

**Research Academy for Women Candidates pursuing PhD in Computer Science fields in Engineering Education Institutions**

**Dates;** March 18, 19, 20; 2013

**Location:** CR Rao AIMSCS, Hyderabad, AP.

**Organizers:** Indo US Collaboration for Engineering Education (IUCEE) & CR Rao Advanced Institute for Mathematics, Statistics and Computer Science (AIMSCS)

**Sponsor:** Department of Science and Technology (DST), Government of India.

*GTU has joined with IUCEE so that our researchers may be able to take advantage of its academic programs.*

**Rationale for the Research Academy Program:**

The five years of IUCEE experience with over 200 engineering colleges in India has pointed to the very critical problem of faculty qualifications and quality. Majority of the faculty do not have a PhD, and even if registered for a PhD have inadequate research guidance due to the shortage of qualified guides. In most cases, PhD guides have far too many advisees and are located at distant campuses, resulting in very little interaction. The "eco-system" necessary for good quality PhD research guidance is missing. The proper eco-system needs researchers in a field to discuss their research problems regularly with each other and with expert guides. This problem is even more severe with female faculty members.

A large number of IUCEE US faculty have expressed willingness to help advise Indian faculty pursuing PhD degrees. In order to create an ecosystem for good research guidance, a pilot of the Research Academy for female faculty members is being piloted.

**A 3-day Research Academy in Computer Science is being conducted at Hyderabad (AP).**

30 faculty PhD candidates in Computer Science will be invited to travel to this location. 10 Indian guides will be selected from the 30 Indian Guides of the candidates and also invited. Each candidate will be expected to make a 15 minute research presentation before other candidates and the Indian & US experts. Each presentation will be followed by a discussion guided by the experts. 10 candidates will present each day. This will allow each candidate to benefit from the interaction with experts, the Indian guides, as well as with the other candidates.

The workshop will be followed up through a series of webinars, email exchanges and on-line discussions on our IUCEE portal, with US experts, Indian experts and Indian Guides participating. This will provide a very valuable ecosystem for the candidates to pursue their PhD programs.

Two US and two Indian experts with strong research backgrounds in Computer Science will be identified and invited.

## **Program Details:**

**Workshop Dates:** March 18,19,20, 2013

### **Guidelines for Applicants:**

- Applications are invited from female faculties from Indian engineering education institutions, who are pursuing PhD, and interested in research guidance by US and Indian faculty experts in respective areas. Only candidates who have been registered for PhD for a minimum one year will be eligible. Candidates who have completed PhD will not be eligible.
- Nominated faculty will prepare, and submit a 2 page Research Summary, clearly identifying the objectives of the proposed research, progress made and critical research issues for which guidance is needed. Nominated faculty will also submit a one page Biodata. Format for the Research Summary and Biodata are given below.
- Each candidate will also provide Biodata of their Indian PhD Guide.

### **Format for Research Summary (max 2 pages)**

- Objectives
- Progress to date
- Critical Research Issues

### **Format for BioData (max 2 pages)**

- Education
- Employment
- Research Grants
- Research Presentations and Publications

### **FEES**

- Rs. 12,000 will be collected as participant Fees from each candidate or institution of candidate.

### **DEADLINES**

- **Deadline for submission of Research Summary and Biodata is January 21, 2013.**  
**Please submit by email to [Krishna Vedula@uml.edu](mailto:Krishna.Vedula@uml.edu).**
- Selected Candidates will be intimated the exact dates by February 1, 2013
- Payment of fees must before February 20, 2013, by Demand Draft in the name of "CR Rao Advanced Institute for Mathematics, Statistics and Computer Science"

### **For any further information please contact:**

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**Dr. Krishna Vedula, Executive Director, IUCEE; Professor and Dean Emeritus, University of Massachusetts Lowell, USA; [Krishna Vedula@uml.edu](mailto:Krishna.Vedula@uml.edu)**

**Dr. Allam Appa Rao, Director, CR Rao AIMSCS, Hyderabad, India;**  
**[apparaoallam@gmail.com](mailto:apparaoallam@gmail.com)**

*Notes: Every applicant will have to arrange for permissions from the management of his/her own College/ Institution for participating in the Academy.*

## **Background on IUCEE:**

The Indo US Collaboration for Engineering Education (IUCEE) was founded with the help of the American Society for Engineering Education (ASEE), Pan IIT (organization of IIT alumni), International Federation of Engineering Education Societies (IFEES) and Indian Society for Technical Education (ISTE) with headquarters at University of Massachusetts Lowell (UML). It was conceptualized by over 150 leaders of engineering education and businesses from US and India in 2007. The vision of IUCEE is to improve the quality and global relevance of engineering education and research in India with focus on faculty development, student development, curriculum development, as well as improved teaching technologies and research. Resulting collaborations will benefit participating Indian and US institutions.

### **IUCEE Accomplishments in Past Five Years (2007-12)**

- **93 US professors and 24 industry experts have conducted 149 one-week workshops to ~ 4,500 Indian engineering faculty at Faculty Leadership Institutes (FLIs) since 2008:** Videotapes and course materials from US experts are being used as resources by the Indian faculty. These are now being conducted at locations all over India, in a sustainable format, with the Indian colleges paying all the direct costs of the US experts. Estimated total of 15,000 faculty and 300,000 students all over India, have been benefitted by these FLIs. Significant positive outcomes from the Faculty Leadership Institutes (FLIs) have been demonstrated with over 100 colleges all over India. As a result of these face-to-face workshops, networks have been created between Indian and US faculty and institutions which are already resulting in a wide variety of research and teaching collaborations. More than 200 US faculty members from over 50 US institutions are interested in participating in IUCEE programs. All course materials from the FLI workshops, courses and webinars offered by US faculty since 2008, are available on the IUCEE portal. Portal provides a forum for interactions and collaborations among the US and Indian engineering education community.
- **IUCEE College Consortium has been created in 2010 in order to make IUCEE financially sustainable.** Membership provides privileged access to all the IUCEE programs and resources as well as to the IUCEE Global experts. Membership has increased to 73 colleges in 2012.
- **The IUCEE Virtual Academy has been launched in 2011:** ~ 200 one-hour webinars on teaching, research and general education topics have been conducted on line by US faculty. These have been viewed LIVE by over 20,000 faculty and students all over India. In addition, 12 MiniCourses of 10 webinar lectures each by US experts have been piloted during 2012. These were viewed LIVE by over 4,000 students and 100 faculty at 39 host college locations all over India. Interactions between faculty and students with US expert were facilitated. Recordings of all the lectures are available in UTube format on the IUCEE portal. 20 additional MiniCourses are planned for January to March 2013.

## **Background on CR Rao Advanced Institute for Mathematics, Statistics and Computer Science (AIMSCS)**

C.R.Rao Advanced Institute for Mathematics, Statistics and Computer Science (AIMSCS) was formed with the objective of promoting research and advanced studies in Mathematics, Statistics and Computer Science and allied subjects and engaging in activities that will further these objectives. The Institute, located in the campus of the University of Hyderabad, plays an important role in improving the quality of teaching, encouraging basic research in mathematical and social sciences and promoting applications of science and technology in all areas of human endeavour.

### **AIMSCS's overall vision:**

- To conduct, promote and carry out research in the field of Science and Technology.
- To encourage talented students both rural and urban to pursue professional and research careers.
- To support the application of research and training in the field of Science and Technology.
- To honour those who have made significant contributions to the advancement of knowledge in the field of Science and Technology.

### **Projects Undertaken By AIMSCS:**

AIMSCS has established four different Centres of Excellence in the following areas to carry out Research, Development, Consultancy and Training:

- **Centre of Excellence in Mathematical Sciences** : Cover the advanced areas of Mathematics, Statistics and Discrete mathematics with applications in Social Sciences, Life Sciences, Physical and Biological Sciences.
- **Centre of Excellence in Statistics**: Cover the areas of Planning and Programme Implementation and generation of Statistical Data Bases.
- **Centre of Excellence in Signal Processing, Cryptography and Computer Science**: To work in the areas that cover national security.
- **Centre of Excellence in Computational Genomics**: To accelerate research in Bio-Technology, with the aim of increasing food production and to provide better health care to the people for the welfare of the people.