

utilization of thorium based reactors through the route of Accelerator Driven Subcritical (ADS) Systems, and mentioned that DAE has embarked on a programme to develop an injector for state of art Accelerator Driven Subcritical System which is a promising future energy source. Dr. Piermaria J. Oddone, Director, Fermi National Accelerator Laboratory (FNAL), USA delivered the keynote address on "High Energy Physics in Next Decade and Beyond". FNAL operates the Tevatron, the world's highest energy particle collider near Chicago, Illinois, USA. Dr. V C Sahni, Director, RRCAT gave a brief overview of accelerator activities being pursued at RRCAT. He also spoke about the motivation to hold the conference at major accelerator centres of our country. Shri C.K. Pithawa, Incharge, Indus Accelerator Complex and Chairman, InPAC-2009 Organising Committee welcomed the guests and gave details of the conference. He highlighted the role particle accelerators are playing in basic research, medical & industrial applications besides agriculture radiation processing. The inaugural programme ended with a vote of thanks by Dr. S.K. Deb, Convener, InPAC-2009.



Inaugural function of InPAC-2009 at RRCAT

During the conference spanning over four days, major topics in particle accelerators were covered, these included, DC accelerators, linear accelerators, cyclotrons, microtrons, synchrotrons, synchrotron radiation sources, free electron lasers, electron and ion sources, medical and industrial accelerators, beam dynamics, magnet design and technology, super-conducting technology, RF systems, vacuum technology, applications of accelerators etc.

The scientific programme of InPAC-2009 consisted of parallel sessions on two afternoons and poster sessions on three afternoons. There were 15 invited papers; 35 contributed oral presentations and 166 poster papers. About 400 scientists, engineers and students from major national laboratories namely BARC, VECC, TIFR, IPR, IOP, IUAC, SAMEER, CEERI, IGCAR, RRCAT, universities, leading accelerator laboratories abroad FNAL (USA), KEK (Japan), CERN (Switzerland), SOLEIL (France) and BINP (Russia) and many accelerator related industries participated in this conference.

An MOU paving the way for collaboration on developing cutting edge science and technology for future accelerators was signed by Directors of FNAL, US, Director, RRCAT,

Director VECC and Director, IUAC. The MOU establishes collaboration in the frontier areas of superconducting (SC) accelerator science and technology and in research and development of superconducting materials. The MOU will help in the development of high gradient superconducting radio-frequency cavities, required to accelerate charged particles in an accelerator to very high energies.

After the last scientific session on 13th Feb 09, a concluding session was organized where prizes were awarded for best posters followed by feedback by participants. It was concluded that the conference was very satisfying and productive in its scientific content.

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N.4: One Week Exposure Program

RRCAT organized, for the first time, a One Week Exposure Program (OWEP-2009) from 20th – 24th July 2009. This program was initiated by Dr. V.C. Sahni, the then Director, RRCAT to give an exposure to the students on different activities of science and technology being carried out at RRCAT. The aim of this program was to stimulate the young and bright students of B.Sc/BE (Ist year) towards fascinating and rewarding career in science and technology. For this program, invitations were sent to all the science and engineering colleges of Indore. On special request some students from Miranda House, Delhi were also invited. In all, 30 students participated in OWEP-2009. All the students were provided free boarding and lodging at RRCAT guest house.

The programme was inaugurated by Dr. P. D. Gupta, the then Officiating Director, RRCAT on 20th July morning. As a part of his inauguration address, Dr. P. D. Gupta gave an extensive and lucid description of the various activities of research and development that were being carried out at RRCAT. Dr. L. M. Kukreja co-chairman of the OWEP organizing committee welcomed all the guests and students to the programme.

Following the inauguration, the lecture series commenced. The lectures delivered at the programme, covered nearly all the aspects of lasers, accelerators and some other interesting contemporary research topics that are pursued at RRCAT. A total of 16 lectures were delivered by various senior scientists and engineers from RRCAT. Special efforts had been made to make the lectures simple so that B.Sc/BE Ist year students could follow and appreciate the contents. Beside these lectures, interactive lab visits were also a part of the daily schedule. During some of the lab visits, students were also allowed to work on some of the laboratory systems. A special visit was also organized in the Indus complex on the morning of the last day of the programme.

The programme ended with a concluding and feedback session, chaired by Dr. G. S. Lodha. The feedback from the students was very positive and most of the students found this exposure very stimulating and useful. After the program,



some students expressed their desire to choose a career in science and technology. Overall, the program was very successful.

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N.5: Experimental Physics & Industrial Control Systems (EPICS) Workshop

Accelerator Control Section (ACS) organised a 4-day workshop on “EPICS” (Experimental Physics & Industrial Control Systems) at RRCAT from January 27 to January 30, 2009, in association with KEK, Japan. The workshop was sponsored by BRNS, India and Japan Society for Promotion of Science (JSPS), Japan. Invited speakers, mainly from Japan and USA had long time experience on EPICS. Total 33 participants attended the workshop and learnt the skills for deploying EPICS for control systems.

EPICS is a SCADA system consisting of a set of software tools, libraries and applications developed collaboratively and used worldwide to create distributed soft real-time control systems for scientific instruments such as particle accelerators, telescopes and other large scientific experiments. Different parts of EPICS were developed at different places, and are distributed for usage. EPICS is a world-wide collaboration and relies upon its users to contribute to ongoing development and support of the software tools.

Consequently, a very important component of the EPICS related activities are the results of freely available international collaborative developments. EPICS device and/or driver support has been written for a vast number of I/O devices over the years by many collaborating laboratories and are readily available. Thereby, commercial instruments, controllers, power supplies and many other devices can be integrated into the control systems. A large community of scientific machine control system developers are ready to help implementation and maintenance of EPICS based control systems.

The workshop also included control system presentations from the participants. The four day, full time workshop included theory classes and hands on sessions. All participants were given workshop material on CD containing EPICS related documentation, hands on experiment material, user presentations etc. Ubuntu Linux and live EPICS DVDs were also distributed to participants to put them on fast track to continue learning EPICS after the workshop.

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N.6: Women's Day 2009 Celebration

Women's day was celebrated at RRCAT on March 18, 2009 with theme “Togetherness”. The program was conducted in two sessions: pre and post lunch. It started with a

welcome address by Mrs. Prabjot Singh. The Chief Guest was Mrs. Annie Pawar, General Manager (Technology), State Bank of Indore. Mrs. Annie Pawar gave a talk on “Changing Role of women”. She emphasized on the importance of self respect with several examples, including some from her own experiences. She mentioned that the role of women is changing from “only an earner” to “a career woman” and women have become confident enough to make such choices for themselves. She wanted women to appreciate what they have achieved and think about how to go further.

An essay competition and a debate competition were organized on March 6th, 2009 as a part of the celebration. The topics of essay competition were “Women’s education and nation’s progress” and “Successful career women can be a good home maker too: agree/disagree”. Total 15 women participated in the competition. Mrs. Anagha Mokhariwale and Mrs. Preetha Jayakumar shared the first prize.

The Topic of debate competition was “Equality before the law and concessions for women: Is it contradictory”. Three participants spoke for yes, it is contradictory and three spoke against. Mrs. Rekha Raikar Kumar and Mrs. Jagriti Khanwilkar were judged best in debate competition for and against the topic respectively.

Dr. Alka Ingale, chairperson, Women Cell RRCAT gave a brief overview of the activities of women cell. She mentioned that the work done over last few years and gathering of women employees for these functions has resulted in increased interaction among themselves and in turn they have shown greater faith in women cell. She said that women cell will continue to work further towards solving their problems and making RRCAT a better working place. Mrs. Rekha Raikar Kumar proposed vote of thanks for pre-lunch session.

Post lunch session comprised presentation by Dr. Chhaya Mishra and cultural programmes by RRCAT employees. Dr. Chhaya Mishra’s presentation was on “Management funda” based on the movie “Sholay”. She discussed many clips of the movie and showed how they teach management funda. Mrs. Anagha Mokhariwale compeered the afternoon session, in which most awaited part was the program presented by RRCAT employees. First, in the lot was a immensely entertaining Liliput show performed by AECS teachers, which involved 6 participants who mimicked 2 liliputs on a film song. Ms. Prachi Chitnis and Ms. Rinky Upadhaya showed the journey of women through life by songs and dance. The songs chosen for each stages of life and their depiction of the same were very much appreciated by all. An excellent “Banana award” function show was put up by Janaki, Shradha, Jagriti and Sonica. It was very entertaining with interesting parody, wherein we could heartily laugh at ourselves. Mrs. Seema Janardanan had shown creativity by reciting a poem woven of women employee’s names. Mrs. Archana Prabhu caught attention of audiences by creating sound of approaching train using ghungrus in a short kathak based performance. The last and most energetic performance