.1016/j.jmrt.2026.05.062
3. M.H. Hashmi, S.S.R. Koloor, and M.N. Tamin, “Validation of Finite Element-Based Crack-Tip Driving Force Solutions Using Fractal Analysis of Crack-Path Microfeatures,” *Fractal and Fractional,* 10(3), 146, 2026. https://doi.org/10.3390/fractalfract10030146
4. M. Kamarudin, Z. Ahmad, and M.N. Tamin, “Fretting Wear Damage Model for Stranded Steel Wire Ropes,” *Wear,* 588(1), 2026. *https://doi.org/10.1016/j.wear.2026.206516*
5. K.J. Wong, H.A. Israr, and M.N. Tamin, “Effect of Water Absorption on Mode II Delamination of Adhesively Bonded Carbon/Epoxy Composites: Experimental Study and Continuum Damage Modeling,” *J. Failure Analysis and Prevention, 2026 https://doi.org/10.1007/s11668-026-02403-y*
6. I.M. Ariff, Z. Ahmad, K.W. Gan, M. Petrů, S.S.R. Koloor, and M.N. Tamin, “Damage Initiation Strengths for the Mesoscale Lamina Damage Model of Fiber-reinforced Polymer Composite Laminates,” *J. Composite Materials*, 2025, https://doi.org/10.1177/00219983241311359