

Dr Amit Kumar Haldar

Lecturer

Department of Mechanical and Aerospace Engineering

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SUMMARY:

Dr. Amit Kumar Haldar is a lecturer in the Department of Mechanical and Automobile Engineering at TUS, Limerick, since 2022. He is also the Principal Investigator and lead of the Hydrogen Energy Innovation (HEI) research group at TUS. Dr. Haldar holds a B.Tech in Mechanical Engineering, an M.Tech in Machine Design from IIT Guwahati, and a Ph.D. in the mechanical behavior of lightweight composite structures from the University of Liverpool, UK. He has worked as a Research Scientist at Shenzhen Fiber, China, and as an Assistant Professor at Manipal Institute of Technology (MAHE), India. He also completed postdoctoral research at NUI Galway and the University of Limerick, focusing on composite turbine blade design and materials for naval applications. In 2020, he was awarded the Marie Curie Career-FIT Fellowship.

EDUCATION:

Ph.D. (2012-2016) Mechanical Engineering, Liverpool University, United Kingdom with the project title on "The Energy-absorbing Characteristics of Novel Contoured Core Sandwich Structures".

M.Tech (2008-2010), Mechanical Engineering (specialisation in machine design), Indian Institute of technology, Guwahati, India with thesis on "Notch sensitivity of short fiber reinforced composite".

B.Tech (2004-2008), Mechanical Engineering, M.J.P. Rohilkhand University Bareilly, Uttar Pradesh, India, with the thesis topic on "Micromechanical behaviour of thermoplastic composite".

PROFESSIONAL CAREER:

Technological University of Shannon, Ireland

Lecturer, Period: 10/01/2022 - Present

Responsible for delivering modules on mechanical engineering, mechanics of materials, engineering mathematics and supervise and write R&D projects associated with polymer composite materials.

University of Limerick, Ireland

Marie-Curie Fellow, Period: 09/08/2019- 09/01/2022

Responsible to manufacture and testing of composite materials. Analyze fatigue behavior of composite materials. Micro-computed tomography scanning, Ultrasonic scanning. Identification of micro crack using Acoustic emission.

University of Galway, Galway, Ireland

Post-Doctoral Fellow, Period: 12/02/2019 - 08/09/2019

Responsible to develop concepts and technical methodologies to advance the verifiable design life of composite wind and tidal turbine.

Shenzhen Fiber Novel Materials Co. Ltd, Shenzhen, China

Research Scientist, Period: 07/01/2017 – 31/01/2019

Responsible to develop concepts and technical solutions for design.

AWARDS AND ACHIEVEMENTS:

- Awarded a €545,000 SEAI grant in 2024 for clean energy systems research.
- Received a New Foundations Award from Research Ireland in 2024 to investigate microplastic pollution.
- Won a Presidential Fellowship in 2023 to recruit a Ph.D. student at TUS.
- Awarded a PDS Fellowship Grant in 2023 to support a Research Master's student at TUS.
- Received the UL Citizens' Assembly Award (2023) for a one-year research initiative.
- Secured a €58,000 Industrial Fellowship grant from Science Foundation Ireland in 2019 as Principal Investigator.
- Awarded a €261,345 Marie Curie Career-FIT Fellowship in 2020 under the EI/MSCA co-funding scheme (Grant No. 847402).
- Recipient of the National Overseas Scholarship, valued at ₹9,900,000 (€110,197), for international doctoral research.
- Received research funding support from the University of Liverpool, UK.
- Qualified in GATE 2008 with a 98.6 percentile, one of the world's most competitive engineering exams.

ACCOMPLISHMENTS:

Author of 19 published papers

Promotor of 20 undergraduate thesis

Promotor of 2 completed M.Sc thesis

Supervising 4 PhD students and 1 research master

SELECTED PUBLICATIONS:

Haldar A.K., Guan Z and Cantwell W.J. (2018), The compressive properties of sandwich structures based on an egg-box core design, Composites Part B (144) 143-152.

Haldar A.K. Cantwell W.J., Langdon and G. Guan Z. (2019), The mechanical behaviour of spherical egg-box sandwich structures, Polymer testing, (78), 105-112.

Gobikannan T, Haldar AK, Portela A, Nash NH, Bachour C, (2021). Flexural properties and failure mechanisms of infusible thermoplastic-and thermosetting based composite materials for marine applications, Composite Structures, (273), 114276.