



DR. A. MYSTICA

ASSISTANT PROFESSOR, STAFF ID : 963087

DEPARTMENT OF MECHANICAL ENGINEERING,
UNIVERSITY V.O.C. COLLEGE OF ENGINEERING,
ANNA UNIVERSITY THOOTHUKUDI,

DATE OF BIRTH : 01.09.1994

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EDUCATION

- B.E. - CEG, ANNA UNIVERSITY -2015
- MS - Ira Fulton School of Eng, ARIZONA STATE UNIVERSITY, USA - 2017
- Ph.D - CEG - ANNA UNIVERSITY - 2023

FELLOWSHIP RECEIVED

Anna Centenary research fellowship -
CFR, ANNA UNIVERSITY - 3 YEARS

ONLINE COURSES PUBLISHED

MODERN MANUFACTURING

- UDEMY Inc
- One Education
- Edunoix

EXPERIENCE

- Assistant Professor - UVOC - 2025-Now
- Lecturer (TN Govt) - CPT- 2022-2025
- Research Scholar - CEG- 2019 - 2022
- Lecturer (PT) - CEG - 2020
- Resident Counsellor - CEGH - 2021-2022
- Bike Ambassador - ASU, USA - 2016 - 2017

- International Journals - 11
- International Conferences - 04
- Book Chapters - 02
- Chapter translated - 01

- CITATIONS : 111 (Google Scholar)
: 81 (Scopus)
- H - Index : 06 (Google Scholar)
: 05 (Scopus)
- i10 Index : 03

RESEARCH EXPERTISE

Friction Stir Welding, Minimum Quantity Lubrication, Nanofluid, Materials characterisation, Mechanical Behaviour Analysis, Data modelling, Prediction Analysis, Fuzzy logic,, Automation, Sensors and actuators, Industry 4.0

PATENT

An Indian patent granted in the area of Friction Stir Welding, Patent grant no. 588649, dated 07/05/2026.

RESPONSIBILITIES - ACADEMIC

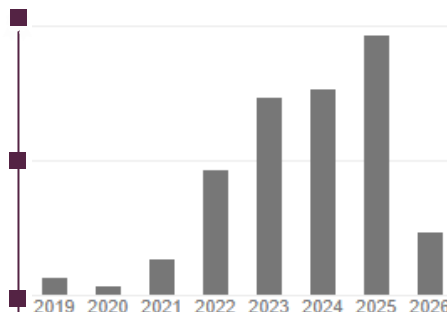
- Development of Process automation lab in DME, CPT
- Development of Sensors and Actuators lab in DME, CPT
- Tamil language translation of a chapter in Manufacturing Technology - II book by P.N.Rao
- Drafting course outcome, lesson plan, session plan, study material and question bank for three mechanical engineering courses (Lean Manufacturing, Modern QC Tools, CNC Programming)

RESPONSIBILITIES - ADMINISTRATION

- Procurement and Tender incharge for Mechanical Engineering department in CPT.
- Naan mudhalvan co-ordinator for Mechanical Engineering department in CPT - organising FDPs and training classes.
- Certificate verification officer in TNEA Counseling
- Harrasment committee member at CPT.
- Autonomous exam cell member at CPT.

Membership in Professional Bodies : IAENG, IFERP

RESEARCH PUBLICATIONS



- Scopus ID : 57218910111
- Orcid ID : 0000-0001-6859-1212
- Researcher ID : KGK-5700-2024
- AICTE ID : 1-43388364586

Journal Reviewer

- Scientia Iranica
- IMECE (ASME)

LIST OF JOURNAL/ CONFERENCE/ BOOKS BOOK CHAPTERS

Name: **Dr. A.MYSTICA**

Qualification: **B.E, MS (USA), Ph.D.**

Publications:

International Journals: 11

International Conferences: 04

Book Chapters: 02



Research Publications

Google Scholar :

<https://scholar.google.com/citations?user=StkCiqUAAAAJ&hl=en>

International Journals - 11

S.No	Authors	TITLE OF THE PAPER	YEAR	NAME OF THE JOURNAL/VOL /PAGE
1.	A Mystica , V S Senthil Kumar,	Evaluation of crystal structure and tensile properties at the micro level of friction stir weld developed with n-MQL	2025	Journal of Alloys and Metallurgical Systems, Volume 9, 100168, Elsevier
2.	A Mystica , V S Senthil Kumar, C Rathinasuriyan	A review on the influence of cooling applications in friction stir welding process	2023	Surface Review and Letters, 2430002
3.	A Mystica , VS Senthil Kumar	Microstructure and mechanical properties of friction stir welded AA2014 alloy under n-MQL	2023	Journal of Central South University, 30 (4), 1047-1063 Springer Nature
4.	A Mystica , VS Senthil Kumar, KA Padmanabhan	On the friction stir welding of alloy AA2014 under n-MQL cooling condition	2022	Journal of Adhesion Science and Technology, 37 (13), 2025-2045 Taylor & Francis
	C Rathinasuriyan, S Muniamuthu, A Mystica , VSS Kumar	Investigation of heat generation during submerged friction stir welding on 6061-T6 aluminum alloy	2021	Materials Today: Proceedings 46, 8320-8324
6.	C Rathinasuriyan, A Mystica , R Sankar, VSS Kumar	Experimental investigation of cooling medium on submerged friction stir processed AZ31 magnesium alloy	2021	Materials Today: Proceedings
7.	DJMS Bai, A Mystica	Clean and Renewable Energy - A Review	2021	NIU International Journal of Human Rights 8 (12), 6-9
8.	A Mystica , SP Sankavi, V Siva Sakthi, TS Ganesh, V.S.Senthil Kumar	Heat reduction in a tool holder during friction stir welding of aluminium alloy	2015	Applied mechanics and materials 766, 705-711

9.	A Mystica , DJMS Bai	Statistical Process Control	2015	International Journal of Research in Commerce & Management 6 (01)
10.	MAM Duke	Wireless power transmission	2014	International Journal of Scientific & Engineering Research 5 (10), 125-129
11.	MAM Duke	Friction stir welding of steel	2014	International Journal of Engineering Technology 3 (09)

International Conference proceedings - 04

S.No	AUTHORS	TITLE OF THE PAPER	YEAR	NAME OF THE CONFERENCE/ORGANIZER / VOL. / PAGE NO.
1.	SK Velukkudi Santhanam, H Selvaraju, Mystica Augustine Michael Duke	Evaluation of Weld Quality Through Non-Destructive Testing and Weld Property Analysis of Friction Stir Welded AA2014 Under Submerged Condition	2022	International Mechanical Engineering Congress and Exposition, ASME, 2022, Ohio, USA
2.	Afrith Noor Mohamed Rafi, Augustine Michael Duke Mystica , Senthil Kumar Velukkudi Santhanam, Viswanathan Doraiswamy	Microstructural Analysis and Tensile Property Studies on Spray Cooled Friction Stir Welded Aluminium Alloy 2014	2021	International Mechanical Engineering Congress and Exposition 2021 - ASME
3.	Dolly Austen Thomas, Augustine Michael Duke Mystica , Senthil Kumar Velukkudi Santhanam, Viswanathan Doraiswamy	Preparation and Characterisation of Graphene Nanofluid: To Be Used As Coolant	2020	International Mechanical Engineering Congress and Exposition 2020 -- ASME
4.	N.R. Ramesh, A. Mystica , S.P. Sankavi, T.S. Ganesh, V.Siva Sakthi, V.S.	Friction stir welding of dissimilar aluminium alloys and determination of sensitivity analysis for the process parameters	2015	International Conference on Materials, Design and Manufacturing Process 2015

	Senthilkumar, C. Rathinasuriyan			
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Book chapter - 02

S.No	AUTHORS	TITLE OF THE PAPER	YEAR	NAME OF THE BOOK/ PAGE NO./ PUBLISHER
1.	Cibi Gabriel Goldwynsingh David Rajasingh, A Mystica , Senthil Kumar VS	Temperature Analysis of Water-Cooled Friction Stir Welding Using Spray Nozzle on Aluminium 2014 Alloy	2022	Advances in Manufacturing Engineering, pp 107–118, Springer, Singapore
2.	Mystica A, Senthil Kumar VS, Harinivas S, Raman K	Sustainability and Life Cycle Assessment of Friction Stir Welding on AA2014 Alloy Under Different Conditions	2024	Utilizing Friction Stir for Composite Hybridization, Ch 17, IGI Global