

Faculty Recruitment - (Summer 2018)

S No	Department	Post	Specialization Areas
1	Aerospace Engineering Only candidates with a clear focus on one or more of the specified areas will be considered	Professor	<ul style="list-style-type: none"> • High-speed reactive flows • Probabilistic fracture mechanics of composites • Hydrodynamic stability and transition • Fluid-structure interaction (deterministic as well as stochastic)
		Associate Professor	<ul style="list-style-type: none"> • Rotating and stratified flows
		Assistant Professor	<ul style="list-style-type: none"> • Aircraft Design • Experimental Structural Mechanics
2	Applied Mechanics	Professor	<ul style="list-style-type: none"> • Stochastic Dynamics • Fatigue and Fracture in Bio- and Bi-materials • BioPhotonics
		Associate Professor	<ul style="list-style-type: none"> • High Alpha Aerodynamics
		Assistant Professor	<ul style="list-style-type: none"> • Biomaterials and Medical Devices (Candidates with experimental background will be given preference)
3	Bio Technology Qualification: B.Tech Chemical Engineering or Chemical Technology	Associate Professor	Research: In areas of specialization in Development of biomaterials in drug delivery and tissue engineering, Plant Cell Bioprocessing and Computational Systems Biology.
4	Chemical Engineering Qualification: At least one degree in Chemical Engineering or Allied Engineering Departments.	Professor & Associate Professor	All areas of Chemical Engineering
5	Civil Engineering	Professor	<ul style="list-style-type: none"> • Optimization and Computing in Construction and Building Systems • Air Quality Management (with Bachelor degree in Civil Engineering) Structural Engineering • Traffic Engineering
		Associate Professor	<ul style="list-style-type: none"> • Pavement Engineering

	<p>Civil Engineering</p>	<p>Assistant Professor</p>	<ul style="list-style-type: none"> • Building Sciences • Construction Management • Environmental Engineering (with bachelor degree in Civil Engineering) • Geotechnical Engineering (with Bachelor degree in Civil Engineering; Master degree Geotechnical Engineering) • Ground Water Engineering (with Bachelor degree in Civil Engineering) • Structural Engineering (with M.Tech/M.S., degree in Structural Engineering) • Transportation Engineering
<p>6</p>	<p>Computer Science & Engineering</p> <p>Educational Qualification: (a) Bachelor's Degree: Candidates must have an engineering degree in Computer Science and Engineering. Candidates with a Bachelor's degree in Electrical Engineering (with specialization in Electronics and Communications) or in Electronics and Communications Engineering may also apply if their records clearly demonstrate ability to teach core computer science courses. (b) Master's Degree: Candidates must hold a master's degree in engineering from a two-year long (or equivalent) Computer Science/Computer Science and Engineering/Computer Engineering program. [This may be waived if the candidate was admitted to a direct Ph.D. program after the Bachelor's degree.] (c) Ph.D. Degree: Ph.D. degree is required. Must be in Computer Science/Computer Science and Engineering/Computer Engineering.</p>	<p>Associate Professor</p> <p>Assistant Professor</p>	<p>Theoretical Computer Science areas. Candidates with exceptional record in other research areas may be considered.</p> <p>Computer systems and related research areas, including but not limited to Cloud Computing, Compilers, Computer Architecture, Computer Networks, Cyber security, Database systems, Distributed Systems, Operating Systems, Programming Languages, Semantic Web, Software Engineering. Candidates with exceptional record in other research areas may be considered.</p>

7	Electrical Engineering	Professor	Fiber Laser, Applied Optics
		Associate Professor	Optical Networking, Communication Networks, Communication Systems, RF Circuits/RF IC Design, Active Vibration Control.
		Assistant Professor	Communication Networks, Speech and Image Processing, Computer Vision, Power System Protection, High Voltage Engineering, Technologies for Electric Vehicles, Technology and modeling in the areas of Micro / Nano electronics, MEMS/NEMS and silicon photonics, Stochastic Control. Also consider other areas if the candidate is exceptional.
8	Engineering Design	Professor	<ul style="list-style-type: none"> • Automotive Electronics, Electric/Hybrid Vehicle Design - requirement of at least one degree in electrical/electronics /allied areas; Biomedical Electronics, Medical Device Design, Medical Robotics - requirement of at least one degree in biomedical or electrical/ electronics/ allied areas; • Vehicle Dynamics and Control; Mechanical Characterization of Materials for Design; Computer methods in imaging, design and additive manufacturing
		Associate Professor	<ul style="list-style-type: none"> • Automotive Electronics, Electric/Hybrid Vehicle Design - requirement of at least one degree in electrical/electronics/ allied areas; Biomedical Electronics, Medical Device Design, Medical Robotics - requirement of at least one degree in biomedical or electrical/electronics/ allied areas; • Pre-clinical imaging instrumentation; Robotics System Design
		Assistant Professor	<ul style="list-style-type: none"> • Automotive Electronics, Electric/Hybrid Vehicle Design - requirement of at least one degree in electrical/electronics/ allied areas; Biomedical Electronics, Medical Device Design, Medical Robotics - requirement of at least one degree in biomedical or electrical/ electronics/ allied areas.

9	Humanities & Social Science	Associate Professor	Energy & Environmental Economics
		Assistant Professor	<ul style="list-style-type: none"> • Economics (Macroeconomics/ Money Banking/Finance/Health) • Psychology (Social) • Political Theory • Urban Geography & Urban Land
10	Management Studies	Associate Professor	<ul style="list-style-type: none"> • Marketing Management • Organizational Behavior
11	Mathematics	Associate Professor	<ul style="list-style-type: none"> • Cryptology; • Probability Theory and Mathematical Statistics; • Operator Algebras; • Graph Theory; • Algebraic Topology; • Algebraic Geometry.
		Assistant Professor	<ul style="list-style-type: none"> • Partial Differential Equations; • Functional Analysis; • Fluid Dynamics; • Representation Theory; • Probability Theory and Mathematical Statistics.
12	Mechanical Engineering	Professor & Associate Professor	<ul style="list-style-type: none"> • Computational Mechanics • Movement Mechanics • Structural Health Monitoring • Heat Transfer • Solar Energy • IC Engines • Turbomachines • Refrigeration and Cryogenics • Machine Tools • Manufacturing Automation
13	Metallurgical and Materials Engineering Qualification: At least one degree (bachelor / masters) in Metallurgical or Materials Engineering	Associate Professor	<p>Research Specialization Areas:</p> <ul style="list-style-type: none"> • Computational Crystal Plasticity • Ferrous Process Metallurgy • Printed Electronics and Thin Film Technology • Processing of Metal Foams
14	Ocean Engineering Qualification: Ph.D relevant to Ocean Engineering with excellent academic record with engineering degree in Naval Architecture /Civil /Mechanical /Ocean Engg.	Associate Professor	<p>Preferred field of specialization:</p> <p>(a) Naval architecture: Ship structures; Motion/ Manoeuvring; Ship Hydrodynamics and Ship design; (b) Ocean Engineering: Ocean structures; Coastal Engineering; Marine geotechnical and Hydrodynamics.</p>

		Assistant Professor	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	Professor	<ul style="list-style-type: none"> • String Theory • Experimental High Energy Physics
		Associate Professor	<ul style="list-style-type: none"> • Soft Condensed Matter
		Assistant Professor	<ul style="list-style-type: none"> • Quantum Dynamics and Quantum Information & • Experimental Soft Condensed Matter
16	Chemistry	Associate Professor	<ul style="list-style-type: none"> • Methodology Development for Organic Synthesis

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 suited as well as to the virtual 'interdisciplinary' department. The candidates will be categorized as 'interdisciplinary' if (a) their research interests are in the area below and (b) such research cannot be done in one department alone.

Departments - Interdisciplinary	Post	Area
Physics - Electrical Engineering	Associate Professor & Assistant Professor	Quantum Computing and Devices
Electrical Engineering - Physics	Associate Professor	Phase Change Memory Devices

Update includes position in the Department of Chemistry