


**Sri Sai Ram Engineering College**  
**Department of Electronics & Communication Engineering**

Name : <b>K.Swaminathan</b>	
Designation:	Professor
Qualification :	B.Tech (ECE),IIT, Madras M.S (Software Systems, BITS, Pilani M.E (Electronics & Control), Satyabhama Univ.Chennai
Area of Specialisation :	Electronics & Instrumentation
Experience :	Teaching : UG: 3 years & 7 months PG : 6 months Industry : - 36 yrs
No. of workshop / Conferences / FDP attended :	10
Publication :	Journal National : - International : -1
	Conference National : -30 International : -4
Research Guidance :	-
General : -	-
Staff Achievements: -	-

## Experience:(Details)

**At IGCAR:** Joined **IGCAR (Indira Gandhi Center for Atomic Research)** in the year 1970 and the progress in my position over the years is as follows: I started as development engineer and over the period of around 36 years held positions of growing responsibilities such as Head, Instrumentation Development & Services Section and Head, Component and Instrumentation Development Division. I retired from the govt. service on 30-06-2006.

**At SSEC:** Soon after, I joined in Sri Sai Ram Engineering College, Chennai and am serving as Professor of Electronics and Communication Engineering since July 2006.

## Workshop/Conferences/FDP: (List)

### Journal

1. "The development and deployment of an Ultrasonic Under-sodium viewing system in the Fast Breeder Test Reactor"

**K.Swaminathan**, A.Rajendran & G.Elumalai

IEEE Transactions on Nuclear Science, Vol.37, No.5, Oct'1990

### Conference and seminars

2. "Determination of Response time of core thermocouples of FBTR"  
**K.Swaminathan** & B.Prahlad  
6<sup>th</sup> National heat & mass transfer conference- IIT Madras-HMT-38-81, 1981
3. "Sodium testing of reactor components"  
R.D.Kale, **K.Swaminathan**, R.Prabhakar, A.Sur, K.Balachander & R.Veerasingam  
3<sup>rd</sup> International conference on LIMET, April 9-13, 1984, Oxford, UK
4. "Development of sodium ionization detector for sodium-to-gas leaks"  
**K.Swaminathan** & G.Elumalai  
3<sup>rd</sup> International conference on LIMET, April 9-13, 1984, Oxford UK
5. "Determination of response time of core thermocouples of FBTR".  
**K.Swaminathan** & B.Prahlad  
3<sup>rd</sup> International conference on LIMET, April 9-13, 1984, Oxford UK
6. "A Personal computer – controlled ultrasonic imaging under water"  
A.Rajendran & **K.Swaminathan**  
National symposium on Personal computers in Science & Engg. BARC, 3-5, Feb., '88
7. "Ultrasonic under sodium viewer"  
**K.Swaminathan**  
Highlights IGC-88
8. "Ultrasonic under sodium viewing in Fast Breeder Test Reactor"  
A.Rajendran, G.Elumalai & **K.Swaminathan**  
National symposium on Ultrasonics (NSU-IV-89), NPL, New Delhi 21-22 sep.89
9. "Development of a remote Data Acquisition and Graphic display system for the Sodium Rigs"  
A.Rajendran, J.I.Sylvia and **K.Swaminathan**  
National symposium on Computer applications in power plants (SCAPP-92), Dec.8-10, 1992, BARC, Bombay
10. "A distributed Data Acquisition and control system for Sodium Rigs"  
A.Rajendran, J.I.Sylvia, G.Elumalai and **K.Swaminathan**  
National symposium on Advances in Control and Instrumentation, March 16-18. 1994, BARC, Bombay.
11. "A distributed Data Acquisition and Control system for Sodium rigs"  
A.Rajendran, J.I.Sylvia, G.Elumalai & **K.Swaminathan**

- National symposium on Advances in Computer applications and Instrumentation, Jan. 4-6, 1995, IGCAR
12. "Development of an Ultrasonic Under-sodium viewer"  
A.Rajendran, G.Elumalai & **K.Swaminathan**  
National symposium on Advances in Computer applications and Instrumentation, Jan. 4-6, 1995, IGCAR
  13. "Development of an Ultrasonic Scanner for the Fast Breeder Test Reactor"  
A.Rajendran, C.Asokane, G.Elumalai & **K.Swaminathan**  
14<sup>th</sup> World Conference on NDT, Dec'96, New Delhi
  14. "PLC Based Automation and control of Sodium Rigs"  
Sylvia.J.I., Rajan.K.K and **Swaminathan.K**  
Seminar on Automation in Process Engineering & Manufacture, Nov.'97, Kalpakkam
  15. "PLC as a Test Sequence Controller"  
Sylvia.J.I., Balachander.K. & **Swaminathan.K.**, ibid
  16. "A Survey on Sensors in Industry"  
Seminar on Automation in Process Engineering and Manufacture (SAPREM-97), IGCAR, Nov'1997  
**K.Swaminathan**
  17. "Application of Electric and Electromagnetic Devices in LMFBR"  
Recent Trends in Generation & Utilisation in Electrical Engg. (SORT-GENUINE-99), IGCAR- January 1999  
**K.Swaminathan**, K.K.Rajan, G.Elumalai, V.D.Sharma, R.Veerasingam, R.Prabhakar & R.D.Kale
  18. "Analysis of Ultrasonic Under Sodium Images"  
Satellite Conference on Image Analysis in Material and life science, IGCAR-Aug.7-10, 1999  
J.I.Sylvia, **K.Swaminathan**
  19. "Ultrasonic under-sodium viewing in Fast Breeder Reactor"  
National Seminar on 'NDT Voyages in 2000s (NDE-99) Baroda 17-19 Dec.1999  
**K.Swaminathan**, J.I.Sylvia & C.Asokane
  20. "Development of special sensors and transducers in high temperature liquid sodium environment"- **Invited talk**  
8<sup>th</sup> National seminar on Physics and Technology of sensors (SENSORS-8), IGCAR Feb.27-March 1,2001  
**K.Swaminathan**
  21. "Eddy current flow meter for in-core flow measurements in fast reactors" ibid  
R.Veerasingam, C.Asokane, K.Narayanan, R.Dhanasekaran, K.Rajesh, **K.Swaminathan** and R.Prabhakar
  22. "Development of Ultrasonic probe for flow measurements" ibid  
J.I.Sylvia, C.Asokane, **K.Swaminathan**
  23. "Improving the response time of FBTR core thermowell" ibid  
C.Samuel Devanesan, J.I.Sylvia, **K.Swaminathan**
  24. "Development of mutual inductance type multi-level detector for sodium" ibid  
P.Vijayamohana Rao, G.Elumalai, **K.Swaminathan**
  25. "Development of liquid sodium-proof ultrasonic transducer" ibid  
C.Asokane, G.Elumalai, **K.Swaminathan**
  26. "A feasibility study on the use of ultrasonic wave-guide for diverse safety rod drop time measurement" ibid  
C.Asokane, V.Kavitha, **K.Swaminathan**

**The following papers were presented at National Seminar on Nuclear Instrumentation (NSNI) 2004.**

27. Feasibility study on the use of Ultrasonic Wave-Guides for the Diverse Safety Rod (DSR) Drop time measurement  
C.Asokane, V.Kavitha, J.I.Sylvia & **K.Swaminathan.**
28. Augmentation of LCTR Data Acquisition System  
J.I.Sylvia & **K.Swaminathan.**
29. Development of Mutual Inductance type Sodium Leak Detector (MILD)  
Sudhir T.Ninawe, P.Vijayamohana Rao & **K.Swaminathan.**
30. Development of safety related Instruments for sodium systems.  
**K.Swaminathan** & M.Rajan
31. Distributed Control System for sodium system of SGTF>  
J.I.,Sylvia, V.Vijayakumar, V.S.Krishnaraj,**K.Swaminathan** & G.Vaidyanathan
32. Distributed Data Acquisition and Control System for SOWART Loop  
M.Anbuchelian, V.Kavitha, J.I.Sylvia & **K.Swaminathan**
33. Experimental Determination of Diverse Safety Road (DSR) Drop-Time  
Using ultrasonic Pulse-Echo Technique  
C.Asokane, V.Kavitha, J.I.Sylvia & **K.Swaminathan**
34. Ultrasonic Wave-Guide for High Temperature Sodium Applications.  
C.Asokane, V.Kavitha, J.I.Sylvia & **K.Swaminathan**
35. Under-Water Ultrasonic Scanning Experiments for sub-assembly Viewing and Ranging  
C.Asokane, J.I.Sylvia & **K.Swaminathan**

#### **VISION 2020**

1. A paper on “Advanced Under-Sodium Ultrasonic Technology for LMFBR”  
J.I.Sylvia, &**K.Swaminathan** for VISION 2020 programme, at BARC, Mumbai  
Mar, 2004

#### **Publication:(Details)**

##### **International Journal**

“The development and deployment of an Ultrasonic Under-sodium viewing system in the Fast Breeder Test Reactor”

**K.Swaminathan**, A.Rajendran & G.Elumalai

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