

Faculty Recruitment -2017

S No	Department	Post	Specialization Areas
1	Aerospace Engineering <i>Only candidates with a clear focus on one or more of the specified areas will be considered.</i>	Assistant Professor	<ol style="list-style-type: none"> 1. Aerodynamics of Aircraft (wing-body configurations, reentry vehicles) 2. Control of Aerospace vehicles 3. Aircraft Design 4. Experimental Structural Mechanics 5. Gas turbine propulsion with focus on rotating components (turbine/compressor)
2	Applied Mechanics	Assistant Professor	Multiphysics Modelling of Solids .
		Associate Professor	Biosensors, Vibration of Energy Harvesting Structures, Post Stall Aerodynamics and Formation Flight.
3	Bio Technology	Assistant Professor	<p>Educational background: BE/B.Tech in Chemical Engineering (preferably) /Biochemical Engineering and PhD and research experience in the areas of Bioprocess / Biological Engineering.</p> <p>Areas of specialization could be preferably (but not exclusively) in areas such as Bioreaction Engineering, Bioprocess Monitoring and Control, Downstream Processing and Metabolic Engineering.</p>
4	Chemical Engineering	Assistant Professor	<ul style="list-style-type: none"> • Energy- Thermochemical processing; Unconventional energy sources; Carbon capture and sequestration; Electrochemical energy systems; Process intensification, Process Safety; Computational Catalysis • Environment - Aerosol fate and transport; Modeling and remediation/restoration of environmental and ecological systems; Environmental sensors. • Materials - Synthesis and characterization of functional materials; Fabrication and testing of energy and display devices; Non-equilibrium statistical mechanics; multi-scale modelling • Systems Biology - Bioinformatics; Modelling of disease inception, growth and treatment; Biological network analysis
		Associate Professor	

5	Civil Engineering	Assistant Professor	<p>Construction Management Building Sciences Construction Materials, with specific requirements on (a) Experimental fracture and fatigue studies, (b) Mechanics of creep and shrinkage deformations, and (c) Constitutive modeling of mechanical behaviour.</p> <p>Geotechnical Engineering</p> <p>Environmental Engineering (Eligibility: Candidate should have at least one degree in civil engineering/environmental engineering/chemical engineering)</p> <p>Hydraulic and Water Resources Engineering with specific requirements on Hydro-climatology, ground water engineering. (Eligibility: Candidate should have at least one degree in civil engineering/agricultural engineering)</p> <p>Structural Engineering</p> <p>Transportation Engineering</p>
		Associate Professor	<p>Construction Materials, with specific requirements on Corrosion mechanisms, condition assessment and service life of concrete structures</p> <p>Structural Engineering with emphasis on structural masonry, earthquake engineering, wind engineering or fire resistant design</p> <p>Traffic Flow Modeling</p>
6	Computer Science & Engineering	Assistant Professor	All areas in Computer Science & Engineering
7	Electrical Engineering	Assistant Professor	Machine Learning and Optimization, Social Networks, Next Generation Wireless Communication Systems, Information Security, VLSI, Power System Protection, Experimental Nano Electronics, High Voltage Engineering, Sensors, Industrial Instrumentation and Bio-medical Instrumentation
		Associate Professor	Network Control, Plasmonics, Controls, Microelectronics and MEMS, Optical Networking (PHY and MAC layers), Wireless Networking

8	Engineering Design	Assistant Professor	<ol style="list-style-type: none"> 1. Automotive Electronics, Electric/Hybrid Vehicle Design - requirement of at least one degree in electrical /electronics / allied areas. 2. Biomedical Electronics, Medical Device Design, Medical Robotics - requirement of at least one degree in biomedical or electrical/electronics/allied areas.
		Associate Professor	<ol style="list-style-type: none"> 1. Automotive Electronics, Electric/Hybrid Vehicle Design - requirement of at least one degree in electrical/electronics/allied areas 2. Biomedical Electronics, Medical Device Design, Medical Robotics - requirement of at least one degree in biomedical or electrical/electronics/allied areas 3. Mechanical Characterization of Materials for Design and Manufacture 4. Design of Robotics Systems 5. Treatment of Uncertainties in Design and Optimization 6. Design and Development of Medical Imaging Systems
9	Humanities & Social Sciences	Assistant Professor	English (Literature), Linguistics, Economics (Money Banking / Finance / Environment / Health)
		Associate Professor	Energy & Environmental Economics.
10	Management Studies	Associate Professor	Specialization: Organizational Behavior
11	Mathematics	Assistant Professor	Probability Theory & Mathematical Statistics
		Associate Professor	Algebraic Geometry, Linear Algebra, Probability Theory & Mathematical Statistics
12	Mechanical Engineering	Assistant Professor	<u>Mechanical Design:</u> Human body kinematics; Experimental Micro-mechanics Fatigue and Fracture NDE Mechanics of Composites/Soft matter <u>Thermal Sciences and Engineering:</u> Turbo-machinery, Turbulent flames Solar Thermal Systems Low temperature applications <u>Manufacturing:</u> Metrology and Inspection Machine Tools - Design & Dynamics Additive Manufacturing Automation & Robotics
		Associate Professor	All areas of Mechanical Engineering

13	Metallurgical & Materials Engineering <i>At least one degree (bachelor/master) in Metallurgical or Materials Engineering</i>	Assistant Professor	Research Specialization Areas: 1. <i>Ab-initio</i> Solid-State Electronic Structure Modeling 2. <i>Materials Characterization using Atom Probe Tomography</i>
		Associate Professor	Research Specialization Areas: 1. Microelectrochemistry 2. Processing and Physics of <i>Metal Foams</i>
14	Ocean Engineering	Assistant Professor	I. Ph.D relevant to Ocean Engineering with excellent academic record with engineering degree in Naval Architecture /Civil/Mechanical/Ocean Engg. II. Preferred field of specialization: (a) Naval architecture: Ship structures; Motion / Manoeuvring; Ship Hydrodynamics and Ship design; (b) Ocean Engineering: Ocean structures; Coastal Engineering; Marine geotechnical and Hydrodynamics.
		Associate Professor	I. Ph.D relevant to Ocean Engineering with excellent academic record with engineering degree in Naval Architecture/Civil/Mechanical/Ocean. II. Preferred field of specialization: (a) Naval architecture: Ship structures; Motion/ Manoeuvring; Ship Hydrodynamics and Ship design; (b) Ocean Engineering: Ocean structures; Coastal Engineering; Marine geotechnical and Hydrodynamics.
15	Physics	Assistant Professor	[1] Device Physics, [2] String Theory and [3] Dynamical Systems.
		Associate Professor	All Fields in Physics.

Interdisciplinary areas: IIT Madras recognizes the importance of interdisciplinary areas. The candidates are encouraged to send their applications to departments in which they are best suitable as well as to the virtual 'interdisciplinary' department. The candidates will be categorized as 'interdisciplinary' if (a) their research interests are in one or more of the areas above and (b) such research cannot be done in one department alone.

Post	Areas
Assistant Professor Associate Professor	<p>Computational Mathematics and Statistics, algorithms and software tools with applications in engineering and physics.</p> <p>Targeted Drug Delivery: Candidates having deep knowledge of and working on targeted drug delivery technologies including experience in adapting the technologies developed for clinical use and clinical trials.</p>

Additional information: Candidates may visit websites of individual departments for more specific information on departments and for any of the additional details.