

Dr. I. Thirunavukkarasu, Ph.D.

Professor, School of Electrical Engineering

Machine Learning for Advanced Process Control Lab- Cyber Physical System Enabled

Manipal Institute of Technology, Manipal Academy of Higher Education, Manipal

PIN: 576 104, Karnataka, India

Ph: +91-820-2925156 Mob: +91-9740730126, Mail: it.arasu@manipal.edu

web: <https://itarasu.com>



Researcher (Oct2020-March2021), Dept of Aerospace Engineering, IISc Bangalore

Visiting Professor (2018), Dept of Chemical Engineering, Ryerson University, Canada

Last update: 6th August 2026

Scopus page link: <https://www.scopus.com/authid/detail.uri?authorId=25928064400>

ORCID ID: 0000-0002-1829-7362

Dr.I.Thirunavukkarasu born on 18th August 1981 at Kanchipuram. Presently working as a Professor in the Dept. of Instrumentation and Control, Manipal Institute of Technology, Manipal Academy of Higher Education (**Institute of Eminence, status given by MHRD, G.O.I**), Karnataka. He has 22+ years of teaching experience and 16 years of research experience. He completed his diploma with honors in Electronics and Communication Engg. in 1999 and joined as a lateral entry candidate for B.E (Instrumentation and Control Engg) and completed the degree in 2002 from **Madras University**, Chennai. Obtained his M.E (Process Control and Instrumentation) from **Annamalai University**, Chidambaram in 2005 followed by the Ph.D degree in Robust Process Control from **Manipal Academy of Higher Education, Manipal**, Karnataka in the year April 2012.

Joined as a researcher for six months (Oct 2020-March 2021) to work under Prof.Radhakanth Padhi, Dept. of Aerospace **Indian Institute of Science, Bangalore** to work in the area of advanced nonlinear control algorithms. During 2018, he served as a Visiting Professor in Dept. of Chemical Engg, **Ryerson University, Canada** for three months.

Presently he is actively working in Machine Learning for Advanced Process Control area. Implemented reinforcement learning, Q Learning, LSTM NMPC, CNN LSTM NMPC, Support Vector Machine and RL-NMPC for the batch reactor pilot plant successfully. Established a dedicated lab for Machine Learning for Advanced Process Control with hardware facilities for validation which is unique in the country.

He is the recipient of **DST Fast Track grant for young scientist from the Government of India for the period 2013-2016**. Received the Post-Doctoral research and publication grant from MAHE towards “Nonlinear Control Design(SMC) for a Non-Linear Process” during Jan 2013-Dec 2014.

Received research seed money grant from MAHE(IoE) towards the establishment of coolant flow station control for a nonlinear batch reactor in Advanced Process Control Lab in MIT, Manipal.

He evaluated 50 PhD engineering thesis from various universities including state and deemed universities.

He has also organized two international conferences, workshops, FDP in the area of Control System and Process Control domain with the grants from various research organizations like ISRO, DRDO, ONGC, AICTE & National Instruments.

Four PhD students have completed their degree in the area of Advanced Process Control. Currently guiding few in the area of Physics Informed Neural Network for chemical reactors.

He has published his research articles in peer reviewed SCI publication i.e, American Chemical Society and few others in Elsevier Materials Science, MATEC Web of Science, Springer Lecture Series, etc.

He is also member in various professional bodies: Senior member in IEEE, ACS Member, ACDOS member. ISTE, SSI, ISSE, IE(I) and American Chemical Society.

He has participated and presented his research findings in various scientific conferences held worldwide including USA, Canada, Germany, Italy, London (2), Bahrain, Oman, Singapore, Malaysia (2), Thailand (2), Dubai and France.