

Position: Vice-Chancellor

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Date of Birth: 31-May-1964



Education Detail

Education Level	Board / University	Institute / School / College	Marks	CGPA	Year
Graduation	Kerala	TKM College of Engineering, Quilon	79.03	0.00	1986
Subjects / Specialization: B.Tech in Mechanical Engineering					
Post Graduation	IIT Madras	IIT Madras	0.00	8.64	1988
Subjects / Specialization: M.Tech in Mechanical Engineering, Specialisation (Hydro Turbomachines)					
PhD	IIT Madras	IIT Madras	0.00	0.00	2001
Subjects / Specialization: Applied Mechanics, Specialisation(Fluid Mechanics)					

Work Experience (Total: 36Y 8M)

#	Organization	Designation	From	To	Duration
1	Indian Space Research Organisation	Scientist/Engineer H	Sep 1987	May 2024	36Y 8M

Research Publication

#	Title	Journal	Year
1	Effect of a Side-mounted Cavity Resonator Tube on Deflagration to Detonation Transition in Lean Acetylene- Oxygen Mixtures in a Confined System	Experiments in Fluids	Aug-2026
2	Modelling of Helmholtz Resonator-Based Trim Adjustment Active Control of Combustion Oscillations	International Journal of Energetic Materials and Chemical Propulsion	Sep-2026
3	Multifractal Spectral Characteristics of Full-scale Liquid Rocket Engines	Journal of Propulsion and Power	Sep-2026
4	Design and Dynamic Response of Swirl Co-axial Injectors for LOx-methane Rocket Engine	International Journal of Fluid Mechanics Research	Aug-2025
5	Asymmetric Breakup of Annular Liquid Sheets in Liquid Centred Swirl Coaxial Injectors	Atomization and Sprays	Jan-2025
6	The Influence of Geometric Parameters on Droplet Size and Distribution of an Effervescent Injector	International Journal of Fluid Mechanics Research	Sep-2025
7	Numerical Study of Liquid Hydrogen Motion in Tank under Microgravity Conditions	International Journal of Fluid Mechanics Research	Sep-2025
8	Effect of Surface Roughness of Converging-End on Flow and Spray Characteristics of a Swirl Injector	International Journal of Fluid Mechanics Research	Apr-2025
9	Investigation of the Performance of a Single Tube Pulse Detonation Engine	International Journal of Energetic Materials and Chemical Propulsion	Oct-2025
10	Analysis of Injector Spray Dynamics for a Stable Hybrid Rocket Motor	International Journal of Heat and Fluid Flow	Dec-2025
11	Multi-element Gaseous Methane-oxygen Rocket Combustor Optimization for Modern Space Flight Technology	Journal of Propulsion and Power	May-2024
12	Analysis of Active Pressurisation Methods for a Cryogenic Propellant Tank	Indian Journal of Cryogenics	Dec-2023
13	Active Control of Combustion Noise by a Twin resonator Trim Adjustment System	Combustion Science and Technology	Dec-2022
14	Experimental Investigation of Cavitation Inside a Plain Orifice Injector	Indian Journal of Cryogenics	Dec-2021
15	Analysis for Design Optimization of High Thrust Liquid Engine Hot Test Facility	Acta Astronautica	Aug-2021
16	Experimental Investigation of Thermal Stratification Subject to Multi-species Ullage	Indian Journal of Cryogenics	Jan-2020
17	Stability Characteristics of a Model Trim Adjustment System for Open Loop Active Control of the Thermo-acoustic Instability	Aerospace Technology and Management	Jan-2019
18	Simultaneous Enhancement in Thermoelectric Performance and Mechanical Stability of p-type SiGe Alloy Doped with Boron Prepared by Mechanical Alloying and Spark Plasma Sintering	Alloys and Compounds	Jan-2019
19	Synergetic Enhancement of Thermoelectric and Mechanical Properties of n-type SiGe-P Alloy through Solid State Synthesis and Spark Plasma Sintering	Material Research Bulletin	Oct-2019
20	Thermoelectric power factor performance of silicon-germanium alloy doped with phosphorus prepared by spark plasma assisted transient liquid phase sintering	Scripta Materialia	Jan-2018
21	Rapid Alloying and Nanostructuring of Silicon-germanium Powder Mixture by Spark Plasma Sintering	Transaction of Indian Institute of Metals	Feb-2017
22	Effect of Gas Swirl on the Performance of a Gas Centered Swirl Coaxial Injector	Atomization and Sprays	Aug-2017

23	Feature Correlation Velocimetry for Measuring Instantaneous Liquid Sheet Velocity	ASME Journal of Fluids Engineering	Sep-2017
24	Densification and Alloying of Ball Milled Silicon-germanium Powder	Advanced Powder Technology	Feb-2017
25	Numerical Simulations for Multi-hole Orifice Flow Meter	Flow Measurement and Instrumentation	Oct-2015
26	The Role of Backpressure on Discharge Coefficient of Sharp Edged Injection Orifices	Aerospace Science and Technology	Feb-2015
27	Numerical Study of Air-core Vortex Dynamics during Liquid Draining from Cylindrical Tanks	Fluid Dynamics Research	Feb-2014
28	Prediction of Gas-core Vortices during Draining of Liquid Propellants from Tanks	Aerospace Science and Technology	Jan-2014
29	Trends in Comprehensive Modeling of Spray Formation	International Journal of Spray and Combustion Dynamics	Jun-2013
30	Numerical Studies on Air-core Vortex Formation during Draining of Liquid from Tanks	International Journal of Fluid Mechanics Research	Jan-2013
31	Prediction of Size and Velocity Distributions in Sprays Formed by the Breakup of Planar Liquid Sheets using Maximum Entropy Formalism	Atomisation and Sprays	Jun-2011
32	Influence of Liquid and Gas Compressibility on Growth of Waves in Thin Liquid Sheets	Fluid Dynamics Research	Jun-2010
33	Influence of Gas Velocity on Breakup of Planar Liquid Sheets Sandwiched Between Two Gas Streams	Atomisation and Sprays	Nov-2010
34	Liquid Sheet Breakup in Gas Centred Swirl Coaxial Atomizers	ASME Journal Fluids Engineering	Jan-2010
35	Growth of Longitudinal Waves in Plane Liquid Sheets having Lateral Wave Modes when Exposed to Two Gas Streams of Unequal Velocities	Atomisation and Sprays	Feb-2005
36	Nonlinear Breakup of Thin Liquid Sheets	Acta Mechanica	Mar-2002
37	Flow Transition in Swirled Liquid Sheets	AIAA Journal	Mar-1998
38	Flow Visualisation Experiments on Free Draining of a Rotating Column of Liquid using Nets and Tufts.	Experiments in Fluids	Jun-1996
39	Intensification of a Vortex during Draining	Canadian Journal of Chemical Engineering	Jun-1995
40	Experimental Study of Liquid Sheets Formed in Coaxial Swirl Injectors	Journal of Propulsion and Power	Nov-1995
41	Experimental Investigation of Divergent Annular Liquid Sheets	Journal of Aeronautical Society of India	Sep-1994
42	Effect of Vane Passage Modification on Performance and Cavitation Characteristics of a Radial Flow Pump	Indian Journal of Engineering and Material Science	Jan-1994
43	Shaped Discharge Ports for Draining of Liquids	Spacecraft and Rockets	Nov-1993
44	A Study of Vortex Formation during Discharge of Liquids from Cylindrical Containers	Journal of Aeronautical Society of India	Feb-1992

Published Books / Chapters

#	Book Title	Publisher	Institution
1	Fluid Mechanics and Fluid Power- Contemporary Research/ CFD Analysis of Water Cooled Flame Deflector in Rocket Engine Test Facility	Springer	Liquid Propulsion Systems Centre, Trivandrum
2	Fluid Mechanics and Fluid Power- Contemporary Research/ Effect of Orifice Recess on the Droplet size Distribution of Sprays Discharging from Gas-centred Swirl Coaxial Atomizer	Springer	Indian Institute of Science Bangalore
3	Recent Advances in Fluid Dynamics/ Study on Direct Contact Condensation in Stagnant and Flowing Media	Springer	Liquid Propulsion Systems Centre, Trivandrum
4	Fluid Mechanics and Fluid Power/ Flow Analysis of Rotating Stall in Centrifugal Pump	Springer	Liquid Propulsion Systems Centre, Trivandrum
5	Advances in Aerospace and Energy, Lecture Notes in Mechanical Engineering/ Effect of Plate Inclination on Exhaust Plume Impingement under Low-Pressure Environment	Springer	Liquid Propulsion Systems Centre, Trivandrum

Administrative Experience (Total: 40Y 7M)

#	Post	Institution	From	To	Duration
1	Scientist/Engineer H (Group Director)	Liquid Propulsion Systems Centre, Trivandrum	Jan 2020	May 2024	4Y 4M
2	Scientist/Engineer G (Group Head/Deputy Project Director/Group Director)	Liquid Propulsion Systems Centre, Trivandrum	Sep 2015	Dec 2019	4Y 3M
3	Scientist/Engineer SG (Division Head/ Group Head/ Deputy Project Director)	Liquid Propulsion Systems Centre, Trivandrum	Jan 2010	Sep 2019	9Y 7M
4	Scientist/Engineer SF (Deputy Division Head, Division Head)	Liquid Propulsion Systems Centre, Trivandrum	Jan 2004	Dec 2009	5Y 11M
5	Scientist/Engineer SB, SC, SD, SE	Liquid Propulsion Systems Centre, Trivandrum	Sep 1987	Dec 2003	16Y 3M

Major Research

#	Project Title	Value	Agency	From	To	Duration
1	Spray formation with a generic pressure swirl atomiser for air breathing and cryogenic propulsion systems	Rs. 13 lakhs	ISRO-IITM Space Technology Cell	Jan 2004	Dec 2006	2Y 11M
2	Atomization of co-annular swirling liquid sheet by a central gaseous jet	Rs. 12 lakhs	ISRO-IISc Space Technology Cell	Sep 2008	Dec 2010	2Y 3M
3	Effect of temperature on atomization in gas centred coaxial injection systems	Rs. 10 lakhs	ISRO-IISc Space Technology Cell	Sep 2010	Dec 2012	2Y 3M
4	Pulsation characteristics of sprays discharging from gas-centred coaxial atomisers	Rs. 12 lakhs	ISRO-IISc Space Technology Cell	Aug 2012	Dec 2014	2Y 4M
5	CFD prediction of vortex formation and suppression during the draining of liquid from toroidal tanks	Rs. 13 lakhs	ISRO-IIT Madras Space Technology Cell	Aug 2013	Dec 2015	2Y 4M
6	Near nozzle structure of semicryogenic sprays	Rs. 36 lakhs	ISRO-IIT Madras Space Technology Cell	Aug 2013	Sep 2016	3Y 1M
7	Modelling primary atomization of liquid jets using the level-set method	Rs. 12 lakhs	ISRO-IISc Space Technology Cell	Aug 2013	Oct 2016	3Y 2M
8	Experimental and numerical studies on pulse detonation rocket engines	Rs. 23 lakhs	ISRO-IIT Bombay Space Technology Cell	Aug 2017	Dec 2019	2Y 4M
9	Flame acceleration studies of hydrocarbon fuels using deflagration-to-detonation transition tube	Rs. 93 lakhs	ARDB	Jan 2016	Dec 2019	3Y 11M

International Experience

#	Organization / Body	Experience
1	Keldysh Research Centre, Moscow, Russia	Participated in Combustion Instability Studies for PS4 Engine
2	University of Cambridge	Participated in Indo-US workshop on frontiers of liquid atomisation
3	Purdue University	Participated in India-UK network on advanced instability methods
4	Institute for Liquid Atomization and Spray Systems	First ILASS Meeting and Workshop on Liquid Atomization and Sprays

Leadership Experience

#	Brief Description
1	Group Head, Flow and Acoustics Group
2	Deputy Project Director, Cryogenic Upper Stage Project and Group Head, Advanced Propulsion Research Group
3	Group Director, Propulsion Research Group
4	Chairman of Various Committees
5	Member of Various Committees

Statutory Authorities

#	Institution	Statutory Forum	From	To
1	Liquid Propulsion Systems Centre	Division Head, Flow and Acoustics Division	Sep 2010	Jan 2014
2	Liquid Propulsion Systems Centre, Trivandrum	Group Head, Flow and Acoustic Group/ Deputy Project Director, CUSP/ Group Head, Advanced Propulsion Research Group	Jan 2014	Jun 2018
3	Liquid Propulsion Systems Centre, Trivandrum	Group Director, Propulsion Research Group	Jun 2018	May 2024

Quality Assurance Experience

#	Area	Institution	From	To	Achievements
1	Entity Coordinator of International Organization for Standardization (ISO)	Liquid Propulsion Systems Centre, Trivandrum	Aug 2002	Sep 2010	Implementation of ISO
2	Quality Inspection of Semicryogenic Preburner Injector Head	Liquid Propulsion Systems Centre, Trivandrum	May 2008	Jul 2009	Quality Assurance of Injector Head for Hot Test
3	Mechanical Inspection of Injector for Hybrid Motor	Vikram Sarabhai Space Centre, Trivandrum	Jun 2021	Aug 2022	Successful Hot Test of Hybrid Motor
4	Quality Assurance for Radioisotope Heater Units (RHU)	Indian Space Research Organisation	Jun 2022	Aug 2023	Successful Flight Demonstration of RHU in Chandrayaan-3

PhD Student Guided

#	Guide No	Co-Guide No
1	1	-

Youth Development Experience

#	Activity	Institution	Achievements	From	To	Duration
1	Internship for B.Tech and M.Tech Students	Liquid Propulsion Systems Centre, Trivandrum	Successful Completion of Internship for Students	Feb 2022	Jan 2024	1Y 11M
2	Project Guide for B.Tech and M.Tech Students	Liquid Propulsion Systems Centre, Trivandrum	Completion of Project Work for Engineering Students	Aug 2012	Jan 2024	11Y 5M