Dr. P. Swaminathan, B.E.(HONS)., Ph.D., F.I.E., MBA.

Dr. P. Swaminathan graduated with Honours degree in Electronics & Communication Engineering from **Regional Engineering College, Tiruchirapalli, India** in 1971 with the **Gold medal of** '**University of Madras'**.

After undergoing **one year** course in Nuclear Science & Engineering from **BARC Training School**, Dr. P Swaminathan joined Indira Gandhi Centre for Atomic Research (IGCAR) in 1972. He further underwent one year PG course in Main frame computer system from **International Honeywell Bull Training Institute, Paris, France (1981**). He also holds **Doctorate degree** in Electronics engineering (Sathyabama University-2009) and Master degree in Management Science (IGNOU). He is a **Fellow of Institution of Engineers (India).**

As Senior Scientist at IGCAR, Dr.Swaminathan developed Instrumentation and Control System for supervision and control of Fast Breeder Test Reactor (FBTR). He was posted for two years at Electronics Corporation of India Ltd, Hyderabad   to actively participate in the manufacture of Real Time Computer Systems and Safety Logic Systems for FBTR.

Dr. Swaminathan was further promoted to the grade Scientist-H (**Equivalent to Professor) in 1999**. He has taught Instrumentation and Control System to the graduate trainees of BARC training School and also to the PG students at IIT-Madras. He was further conferred to the grade Outstanding Scientist (**Equivalent to Senior Professor) in 2005**. As Senior Professor at Homi Bhabha National Institute, Dr.Swaminathan has guided JRFs for Ph.D. degree.

To complete the development of Air Borne Time Domain Electromagnetic System to detect deeply buried Uranium ores, Dr. Swaminathan was given extension of service for two years. After super annuation from   IGCAR in 2011, Dr. Swaminathan subsequently served at **SASTRA University, Thanjavur** as **Dean, School of Computing**

from <u>2011 to 2016</u>. During this tenure, Dr. Swaminathan has also guided Ph.D. Scholars in various areas of Computer Science & Engineering. He has also encouraged senior faculty in availing BRNS projects in the area of Image Processing and AI techniques.

During his tenure as **Vice-Chancellor**, VELS University acclaimed from B Grade to A Grade, that too as per NAAC Revised Assessment & Accreditation Framework. He has also realised a consultancy project from BHAVINI, Kalpakkam.

As Chairman of NAAC Peer Team, Dr. Swaminathan has assessed Higher Education Institutions across the country, India.

His guidance enabled the Engineering Programs, Management Program, and Pharmacy Program for the prestigious *NBA accreditation*.

Dr. Swaminathan has more than 50 publications in International Journals/Conferences. He has presented papers at International Conferences held at Vienna, Japan, Finland and Australia.

Dr.Swaminathan has brought in the National standards for the usage of computers in Nuclear Installations in India. He has also received **Distinguished Alumni** award from **National Institute of Technology, Tiruchirappalli**.

<u>He has also received prestigious **Homi Bhabha award** for his excellence in research and development in the area of safety instrumentation and control system for Nuclear Reactor.</u>

Recent Publications in Web of Science Journals

Paper-1
Title: Minor fault detection of thermocouple sensor in Nuclear Power Plant using time series
Analysis.
Journal: Annals of Nuclear Energy (ELSEVIER publications)
Indexing: 1) SCOPUS 2) Science Citation Index- Expanded (Web of Science)
Status: Published (Pages 383-389, issue 134, July 2019)

Paper-2
Title: Sensor fault detection in Nuclear Power Plant using Symbolic Dynamic Filter
Journal: Annals of Nuclear Energy (ELSEVIER publications)
Indexing: 1) SCOPUS 2) Science Citation Index- Expanded (Web of Science)
Status: Published (Pages 390-400, issue 134, July 2019)

Paper-3
Title: A novel approach for fault detection and classification of the thermocouple sensor in Nuclear Power Plant using Singular Value Decomposition and Symbolic Dynamic Filter
Journal: Annals of Nuclear Energy (ELSEVIER publications)
Indexing: 1) SCOPUS 2) Science Citation Index- Expanded (Web of Science)
Status: Published (Pages 440-453, Volume 103 **(2017))**

Paper-4
Title : Optimized Energy Aware Scheduling to Minimize Makespan in Distributed Systems
Journal: Biomedical Research(Allied Academies journals)
Indexing: 1) SCOPUS 2) Science Citation Index- Expanded (Web of Science)
Status: Published: **2017**-Volume 28, Issue 7, Pages 2877- 2883

Paper-5
Title: Nuclear Power Plants thermocouple sensor fault detection and classification using Deep Learning and Generalized likelihood ratio test
Journal: IEEE Transactions on Nuclear Science
Indexing: 1) SCOPUS 2) Science Citation Index- Expanded (Web of Science)
Status: Published Volume 64, Issue 6, Pages 1526-1534, **June 2017**

Paper-6
Title: Nuclear Power Plant sensor fault detection using singular value decomposition method
Journal: Sadhana (Journal from Indian Academy of Sciences)
Indexing: 1) SCOPUS 2) Science Citation Index- Expanded (Web of Science)
Status: Published on **27th July, 2017** DOI: 10.1007/s 12046-017-0700-2

Paper-7
Title: Sensor fault detection in Nuclear Power Plant using statistical methods
Journal: Nuclear Engineering and Design (ELSEVIER publications)
Indexing: 1) SCOPUS 2) Science Citation Index- Expanded (Web of Science)
Status: Published 324**(2017)** 103-110

8. B.D.Deebak, **Swaminathan.P** "Analysing three fold schemes for enhancing communication
   Channel efficiencies using IP multimedia server clent system for LTE networks":
   Wireless Personal Communications-2015 **(SCI-E,IF: 0.653)**

9. B.D.Deebak,**Swaminathan.P** "Analysing three party authentication & key agreement
    Protocol for real time multimedia server client system" Multimedia tools & Applications
   2015 **(SCI-E,IF:1.346)**

10. B.D.Deebak, Swaminathan.P " Evaluating three party authentication key agreement protocols using IP multimedia server client system" Wireless Personal Communications-2015
    (SCI-E,IF: 0.653)

11. B.D.Deebak, Swaminathan P "Analysing secure key authentication and key agreement protocol for promising features of IP multimedia system using IP multimedia server client system" Multimedia tools & Applications-2015
    (SCI-E,IF:1.346)

12. Swaminathan.K, **Swaminathan.P**, `Hough Transform Method for determining Fuel

Subassembly`s In-Situ `Bow` in Breeder Reactor using its sparsely scanned Ultrasonic Image`, *IEEE Transactions on Nuclear Science* Vol 60,No 4,August 2013 **(SCI,IF:1.2)**

Invited Talks

P. Swaminathan, Invited talk on "Development of Sensor network in Prototype Fast Breeder Reactor" at International conference at **Melbourne University** on "Broad band Communication and Information technology" during 10-13 July 2006, organised by ATSE & INAE at Australia.

Books

"Design of Embedded System for Safety Application" part of the book
`Current Trends in Engineering Practice. Vol II`, pp 297-324,
Narosa Publishing House, India

Indian Standards

1) "Hardware for Computers in the safety system of Nuclear and Radiation Facilities"..IS 15399:2003
2) "Software for Computers in the safety System of Nuclear and Radiation Facilities"..IS 15398:2003
3) "Application of Computers to Nuclear Reactor Instrumentation and Control"..IS 12772:2003