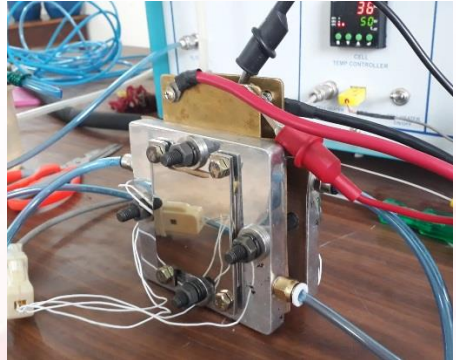




NITTE
(Deemed to be University)

**NMAM INSTITUTE
OF TECHNOLOGY**

Nitte – 574 110, Karkala Taluk, Udipi District, Karnataka, India
Accredited by NAAC with 'A' Grade
Phone: +91 8258 281264; Fax: Website: www.nmamit.nitte.edu.in



Fuel Cells

The Next Generation Energy Conversion System

One day Workshop, Theory & Practice

November 14, 2022

Organized by

Department of Mechanical Engineering

About the Workshop

Climate change has brought to the fore the need for developing and adopting technologies that have low/zero carbon footprint. Fuel Cells, particularly Proton Exchange Membrane Fuel Cells represent one such family wherein with an efficiency of $\sim 45\%$ and using pure Hydrogen as the fuel, tailpipe emissions can be completely eliminated at higher fuel utilization factors. Fuel cells along with the balance of plant basically represent an interdisciplinary system with critical inputs, primarily from Mechanical, Electrical, Electronics and Computer Science field.

The relevance for Mechanical stream emerges from the fuel cell being the principle prime mover replacing the Internal Combustion engine, the intervention and opportunities for Electrical and Electronics streams emerge from handling the generated electrical energy and controlling the dynamic loading. The relevance for computer science rests in the critical utility of prognostics to enable operational implementation of the fuel cell system for 45,000 hours of operation, a mandatory milestone for qualifying the fuel cell stack as viable replacement for internal combustion engines.

The current course provides an introduction to the fundamentals of fuel cell with operational governing equations and the elementary structure. There will be a demonstration of various single cell Fuel cell. This will form the building block for subsequent deep dive into specific sub sections of fuel cells.

Resource Person



Dr. Anand Shivapuji
Senior scientist, CGPL, Indian
Institute of Science, Bangalore

Advisors

1. **Dr. Niranjan N. Chiplunkar**, Principal, NMAM Institute of Technology, Nitte
2. **Dr. I. R. Mithanthaya**, Vice Principal & Dean (Academics), NMAM Institute of Technology, Nitte
3. **Dr. Shrinivasa Rao B. R.**, Vice Principal & Controller of Examinations, NMAM Institute of Technology, Nitte
4. **Dr. Srinivasa Pai P.**, Professor & Head, Dept. of Mechanical Engineering, NMAM Institute of Technology, Nitte
5. **Dr. Sudesh Bekal**, Dean R & D, NMAM Institute of Technology, Nitte

Coordinators

1. Dr. Anil Kumar H S, Associate. Professor, Dept. of BT Engg.
2. Dr. Raghavendra Bairy, Asst. Professor, Dept. of Physics.
3. Dr. Sandeep Hegde, Asst. Professor, Dept. of CSE Engg.
4. Mr. Aneesh Jose, Asst. Professor, Dept. of Mechanical Engg.
5. Mr. Anil Bhat, Asst. Professor, Dept. of E&C Engg.
6. Mr. Dinesh Shetty, Asst. Professor, Dept. of E&E Engg.
7. Ms. Megana Nayak, Instructor, Dept. of CCN Engg.
8. Ms. Nisha Kotian, Instructor, Dept. of AI&ML Engg.
9. Mr. Vasudev Pai, Asst. Professor, Dept. of IS Engg.
10. Mr. Vincent Lanish D'Souza, Assistant Professor, R&AI Engineering

Who can Register?

Academician's, Research scholars and Students across all branches. Seats are based on a first come first serve basis. Participation Certificates will be Provided.

Last date for Registration: 10th November.

Venue: Sambharam Auditorium, NMAM Institute of Technology.

Registration Link.

Register by Filling the Google Form. <https://forms.gle/VDtoZhEpixzVznk8>
Registration Fees. Rs. 350.

Contacts:

Dr. Rashmi P Shetty: 9448529222

Mr. Aneesh Jose: 9986429290

In Association with

