

## **A Unique Scheme Exclusively for SSN Alumni**

### **RESEARCH ASSISTANT @ SSN**

### **DISCOVER THE SCIENTIST IN YOU!**

**SSN is pleased to offer its alumni an opportunity to participate in the various research activities being carried out in the campus.**

This opportunity will be available to all students who have passed out in June 2008 (with immediate effect) and those who will pass out in May 2009 (with effect from 1<sup>st</sup> June 2009). Both students who have offers in companies and are waiting for the joining dates and those who are not yet placed are eligible for this program.

This is an excellent opportunity for students to discover the scientist in them and sharpen their creative and intellectual skills prior to joining the industry. And perhaps, some of the students might well take up Research as a career.

Dr. K. G. Narayanan, Director of SSN Research Centre is the Chief Mentor for this program. Students therefore get a unique opportunity to work under the guidance of a renowned scientist.

The highlights of this program are:

- ✓ *Students joining as Research Assistants will be assigned research projects either individually or in teams of two.*
- ✓ *Students will be guided by faculty-mentors in the various departments & Research Center based on the nature of the project.*
- ✓ *All projects will have well-defined deliverables. Documentation of results will be an important component of the project.*
- ✓ *The tenure will be for three months extendible by another three months depending on performance.*
- ✓ *This is a compulsorily residential program.*

Research Assistants will be paid a stipend of Rs.4000/- per month apart from free accommodation in the hostel and food in the hostel mess.

Students with exceptional performance during the Research Assistantship can be considered for the regular positions of Research Scientist at SSN Research Centre. This will be subject to the requirements at SSN Research Centre and the concerned students clearing an entrance assessment.

**Interested candidates can e-mail their resumes to [rebeccat@ssn.edu.in](mailto:rebeccat@ssn.edu.in)**

## Research Tasks for Research Assistantship

This is the preferred list of research tasks from which students are encouraged to choose topics for their Research Assistantships. Other good suggestions from students and mentors can also be considered.

S No	Research Task	Mentor	Field
1.	Develop video image capturing module	J. Raja / IT	Security & Surveillance
2.	Develop base for camera fixing & control	V. Kamaraj / EEE	Security & Surveillance
3.	Development of wireless nodes	S. Radha / ECE	Security & Surveillance
4.	Develop base station for data / image integration and analysis	C. Aravindan / CSE	Security & Surveillance
5.	Synthesis of benzophenone derivatives	P. Ramasamy / Xtal	Synthetic organic chemistry
6.	Bi-Directional Accelerated Rotation Controller	P. Ramasamy / Xtal	Instrumentation & Control
7.	Microcontroller based gearless translation setup for smooth and slow movement	P. Ramasamy / Xtal	Instrumentation and Control
8.	Preparation and characterisation of biofuels.	Ramakrishnan / Che	Synthetic chem., Trans - esterification
9.	Utilization of natural products for the production of Gallic acid and pyrogallal.	Ramakrishnan / Che	Synthetic chem
10.	Synthesis and characterisation of metal nanoparticles.	K. Sathish Kumar / Che	Chem engg , microscopy
11.	Simulation of Distillation Column using ChemCad	Kilaru Harsha Vardhan / Che	Simulation / CAD
12.	Extractive separation using hydrotropes.	D. Gnana Prakash / Che	Chem engg

13.	A staff-student interactive module for the SSN Intranet	Shanmughapriya. / IT	IT
14.	Web applications of Fuzzy techniques	B Prabha / Maths	Maths
15.	Applications of Fuzzy Reliability	R Sujatha / Maths	Maths
16.	Development of RDBM system for examination purposes	M Srinivasan / Maths K Kamaraj / Maths	IT
17.	Characterizing the CaF <sub>2</sub> :Pb single crystals	Kennedy / Phy	Physical & Optical properties evaluation
18.	Design, fabrication and testing of automated fringe counting system for thickness measurement of transparent thin films inserted into a Michelson Interferometer	Prita Nair / Phy	Electronic instrumentation
19.	Application of Genetic algorithms (GA) towards optimization of phononic/photonic bandgap filters.	Prita Nair / Phy	Basic physics
20.	Modeling of metamaterials using equivalent oscillator circuits using Matlab	Prita Nair / Phy	Physics / computation
21.	Analysis of Photovoltaic Device	Abhik Das / RC	Solid State Physics
22.	Sample synthesis and testing of semiconductor materials using PECVD and SEM facilities from National laboratories	Jatin Bhatt / RC	Semiconductor technology
23.	Technology Landscaping of Organic / DSSC / thermovoltaic Nonconventional Photovoltaic Device technology	Ritesh / RC	Literature Survey
24.	Study of enhancement of thermal conductivity of heat transfer fluids using nano particles	Muthusivagami / RC	Mech / Chem Engg, Material science

25.	Study of wind induced heat losses from surface of solar concentrators	Angel Jeba / RC	Applied Physics, Mech Engg
26.	Lab scale Bio ethanol production from cellulosic material	Anand / RC	Chem engg
27.	Feasibility of manufacturing Na from NaCl (coolant in power reactors)	Rajendran / RC	Chem engg
28.	Potable water from ground water in SSN campus	Rajendran / RC	Chem engg
29.	Field measurement of solar radiation (insolation) in summer months in S India	Sudarshan / RC	Applied Physics / instrumentation – involves travel
30.	Modeling performance of a UAV based coastal surveillance system	Venkateswarlu / RC	Operational research / systems analysis
31.	Study of applications of terahertz imaging in surveillance applications	K. G. Narayanan / RC	Electronics / physics
32.	Study & demo of RF beam transmission of power	K. G. Narayanan / RC	RF Electronics
33.	Automating admission process in SSNCE	Albal / SASE	Dev of on-line test, contextual help and test cases

**Abbreviations:**

Xtal	-	Crystal Growth	Che	-	Chemical
Phy	-	Physics	RC	-	Research Centre
SASE	-	School of Advanced Software Engineering			