

Faculty Recruitment –(Winter 2017)

This round of recruitment is for the post Assistant Professor only.

S No	Department	Specialization Areas
1	Aerospace Engineering <i>Only candidates with a clear focus on one or more of the specified areas will be considered</i>	<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
2	Bio Technology	Area of Bioprocess/Biological Engineering <i>Educational background: BE/B.Tech in Chemical Engineering (preferably) /Biochemical Engineering and PhD and research experience in the areas of Bioprocess / Biological Engineering.</i>
3	Chemical Engineering <i>At least one degree in chemical engineering or allied engineering disciplines</i>	<ol style="list-style-type: none"> 1. Energy Thermochemical processing; Unconventional energy sources; Carbon capture and sequestration; Electrochemical energy systems; Process intensification; Process Safety 2. Environment Aerosol fate and transport; Modeling and remediation/restoration of environmental and ecological systems; Environmental sensors 3. Materials Synthesis and characterization of functional materials; Fabrication and testing of energy and display devices; Non-equilibrium statistical mechanics; Multi-scale modeling 4. Systems Engineering Systems biology; Theoretical optimization; Modeling and control of complex networks; Machine learning 5. Computational Modeling and Simulation Non-equilibrium simulations and modeling of biomolecular and biological systems; Large-scale modeling and computations in energy and environmental engineering; Quantum simulations for reaction kinetics in condensed phases with temperature and other effects in solution, at surface / interface; Meso-scale computations of glassy materials and solids; Theoretical statistical mechanics in chemical physics

4	Civil Engineering	<ol style="list-style-type: none"> 1. Building Science; 2. Construction Management; 3. Environmental Engineering (with at least one degree in civil engineering/environmental engineering/chemical engineering); 4. Transportation Engineering
5	Computer Science & Engineering	All areas in Computer Science & Engineering
6	Engineering Design	<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
7	Mathematics	<ol style="list-style-type: none"> 1. Differential Geometry 2. Complex Analysis 3. Theoretical Numerical Analysis 4. Number Theory 5. Combinatorics 6. Probability Theory and Mathematical Statistics.
8	Mechanical Engineering	<ol style="list-style-type: none"> 1. Movement Mechanics 2. Small scale mechanics 3. Mechanical Design 4. Non Destructive Evaluation 5. Mechanics of Composites / Soft matter 6. Refrigeration and Cryogenics 7. Solar Energy Applications 8. Turbomachinery 9. Manufacturing Science and Engineering
9	Ocean Engineering	<ol style="list-style-type: none"> 1. Ph.D relevant to Ocean Engineering with excellent academic record with engineering degree in Naval Architecture/ Civil/Mechanical/Ocean Engg. 2. Preferred field of specialization: (a) Naval architecture: Ship structures; Motion/ Maneuvering; Ship Hydrodynamics and Ship design; (b) Ocean Engineering: Ocean structures; Coastal Engineering; Marine geotechnical and Hydrodynamics.

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.

Department	Area
Interdisciplinary	Quantum computing and communication

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