AcSIR

Biennial Report 2010-12

Academy of Scientific and Innovative Research

Started with a unique thought and a novel idea of creating future leaders in Science and Technology, AcSIR has now 2044 students in various programmes.

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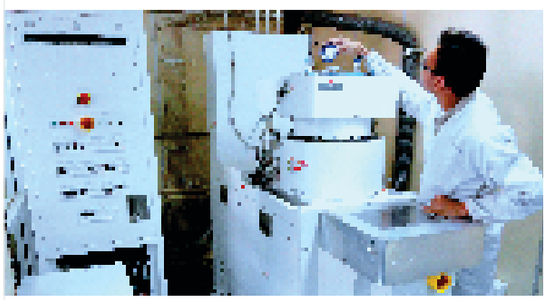
MISSION OF THE ACADEMY

The mission of the Academy is to create highest quality personnel with cross-disciplinary knowledge, aiming to provide leaders in the field of science and technology.

- Nurture a research-propelled, technology-enabled and industry-linked higher education platform.
- Achieve a seamless integration of intellectual strengths with current market needs.
- Develop niche capability required to bolster research efforts in futuristic science.
- Provide the opportunity to work on the frontier and challenging areas with current relevance.



OBJECTIVES OF THE ACADEMY

i. To disseminate advanced knowledge in science and technology, by providing teaching and research facilities in emerging and futuristic areas of inter-disciplinary and multi-disciplinary areas;

ii. Adopt measures for innovations in teaching and learning process;

iii. Create an ambience for learning and scholarship in advanced science and technology instead of exclusively focusing on marks or grades;

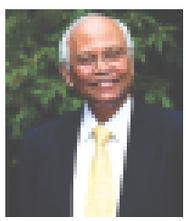
iv. To educate and train manpower in scientific and technological fields;

v. To establish linkages with industries in India and outside India for the promotion of science and technology;

vi. To collaborate, in appropriate areas in the field of science and technology, with reputed universities and institutions in India or outside India;

vii. To promote research in science and technology having an impact on social, economic, cultural, intellectual and academic welfare of the people;

viii. To organize and undertake extramural studies, training and extension services.



Prof. Raghunath A. Mashelkar, FRS

Chancellor and Chairman, BoG, AcSIR

Prof. R.A. Mashelkar, National Research Professor, presently also the President of Global Research Alliance, a network of publicly funded R&D institutes from Asia-Pacific, Africa, Europe and USA with over 60,000 scientists. He served as the Director General of Council of Scientific and Industrial Research (CSIR) for over eleven years. He was also the President of the Indian National Science Academy and President of Institution of Chemical Engineers (UK).

Dr. Mashelkar has made marks both in science and innovation. His path-breaking research in polymer science and engineering has won him global laurels. Among others, he is a Fellow of Royal Society, Foreign Fellow of US National Academy of Science, Foreign Fellow of US National Academy of Engineering, Foreign Fellow of American Academy of Arts & Science, etc.

He is the Chairman of India's National Innovation Foundation, besides being the Chairman, Innovation Councils of some of India's leading industrial enterprises. He pioneered the concept of Gandhian Engineering leading to inclusive innovation, which has now become a global agenda. Dr. Mashelkar is well known for chairing twelve high powered "Mashelkar Committees", which dealt with national issues ranging from higher education to national autofuel policy to drug regulatory systems.

As a member of Science Advisory Council to Prime Minister set up by successive Governments over the past twenty five years, he has played a major role in shaping India's Science, Technology & Innovation Policy in post-liberalised India. Dr. Mashelkar has received honorary doctorates from 30 universities. The President of India honoured him with Padmashri (1991) and with Padmabhushan (2000).

Prof. Samir K. Brahmachari, FNA

DG, CSIR and Vice Chairman, BoG, AcSIR

Prof. Samir K. Brahmachari, former Professor, IISc, Bengaluru; Founder-Director, CSIR-Institute of Genomics and Integrative Biology, Delhi; is currently the Director General of the Council of Scientific and Industrial Research (CSIR) and Chief Mentor, CSIR-Open Source Drug Discovery (OSDD) unit.

He is recognized internationally for his contribution in proposing and elucidating the functional and structural significance of repetitive sequences in genomes and its significance in neuro-psychiatric disorders. He pioneered the functional genomics initiative in India and also led the Indian Genome Variation Consortium project as the Director, CSIR-Institute of Genomics and Integrative Biology, which created a new national resource: the genetic profile of the people of India. He is a mentor of the OSDD project for infectious diseases, a CSIR-led team-India consortium with global partnership. He was also a member of the expert group on Human Rights and Biotechnology Commission of United Nations.

He conceptualized Genomed as the first-of-its-kind knowledge alliance in India between a government Institute and a private pharmaceutical company. He has also been instrumental in establishing The Centre for Genomic Application (TCGA). He initiated and successfully created the Academy of Scientific and Innovative Research (AcSIR) by leveraging the infrastructure and scientific strength of CSIR. He has been a member of the Human Genome Organisation (HUGO) Council (2004-11) and presently, member of the Advisory Board of the X Prize in Genomics. He is a Fellow of all the four national Academies of S&T and Engineering in India. He has received several awards and honours which includes the Shanti Swarup Bhatnagar Prize in Biological Sciences, CSIR (1990).

AcSIR

At a Glance

At a Glance

1.1 Introduction

Established in 2010 (by a resolution of the Government of India on 17th July, 2010) as an 'Institution of National Importance' and formalized by an Act of Parliament, the Academy of Scientific and Innovative Research Act, 2011 vide The Gazette of India dated 7th February, 2012 and notified on 3rd April, 2012, the Academy of Scientific and Innovative Research (AcSIR) has adopted the mandate to create and train some of the best of tomorrow's Science & Technology leaders through a combination of innovative and novel curricula, pedagogy and evaluation. AcSIR's focus will be on imparting instruction and providing research opportunities in such areas that are not routinely taught in regular academic universities in India.

It has been set up based on a 'Hub and Spoke' model where hub is responsible for centralized administrative functions and currently housed at CSIR Head Quarter, Anusandhan Bhawan, 2 Rafi Marg, New Delhi. The spokes are located in the 37 laboratories and 3 units of CSIR spread along the length and breadth of India, which act as actual campuses for different subjects or areas.

At present the Academy has 2194 full time faculty members from CSIR Laboratories, 2044 students enrolled in various programmes and 7 non-academic staff members.

1.2 First Chairperson

Prime Minister, India and President, CSIR on 8th June, 2012 appointed National Research Professor Prof. R.A. Mashelkar as Chairperson of Board of Governors, AcSIR, making him the first formal head of AcSIR after Prof. Samir K. Brahmachari, former Acting Chairperson of interim AcSIR and DG-CSIR, who is the ex-officio Vice-Chairperson, BoG, AcSIR.

1.3 SIRO Recognition

Department of Scientific and Industrial Research (DSIR), Ministry of Science & Technology, Govt. of India with effect from 25th June, 2012 has recognised AcSIR as a Scientific and Industrial Research Organisation (SIRO).

1.4 Events

A Ceremony was held at CSIR-IGIB, Delhi on 6th August, 2010 to confer Academy Professorship to Prof. George M. Whitesides, BoG member, AcSIR.

AcSIR celebrated its first Degree Awarding Ceremony at Shanti Swarup Bhatnagar Auditorium at CSIR-HQ, New Delhi on 15th September, 2011 for the 52 graduating students of M.Tech (PGRPE) 2009-11 batch.

AcSIR celebrated its second Degree Awarding Ceremony at Vigyan Bhavan, New Delhi on 26th September, 2012 for the 71 graduating students of M.Tech 2010-12 batch.

Academic Activities

Academic Activities

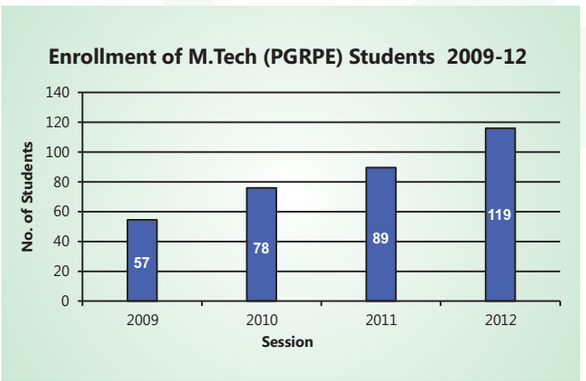
2.1 Post Graduate Research Program in Engineering (Integrated M.Tech.-Ph.D.)

Admissions for PGRPE (IMP)

The fourth batch (2012-14) of the two-year, residential PGRPE (rechristened as, Integrated M.Tech.-Ph.D. programme)-the flagship engineering programme of AcSIR-CSIR attracted (all GATE qualified candidates) 13476 applications.

In all, 126 successful candidates were offered admissions to the IMP 2012-14 batch. Out of these, 119 including 18 candidates from reserve panel accepted the offer of admission and registered for AcSIR-CSIR IMP 2012-14 batch.

The changing number of participants in Post Graduate Research Programme in Engineering (PGRPE) (IMP, from 2012) is shown below:



2.2 Ph.D. Programme

Admissions for Ph.D. Programme (August 2012 session)

Based on the call for 4th batch (August 2012) of the Ph.D. programme of AcSIR, 548 candidates were offered admissions.

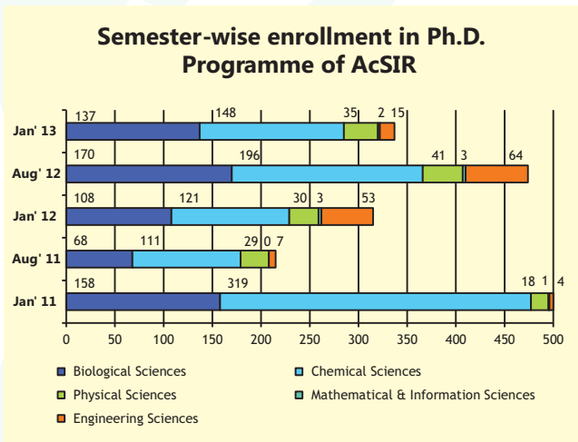
Among these candidates, 493 candidates accepted the offer of admission and enrolled for Ph.D. programme (August 2012 session). Currently, there are 486 candidates enrolled in August 2012 session.

Admissions for Ph.D. Programme (January 2013 session)

The fifth batch (January 2013) of the Ph.D. programme of AcSIR attracted 2489 candidates, which include 1665 for Ph.D. in Sciences and 493 for Ph.D. in Engineering applications.

Out of these, 494 candidates were offered admission to the programme. Admissions in the Ph.D. programme in various faculties viz. Biological Sciences, Chemical Sciences, Physical Sciences, Engineering Sciences and Mathematical & Information Sciences are summarized in the following graph:

Faculty wise composition of students in Jan 2011, Aug 2011, Jan 2012, Aug 2012 and Jan 2013 sessions are summarized below:



Particulars of Staff

Particulars of Staff

Faculty-wise Staff Particulars

Faculty	Professors	Associate Professors	Assistant Professors	Total Faculty
Engineering Sciences	214	154	281	649
Biological Sciences	212	129	322	663
Chemical Sciences	150	99	239	488
Physical Sciences	93	39	130	262
Mathematical & Information Sciences	19	14	24	57
Academy Professors				06
Distinguished Professors				07
Outstanding Professors				56
Adjunct Faculty				06
TOTAL				**2194**

Ethos & Philosophy

AcSIR

Ethos & Philosophy

AcSIR offers students the opportunity to organize subjects from various faculties into personally constructed interdisciplinary programs as a way of an integrated understanding of the area chosen.

- Focus on inter-disciplinary & trans-disciplinary areas of Sciences

Multiple disciplines of science were created for deeper learning in focused areas but we know that great breakthroughs take place at the intersection of different areas of learning. Transdisciplinary research has been, therefore, given supreme primacy in AcSIR's scientific and innovative research agenda.

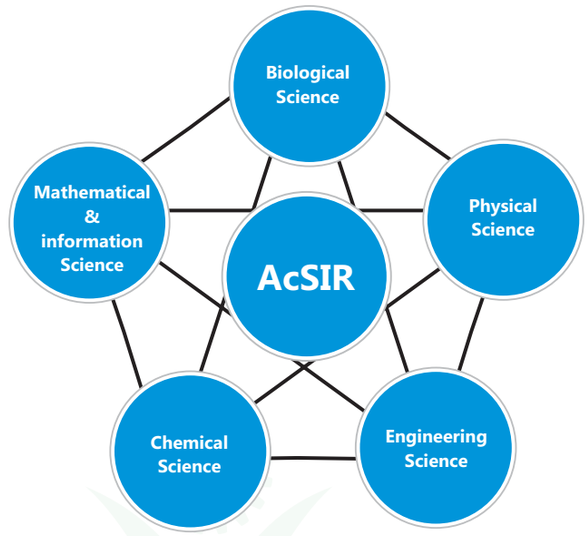
Keeping those innumerable questions in mind and objectives to find answers to them; AcSIR seeks to bring about a paradigm shift in the mindset by:

- Teaching at the interfaces in order to make path-breaking contribution in the field of Science and Engineering.
- Teaching trans-disciplinary areas by integrating disciplines incorporating components of science.
- Increasing the basic science component in curriculum
- Catalyzing engineering mindset in students to facilitate translational research in life sciences
- Mimicking in machines to create bio inspired devices

Special features of Programmes @ AcSIR:

The programmes at AcSIR have some distinguishing special features such as:

- Experiential Learning
- Research Focus
- Information Technology Orientation
- Social Sensitivity



Experiential Learning

It is necessary to build higher degree of scientific inquiry and provide the students such an exposure that they will have hands on experience of the state-of-art laboratory facilities of CSIR. The concept of experiential learning helps in inculcating the culture of 'learning by doing'. It enables them to relate classroom teaching to real context.

Research Focus

Research is basically all about harnessing of curiosity, which cannot be effectively be taught only in classrooms. Curricula, pedagogy and evaluation methods are directed towards creating personnel with high research quotient.

Information Technology Orientation

Information Technology is playing an ever-increasingly role in business and education. Therefore, acquisition and processing of a large volume of diverse information for analyzing and

interpreting the data with regard to research problems, through extensive use of computers, has become the order of the day. Efforts are on towards increasing the use of IT and enable participants to attend classes via virtual classrooms.

Social Sensitivity

AcSIR's research will also focus on problems that 'need to be solved' rather than just the problems that 'can be solved'. Therefore, a unique feature of the Ph.D. programme at AcSIR is a compulsory course called, CSIR-800 Societal Programme (it is a CSIR project with primary objective of empowering 800 million Indians through Science & Technology interventions), which strive to expose the participants to the problems faced by people at the Base of Pyramid and making them socially conscious, while embarking on research studies.

The theme of the student project may be chosen from CSIR-800 initiatives and in consultation with Advisor and Doctoral Advisory Committee (DAC).

The concept of credit is used to compute the workload of a course. As a general rule, one credit requires a commitment, from participant, of about 1 lecture hour per week (minimum 14 contact hours) or 2 laboratory hours per week (minimum 28 contact hours) or combination thereof for the duration of the semester.

Curriculum

Academic input is delivered by three types of courses: (a) core/preparatory courses, (b) major courses and (c) advanced/elective, and are segregated into levels (Level:100, 200, 300 respectively). In addition, the curriculum also includes another course which includes Review Article, Project Proposal and CSIR-800 Programme (Level 400).

- **Level-100:** Core/ Preparatory Courses

Preparatory Courses are those courses having the objective of development of basic understanding for the furtherance of the respective field of study. This provide participants, with the fundamental conceptual knowledge, research skills, contextual understanding and overall perspective that will serve as the bedrock for the programme.

- **Level-200:** Major Courses

These are the major courses; these are in line with the candidate's subject of thesis and are chosen in consultation with the Advisor of the Student.

- **Level-300:** Advanced/ Elective Courses

Advanced courses focus on specialization in specific/ advanced areas out of a number of possible courses which cover advanced and emerging areas of study at a breadth. Student can opt any of the courses (satisfying minimum required Credit Criteria) in consultation with his Advisor. The advanced/elective courses, which are offered, will give participants a deeper understanding of, and will enable them to specialize in, areas of their choice.

- **Level-400:** Review Article, Project Proposal and CSIR-800 Programme

These are the compulsory courses. Review Article (2 credits) aims to develop a sense of constructive critique in the participant, as it is said "a work started with clear thought is half done"; Project Proposal (2 credits) gives the clear line of thought and work plan before embarking on research. And, CSIR-800 programme (4 credits) aims to develop social sensitivity towards people of lower strata.

Meetings

AcSIR

Meetings

5.1 Futuristic Structure of Academic Program of AcSIR

Academy of Scientific and Innovative Research (AcSIR), soon after the approval of the Board of Directors by the Prime Minister of India became first of its kind in academic history of India where international scholars were being incorporated as members of Board of Governors of an Academic Institution.

The meeting was held on 8th January, 2011 under the Chairmanship of the then Acting Chairman, BoG-AcSIR and Director General, CSIR, Prof. Samir K. Brahmachari with an objective to chart futuristic structure and vision of AcSIR.

In his opening remarks Chairman, AcSIR welcomed all the members in the meeting. He began by explaining the motive of establishing of AcSIR, which was mainly to establish an institution of national importance with power to award degrees and to make it one of the best educational institutions, promoting inter-disciplinary studies, that are student focused rather than project focused.

He emphasised the necessity to create a self-sustaining structure which can create and develop human resource to lead into the pursuit of R&D by young minds. He emphasised that AcSIR would leverage the strengths of CSIR and strive to bridge the voids in higher education in sciences especially in engineering sciences where a big deficit is being experienced in availability of trained human resource. Prof. George M. Whitesides supported the fact that the demand from industrial sector led to the absorbtion of the trained human resource in engineering sciences leading to depletion of students from research in engineering and physical sciences.

Prof. Brahmachari explained to the house that the academy would have a virtual campus based on the 'hub and spoke' model using National Knowledge Network (NKN) connectivity that connected 37 labs and 3 centers spread across 25 cities of India. The students would be admitted to the academy not by conventional tests but by new mechanisms that will be devised for this purpose.

He aptly defined the objective of AcSIR as creating scientists, who solve societal problems and who focus to translate it into entrepreneurship with some scope for creating wealth.

Excerpts of address by Prof. George Whitesides: Global perspective of training for "Innovative Research"

Prof. Whitesides stressed that the first and foremost task in defining futuristic structure is to define what AcSIR aims to deliver to the society. It was necessary to decide whether the Academy wants to produce students, who want to pursue research, or be entrepreneurs or become administrators or focus on solving social problems.

He expressed his opinion that pursuit of money and prestige could never go hand in hand. Engaging in scientific pursuits requires giving up of monetary pursuits and hence, it was difficult for any researcher to aim for entrepreneurship as well as Nobel prize.

He felt that first the pressing problems faced by the country (India) should be identified and then the students should be motivated to seek solutions for those problems.

Experience sharing from IISc perspective by Prof. D.D. Sarma

Prof. Sarma, while sharing his experience, discussed demographic issues, education aspects relevance and interdisciplinary approach.

He pointed out that feeder line for universities has now shifted from the urban to the rural areas and therefore the character of the students opting for university education has undergone a change. Students have economic and social pressures to handle when they are pursuing research. He emphasized that it should be kept in mind while deciding the curricula as well as other policies of AcSIR.

He criticized the present schooling system, which discourages learning from the surroundings and which restricts itself to learning from the textbooks. He felt that it was necessary to break the channels of authority for a mind to function freely. AcSIR has to play an important role by offering opportunity to

students to think and express themselves freely. Selection of faculty should aim to recruit individuals who are young, vibrant, and willing to accept a voice of dissent from the students.

Excerpts of address by Prof. Dinesh Singh, VC, Delhi University: Bridging the gap by AcSIR

Prof. Dinesh Singh explained the current scenario in the existing universities in India which lack dynamism and deliverance due many factors. He identified job security, baggage of history and legacy that the universities carry as a few of those impeding factors. For such universities, accepting a multidisciplinary approach becomes difficult.

He added that many students who lack opportunities at the critical stages of their lives remain outside the realm of university system of education despite having basic talent to excel. Hence, it is necessary to harness this untapped talent and bring it to the academy. He reiterated that students in India were attracted more by the opportunities to work with the best faculties rather than with the opportunities to make money. Thus, motivation is more important than money to rope in talent in AcSIR.

Following significant recommendations were made by the members:

- To follow innovative procedures of selection and evaluation of students.
- To simulate young minds to solve societal problem and carve out a niche in that aspect.
- To establish knowledge hierarchy instead of organizational hierarchy in order to promote innovative ideas.

5.2 1st Meeting of Board of Governors held on 11th January, 2011

The first meeting of Board of Governors of AcSIR was held on 11th January, 2011 under the Chairmanship of the Acting Chairman, AcSIR and DG, CSIR, Prof. Samir K. Brahmachari.

In his opening remarks, Acting Chairman, AcSIR welcomed all members of the Board to its first meeting. He said that this was a historic occasion for the CSIR family and also the country as the AcSIR was envisaged to become the first innovation academy in the country in which bright young students would be trained and equipped to embark upon trans-disciplinary and inter-disciplinary research.

Dr. Srikumar Banerjee, Chairman, Atomic Energy Commission (AEC) mentioned that owing to the excellent facilities at the CSIR, AcSIR could also serve as an ideal vehicle for promoting industrial-scale experiments requiring huge laboratories and infrastructure; and in this way facile transfer of technology from the lab to the land could be facilitated by AcSIR.

Prof. Mustansir Barma, Director, TIFR, Mumbai was emphatic about integrating post-doctoral associates similar to the model followed by premier research institutes across the globe as also about the importance of interdisciplinary research.

Prof. Brahmachari commented that international students and scholars- especially from South Asia and the Middle East- are focusing on India and AcSIR will benefit from this opportunity.

Prof. Samir K. Brahmachari also requested Dr. P. Chatterjee, Chairman, The Chatterjee Group, USA to extend his help in harnessing philanthropic funding as also for establishing global connectivity for the AcSIR, a suggestion which was gracefully admitted by Dr. Chatterjee.

Prof. Mriganka Sur, Head, Department Of Brain and Cognitive Sciences, MIT, USA commented on the challenges involved in attracting best Ph.D. students and emphasized the need to have a clear idea of the socio-economic dynamics this regard.

Prof. Surabhi Banerjee, Vice Chancellor, Central University, Odisha added that students need to be identified at the undergraduate and postgraduate levels and it is also necessary to nurture innovation amongst them so as to enable them to emerge as innovative researchers.

Prof. George M. Whitesides opined that the students go to the prestigious universities mainly because they get good projects to work on. They also receive enough visibility by graduating from such universities that guarantees landing of dream jobs once they graduate.

Prof. Brahmachari unequivocally supported this contention and added that the success of the OSDD is an example of such a paradigm, where students worked extremely hard when confronted by a real challenge of grand proportions. He added that the CSIR structure has enough resilience and flexibility to arrest stagnancy whenever this becomes apparent.

Following significant recommendations were made by BoG:

- Adoption of minimum Credit requirement, residence period and inclusion of CSIR-800 programme during completion of Course
- Approved introduction of Ph.D. (Science), Ph.D. (Engineering) and M.Tech/Integrated Ph.D. (Engineering)
- Appointment of Director and Associate Directors
- Constitution of interim Senate, AcSIR
- Appointment of Executive Managers
- Adoption of AcSIR Logo

5.3 2nd Meeting of Board of Governors held on 13th February, 2012

The second meeting of Board of Governors of interim AcSIR was held on 13th February, 2012 under the Chairmanship of the Acting Chairman, AcSIR and DG, CSIR, Prof. Samir K. Brahmachari.

In his opening remarks, Prof. Brahmachari said it was a momentous day as AcSIR Bill had been passed by Rajya Sabha and Lok Sabha and the Bill had received the assent of the President. He added that the Academy of Scientific and Innovative Research Act 2011 had been Gazette notified on 7th February, 2012. Members appreciated that the Act is unique because of a number of novel features of the Academy.

Prof. Brahmachari along with all the members thanked and recorded deep appreciations to the past and the then Hon'ble Ministers of Science and Technology, Shri Kapil Sibal, Shri Prithviraj Chavan, Shri Pavan Kumar Bansal and Late Shri Vilasrao Deshmukh for their help, support and guidance.

Since the AcSIR Bill had been passed, Board Members approved the formal conversion of the Advance Post Graduate Diploma into M.Tech degree to passed out batch of 52 PGRPE students.

During the meeting, the Board took note of Gazette notification of AcSIR Act and registration of domain name "acsir.res.in".

BoG took note of the fact and recommended that the Associate Directors of the Academy should now be appointed at the earliest as full time functionaries of the Academy either drawn from existing CSIR Scientists or recruited from outside the CSIR system.

5.4 3rd Meeting of Board of Governors held on 25th September, 2012

The Vice Chairman of the Board of Governors formally welcomed to the 3rd meeting of the Board, which happened to be the first meeting of the formal Board consequent to the notification of the Academy. He welcomed the newly appointed Chairman, Prof. R.A. Mashelkar and formally thanked him for his starting the journey towards setting up AcSIR during the period when he was the Director General of CSIR.

The Chairman welcomed all the Board Members to the first formal meeting of BoG, AcSIR. He formally introduced the continuing and the new members of the Board. Prof. Sourav Pal, Director, CSIR-NCL replaced Prof. J.S. Yadav, who superannuated from his position. Also, Dr. R.K. Sinha, the Chairman of Atomic Energy Commission and Shri R.S. Gujral, Finance Secretary, replaced their respective predecessors by virtue of their being ex-officio members of the Board.

The Board took note of the notification of AcSIR Act in the Gazette of India, recognition of AcSIR as Scientific and Industrial Research Organization (SIRO) by Department of Scientific and Industrial Research (DSIR) and also the fact that the concerned department of Govt. of India has been approached in respect of Income Tax exemption for the Academy.

During the meeting Board adopted AcSIR Annual Accounts and the Audit Report of AcSIR.

Following significant recommendations were made by the BoG:

- Approval of recommendation of the Senate for the award of Academy Professorship to eminent scientists of India:

Prof. Samir K. Brahmachari, FNA

Prof. C.N.R. Rao, FRS

Prof. M.M. Sharma, FRS, and

Prof. Roddam Narasimha, FRS

- Formation of Policy guidelines for recruitment of National and International Adjunct Faculty to AcSIR drawn from Industry and Academia
- Ensuring the flexibility in rules and regulations of AcSIR with highest accountability
- Finalization of the Memorandum of Understanding (MoU) between AcSIR and CSIR
- Finalization of Statutes and Ordinances

5.5 1st Senate Meeting held on 2nd February, 2011

The first Senate Meeting was held on 2nd Feb, 2011, under the Chairmanship of Acting Director, AcSIR Prof. Gautam Biswas, Director, CSIR-CMERI, with the following objectives:

- Endorsement of Prof. R. A. Mashelkar, FRS, Prof. Samir K. Brahmachari, FNA, for conferment of Academy Professorship for their outstanding contribution to science and in creation of AcSIR.
- Constitution of Course Committee (Annexure:3) for framing of Curricula and Courses to be offered
- Constitution of Admission Committee (Annexure:4) for framing of Admission Procedure
- Merger of PGRPE with M.Tech/ Integrated Ph.D (Engineering) Programme of AcSIR
- Constitution of Statutes and Ordinances Committee (Annexure:2) for formulation of Statues & Ordinances
- Constitution of Examination Committee (Annexure:5) for framing processes and procedures for conduction examinations

5.6 2nd Senate Meeting held on 17th August, 2011

The second Senate Meeting was held on 17th August, 2011, under the Chairmanship of Acting Director, AcSIR Prof. Gautam Biswas with the following objectives:

- Report of Course Committee for finalization and streamlining Courses of Study
- Ph.D. admission for INAE and AICTE students at AcSIR
- Constitution of committee comprising Prof. B.D. Kulkarni, Dr. Chetan Gadgil and Prof. Ashish Lele for formulation of guidelines for direct Ph.D in Engineering after earning the Baccalaureate degree
- Review of evaluation mechanism for Thesis Work by Examination Committee
- Constitution of Fellowships to Candidates in direct PhD in Engineering

5.7 3rd Senate Meeting held on 11th January, 2012

The third Senate Meeting was held on 11th January, 2012, under the Chairmanship of Acting Director, AcSIR Prof. Gautam Biswas. He congratulated and informed the Senate Members as the Bill for AcSIR was passed by Rajya Sabha on 21st December, 2011.

Members were informed that Head, HRDG had proposed to consider 20 Shyama Prasad Mukherjee (or similar) fellowships for Ph.D. in Engineering. A proposal had been forwarded to increase the number of fellowships for JRF-GATE. The HRD group also proposed the introduction of NET for qualified candidates in Engineering.

The broad recommendations of the meeting were:

- Introduction of new Programmes
- M.Tech. (PGRPE) programmes were introduced in the Faculty of Engineering Sciences and Mathematical & Information Sciences, namely:

  i. Applied and Computational Mechanics

  ii. Building Engineering and Disaster Mitigation

  iii. Corrosion Engineering
- Adoption of Brochure and Flyer, subject to approval from BoG, AcSIR

- Formulation of Policy for Transfer of Credits
- Formulation of proposal for M.S. (Research)

5.8 4th Senate Meeting held on 8th June, 2012

The fourth meeting of the Senate was held on 8th June, 2012, under the Chairmanship of Acting Director, AcSIR Prof. Gautam Biswas. He shared the information with the members that the AcSIR has been now fully operational and notified though the Act of Parliament as Institute of National importance.

The Senate recommended the following:

- Fifty two awardees of PGRPE 2009-11, who were awarded the Advanced Post Graduate Diploma (provisional M.Tech Degree) shall be awarded formal M.Tech degree of AcSIR
- Adoption of thesis evaluation mechanism, as submitted by the Examination Committee
- Modalities of induction and involvement of Adjunct Faculty, enrollment of students of Adjunct Faculty at AcSIR
- A student enrolled in a Faculty of Study may be allowed to change the Faculty to suit his/her background by obtaining approval from both the Deans concerned, subject to fulfillment of the credit requirement of the faculty he/she is being transferred to.
- A student once enrolled in AcSIR for Ph.D., if he resigns and then requests for a re-enrollment, he may be permitted to do so provided he is re-admitted through the online call for admissions. After re-enrollment, he/she will get benefit of transfer of credits.

5.9 5th Senate Meeting held on 12th September, 2012

The fifth meeting of the Senate was held on 12th September, 2012, under the Chairmanship of the Acting Director, AcSIR Prof. Gautam Biswas. He shared with the members that the substantive Academy was being handed over to the formal BoG, with Prof. R.A. Mashelkar as its Chairman and Prof. Samir K. Brahmachari as the Vice-Chairman, BoG, AcSIR. Subsequently, the Senate was also reconstituted and notified.

The Senate recommended the following:

- The Senate Committee was formed, comprising, Prof. Nagesh R. Iyer, Prof. S.K. Bhattacharyya and Dr. Vinod Scaria, to formulate guidelines for induction and involvement of Visiting and Adjunct faculty.
- Endorsement of M.Tech (PGRPE 2010-12) results for award of M.Tech degree to 71 graduating students on Second Annual Convocation on 26th September, 2012.
- Mode of operation of CSIR-800 (4 credit) project
- Endorsement of Prof. C.N.R. Rao, FRS, Prof. M.M. Sharma, FRS and Prof. Roddam Narasimha, FRS, for the conferment of Academy Professorship for their outstanding contribution to science.
- The approval for awarding of the Adjunct and Visiting Faculty status to proposals from CSIR-CMMACS and CSIR-NCL, respectively.

5.10 6th Senate Meeting held on 3rd December, 2012

Sixth meeting of the Senate was held on 3rd December, 2012, under the Chairmanship of Acting Director, AcSIR Prof. Gautam Biswas.

During the meeting, the Senate adopted the Credit Transfer Policy.

The Senate recommended the following:

- Adoption of new Student Enrollment Number
- Finalization of Fee structure for Sponsored Candidates by Finance Committee
- Finalization of Guidelines for AcSIR post graduate programs in Engineering
- The Senate Committee was formed, comprising Prof. S.K. Bhattacharya, Prof. Ashish Lele, Dr. Shantanu Sengupta and Dr. Vinod Scaria, to prepare a proposal for M.S. (Research) programme

AcSIR

Convocation

AcSIR

Convocation

6.1 First Convocation- 2011

Fifteenth September, 2011 marked a day of great achievement and satisfaction for the Academy of Scientific and Innovative Research (AcSIR). This was the day on which the academic aspiration of 52 young graduates of Post Graduate Research Programme in Engineering (PGRPE) 2009-11 batch, culminated in their holding degrees, realizing ambitions and efforts of a very young institute.

Mr. Zakir Thomas
Director, OSDD

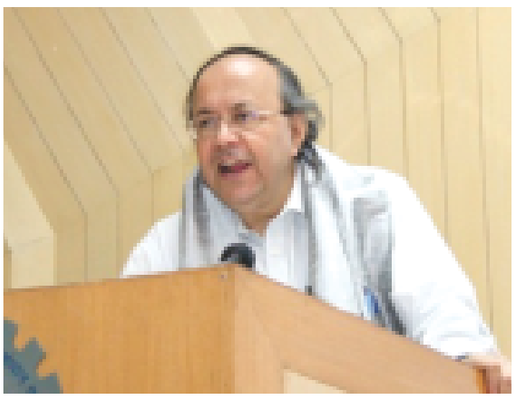
The convocation was held at Shanti Swarup Bhatnagar Auditorium at CSIR HQ, New Delhi. It was a momentous occasion for AcSIR and graduating students. The function was presided over by Acting Chairman, AcSIR and DG-CSIR, Prof Samir K. Brahmachari. The PGRPE Convocation lecture was delivered by Dr. Sam Pitroda, Advisor to PM and Chairman, National Knowledge Commission.

It was attended by Chairman and MD, Avra Synthesis and former Director, CSIR-IICT, Dr. A. V. Rama Rao, Dr. T. Balganesh, Head of Research, AstraZeneca, Directors of concerned CSIR labs, Deans & Associate Deans of AcSIR and the PGRPE coordinators.

Mr. Zakir Thomas, Director, OSDD Program initiated the proceedings by welcoming the members on the day of awarding PGRPE Degrees, which coincided with the 3rd Foundation Day of the prestigious Open Source Drug Discovery (OSDD) program. He mentioned with great pride that OSDD program is dedicated to poor man's disease at the base of pyramid, which has led to emergence of a new way of doing science.

Prof. Gautam Biswas, Acting Director, AcSIR, addressing graduating PGRPE Students

Acting Director, AcSIR Prof. Gautam Biswas expressed happiness on the first Degree awarding ceremony and remarkedthat, "Today marks a great day for graduating students of PGRPE as well as AcSIR". He emphasized the role of scientists and professionals in technology in placing India at its deserving place.



Prof. S.K. Brahmachari, Acting Chairman, AcSIR, addressing graduating PGRPE students

Acting Chairman, AcSIR and Director General, CSIR Prof. Samir K. Brahmachari congratulated the graduating students and gave Presidential address "Affordable Healthcare: Carrying the baton from Chemists to Engineers". He explained that we have reached a horizon, where different disciplines need to work simultaneously. He mentioned that Affordable Healthcare will now be a model, which can be termed as Engineering Biosystems or Biosystems Engineering. He touched upon some technical points to demonstrate the need of multi-disciplinary and trans-disciplinary scientists to solve current day problems.

He emphasized the uniqueness and novelty of the very concept of OSDD and AcSIR by saying that, "We are what we are and where we are because we first imagined it."

Excerpts of Convocation Day Lecture by Dr. Sam Pitroda

Dr. Sam Pitroda expressed the gratitude to CSIR for the invitation and congratulated the graduating PGRPE Students. He emphasized that science is the only way to create new future and without science there will be no future. Science and technology has contributed by offering numerous interesting benefits such as longevity, drop in infant mortality rate, instant communication, which are only a few of many achievements attained. Nothing other than the pursuit of science has given us hope to continuously go forwarded.

He felt that India with 1.2 billion people, out of which 400 million were below poverty line, is in great need of new and innovative ideas, which are low cost, affordable and scalable to solve problems of Base of Pyramid. He added that one should not underestimate the value of an idea as ideas rule the world.

Dr. Sam Pitroda, Chairman, National Knowledge Comission, interacting with graduating PGRPE Students

Prof. Nagesh Iyer, Acting Associate Director (Academics) and graduating Students during the Oath taking Ceremony

PGRPE 2009-11 Graduating batch

6.2 Second Convocation- 2012

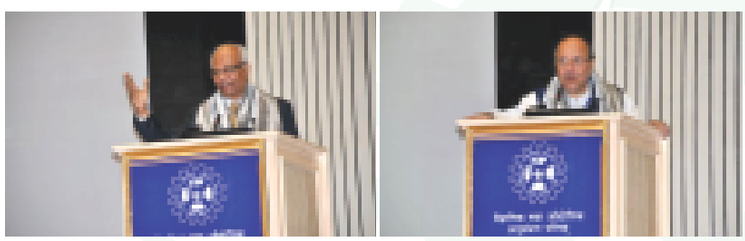
Prof. S.K. Brahmachari, Prof. R.A. Mashelkar, Prof. G. Biswas and Prof. N.R. Iyer (from left to right), on the dais on the occasion of Second Convocation of AcSIR

The Second Annual Convocation of the AcSIR was held on 26th September, 2012 at Vigyan Bhawan, New Delhi. Seventy one participants of PGRPE 2010-batch received their M.Tech. degree. The function was held in conjunction with CSIR's 70th Foundation Day celebrations.

It was presided over by the Chairman and Chancellor, AcSIR Prof. R.A. Mashelkar and the Vice-Chairman, AcSIR and DG-CSIR, Prof Samir K. Brahmachari.

Prof. Gautam Biswas, Acting Director, AcSIR and Prof. Nagesh R. Iyer, Acting Associate Director (Academics), AcSIR initiated the Convocation and admitted the 71 graduating students in the M.Tech. programme of 2010-12 batch.

Prof. Samir K. Brahmachari, Vice-Chairman, AcSIR, in his welcome address said that the passing out students had just qualified to hold the passport to enter to the world of Science. He urged that along with developing skill set through hard work, one should develop sensitivity to others' need, to the people who are less fortunate and to the people, who can make a difference. He added that we wanted in AcSIR those students of high intellect and scientific capability, who also have highest level of sensitivity.



Prof. R.A. Mashelkar, Chairman, BoG, AcSIRand Prof. S.K. Brahmachari Vice-Chaiman, BoG, AcSIR, while interacting with graduating Students

Prof. R.A. Mashelkar, Chairman and Chancellor, AcSIR addressing the gathering spoke about uniqueness of AcSIR, because it is creating new paradigm shifts by weaving Science and Innovation together. He added that engineering is future and engineering of future means India's future. He said that there are three parts that are critical in human development. Firstly, innovation, which comes from the mind; secondly, passion (passion in the belly as they say) and the third is compassion beckoning to one's heart. The students graduating from AcSIR should consciously develop the attributes of innovation, compassion and passion. Other key words for AcSIR were "excellence" and "relevance". He emphasized that the objective of furtherance of excellence as well as doing something relevant is the hallmark of AcSIR.

The function was followed by scientific presentations by CSIR Young Scientists Awardees and the vision of tomorrow presented by the Shanti Swarup Bhatnagar Awardees.

PGRPE 2010-12 Graduating batch

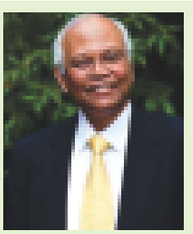
Award of Academy Professorships

Award of Academy Professorships

Prof. George M. Whitesides
Harvard University,
Cambridge, USA

AcSIR showed gratitude and felt honored to confer the Academy Professorship to Prof. George M. Whitesides, the member of Board of Governors, AcSIR. The Senate of the Academy acknowledged his contribution in developing a spirit of enquiry among the young scientists of CSIR over the last few years. The Senate further considers that Prof. George M. Whitesides should be a model scientist for CSIR young researchers.

The Academy Professorship was conferred to Prof. Whitesides in a ceremony held at CSIR-IGIB, Delhi on 6th August, 2011. DG-CSIR delivered the welcome address. Prof. Whitesides gave a short speech highlighting "Innovation in Research". Prof. Gautam Biswas spoke on "Paradigm-shift in Engineering Education". Prof. Amitabha Chattopadhyay and Prof. A. Ajayaghosh spoke on recent research trends in Biology and Chemistry, respectively.



Prof. R. A. Mashelkar
Chairman, BoG, AcSIR

The AcSIR acknowledged the enormous contributions of Prof. R. A. Mashelkar, FRS, National Research Professor, President, Global Research Alliance and former DG, CSIR in Science, Engineering, playing critical role in shaping India's S&T policies and furthermore in creation of AcSIR, and conferred the Academy Professorship on him.

Prof. C.N.R. Rao
Hon. President, JNCASR
Bengaluru, India

India takes a mighty pride in the outstanding contributions of Prof. C.N.R. Rao, FRS, in solid-state and structural chemistry. AcSIR feels that Prof. Rao represents the epitome of those qualities that are most called for in a scientist and that ought to be emulated by the young researchers of the Academy. The AcSIR showed its gratitude by conferring the Academy Professorship on him.

Prof. M.M. Sharma
Former Director, UDCT,
Mumbai, India

The AcSIR conferred the Academy Professorship to Prof. M.M. Sharma, FRS, considering his enormous contribution in creation of AcSIR and for his extraordinary research contributions in the field of Chemical Engineering.

Prof. Roddam Narasimha
Chairman, EMU, JNCASR,
Bengaluru, India

The AcSIR acknowledged and felt honored to confer the Academy Professorship to Prof. Roddam Narasimha, FRS considering his extraordinary research contributions in the field of Fluid Mechanics and Aerospace Engineering.

Prof. S.K. Brahmachari
DG, CSIR & Vice Chairman,
BoG, AcSIR

The AcSIR acknowledged and felt honored to confer the Academy Professorship to Prof. Samir K. Brahmachari, FNA considering his enormous contribution in conceptualizing the Academy, taking the Bill through the Parliament and his extraordinary scholarship, which has been globally recognised.

Board of Governors

Board of Governors, AcSIR

CHAIRMAN	VICE-CHAIRMAN
Prof. Raghunath Anant Mashelkar National Research Professor	**Prof. Samir K. Brahmachari** Director General, CSIR

MEMBERS

Dr. Krishan Lal President, Indian National Science Academy (INSA), New Delhi	**Prof. Asis Datta** Professor of Eminence, National Institute of Plant Genome Research, New Delhi
Dr. K. Radhakrishnan Chairman, Space Commission Department of Space, Bengaluru, Karnataka	**Prof. A. K. Sood** Department of Physics, Indian Institute of Science Bengaluru, Karnataka
Dr. R.K. Sinha Chairman of Atomic Energy Commission & Secretary to Govt. of India DAE, Mumbai, Maharashtra	**Dr. Purnendu Chatterjee** Chairman, The Chatterjee Group USA
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Prof. Mustansir Barma Director, Tata Institute of Fundamental Research (TIFR) Mumbai, Maharashtra	**Prof. Chandra Shekhar** Director, CSIR-Central Electronics Engineering Research Institute, Pilani, Rajasthan
Prof. Surabhi Banerjee Vice Chancellor, Central University Bhubaneswar, Odisha	**Prof. Gautam Biswas** Director, CSIR-Central Mechanical Engineering Research Institute Durgapur, West Bengal
Prof. N. Sathyamurthy Director, Indian Institute of Science Education and Research (IISER), Mohali, Chandigarh	**Prof. Rajesh S. Gokhale** Director, CSIR- Institute of Genomics and Integrative Biology, New Delhi
Prof. George M. Whitesides Professor, Department of Chemistry and Chemical Biology Harvard University, Cambridge, USA	**Prof. Sourav Pal** Director, CSIR-National Chemical Laboratory Pune
Prof. Mriganka Sur Head, Department of Brain and Cognitive Sciences MIT, Cambridge, USA	**Prof. Nagesh R. Iyer** (Secretary of BoG, non-member) Acting Associate Director (Academics and Administration & Finance) and Director, CSIR-Structural Engineering Research Centre, Chennai

Senate, AcSIR

AcSIR

Senate, AcSIR

CHAIRMAN

Prof. Gautam Biswas
Acting Director, AcSIR and Director, CSIR-Central Mechanical Engineering Research Institute, Durgapur, West Bengal

MEMBERS

Prof. Nagesh R. Iyer
Acting Associate Director
(Academics and Administration & Finance), AcSIR and
Director, CSIR-Structural Engineering Research Centre
Chennai, Tamil Nadu

Prof. Kunal Ray
Associate Director, AcSIR
New Delhi

Prof. Amitabha Chattopadhyay
CSIR-Centre for Cellular & Molecular Biology
Hyderabad, Andhra Pradesh

Prof. A. Ajayaghosh
CSIR-National Institute for Interdisciplinary Science & Technology, Thiruvananthapuram, Kerala

Prof. P. Seshu
CSIR-Fourth Paradigm Institute
(formerly, Centre for Mathematical Modelling and Computer Simulation), Bengaluru, Karnataka

Prof. B.D. Kulkarni
CSIR-National Chemical Laboratory
Pune, Maharashtra

Prof. K.S. Krishna
CSIR-National Institute of Oceanogarphy
Goa

Prof. Vijaya Mohanan K Pillai
CSIR-Central Electrochemical Research Insitute
Karaikudi, Tamil Nadu

Prof. (Ms) Asha A. Juwarkar
CSIR-National Environment Engineering Research Institute
Nagpur, Maharashtra

Prof. (Ms) Lakshmi Kantam
Director, CSIR-Indian Institute of Chemical Technology
Hyderabad, Andhra Pradesh

Prof. Pijush Pal Roy
Head of Blasting, CSIR-Central
Institute of Mining and Fuel Research
Dhanbad, Jharkhand

Prof. S.K. Bhattacharyya
Director, CSIR-Central Building Research Institute
Roorkee, Uttarakhand

Prof. S. Srikanth
Director, CSIR-National Metallurgical Laboratory
Jamshedpur, Jharkhand

Prof. Partha Banerjee
Acting Director, CSIR-National Institute of Science Technology and Development Studies
New Delhi

MEMBERS

Prof. Shyam Sundar Rai
Scientist, CSIR-National Geophysical Research Institute
Hyderabad, Andhra Pradesh

Prof. Javed N. Agrewala
CSIR-Institute of Microbial Technology
Chandigarh

Dr. Shankar Doraiswamy
CSIR-National Institute of Oceanography
Goa

Dr. Rajan Sankaranarayanan
CSIR-Centre for Cellular and Molecular Biology
Hyderabad, Andhra Pradesh

Dr. Vinod Scaria
CSIR-Institute of Genomics and Integrative Biology
New Delhi

Dr. Poonam Arora
CSIR-National Physical Laboratory
New Delhi

Prof. B.K. Mishra
Director, CSIR-Institute of Minerals
and Materials Technology
Bhubaneswar, Odisha

Prof. Amitava Sengupta
CSIR-National Physical Laboratory
New Delhi

Prof. Ram Rajsekharan
CSIR-Central Institute of Medical & Aromatic Plants
Lucknow, Uttar Pradesh

Prof. Prem Krishna
Vice President, Indian National Academy of Engineering
(INAE), New Delhi

Prof. Vivek Ranade
CSIR-National Chemical Laboratory
Pune, Maharashtra

Prof. Dinesh Singh
Vice Chancellor, Delhi University
New Delhi

Dr. Pronob Sen
Principal Adviser, Planning Commission (Social Sciences)
New Delhi

Dr. Shantanu Sengupta
CSIR-Institute of Genomics and Integrative Biology
New Delhi

Prof. R.K. Baruah
CSIR-North-East Institute of Science and Technology
Jorhat, Assam

Prof. Rakesh Mohan Jha
CSIR-National Aerospace Laboratory
Bengaluru, Karnataka

Prof. (Ms.) Suman Kumari Mishra
CSIR-National Metallurgical Laboratory
Jamshedpur, Jharkhand

Prof. (Ms.) Santa Chawla
CSIR-National Physical Laboratory
New Delhi

List of Administrative Heads

AcSIR

List of Administrative Heads

Acting Director	**Prof. Gautam Biswas**
Acting Associate Director (Academics and Administration & Finance)	**Prof. Nagesh R. Iyer**
Associate Director	**Prof. Kunal Ray**
Deans	
Engineering Sciences	Prof. B.D. Kulkarni
Biological Sciences	Prof. Amitabha Chattopadhyay
Chemical Sciences	Prof. A. Ajayaghosh
Physical Sciences	Prof. K.S. Krishna
Mathematical & Information Sciences	Prof. P.Seshu
Associate Deans	
Engineering Sciences	Prof. (Ms.) Suman Kumari Mishra
Biological Sciences	Dr. Shantanu Sengupta
Chemical Sciences	Prof. R.K. Baruah
Physical Sciences	Prof. (Ms.) Santa Chawla
Mathematical & Information Sciences	Prof. Rakesh Mohan Jha
Lab Coordinators	
CSIR-AMPRI	Prof. B.K. Prasad
CSIR-CBRI	Prof. A. Ghosh
CSIR-CCMB	Prof. Rakesh Mishra
CSIR-CDRI	Prof. B. Kundu
CSIR-CECRI	Prof. P. Subramanian
CSIR-CEERI	Prof. Raj Singh
CSIR-CFTRI	Dr. C. Anandharamakrishnan
CSIR-CGCRI	Prof. Amarnath Sen
CSIR-CIMAP	Dr. Laiq-ur-Rahman
CSIR-CIMFR	Prof. Ishtiaque Ahmad

Lab Coordinators

CSIR-CLRI	Prof. J. G. Raghava Rao
CSIR-CMERI	Prof. S.N. Shome
CSIR-4PI (formerly, CSIR-CMMACS)	Dr. Imtiaz A. Parvez
CSIR-CRRI	Prof. P.K. Jain Prof. (Ms.) Lakshmy Parameshwaran
CSIR-CSIO	Prof. H.K. Sardana
CSIR-CSMCRI	Dr. (Ms.) Rukhsana Kureshy
CSIR-HQ	Dr. (Ms.) Anshu Bhardwaj
CSIR-IGIB	Dr. Arijit Mukhopadhyay
CSIR-IHBT	Prof. Arvind Gulati
CSIR-IICB	Prof. (Ms.) Rukhsana Chowdhury
CSIR-IICT	Prof. N.V. Satyanarayana
CSIR-IIIM	Prof. A.K. Saxena
CSIR-IIP	Dr. S. Ganguly
CSIR-IITR	Prof. D. Kar Chowdhuri
CSIR-IMMT	Prof. Santosh Mishra, Dr. B.S. Jena
CSIR-IMTECH	Prof. Pradip Kumar Chakraborti
CSIR-NAL	Prof. V. Mudkavi, Prof. Manjuprasad
CSIR-NBRI	Dr. Samir Sawant
CSIR-NCL	Prof. C.G. Suresh, Dr. Ashish Orpe
CSIR-NEERI	Dr. R.A. Sohony
CSIR-NEIST	Prof. L. Nath
CSIR-NGRI	Prof. R.K. Tiwari
CSIR-NIIST	Prof. (Ms.) Mangalam Nair
CSIR-NIO	Prof. M.R. Ramesh Kumar
CSIR-NISCAIR	Dr. Tarakanta Jana
CSIR-NISTADS	Prof. Mohammad Rais
CSIR-NML	Prof. Arvind Sinha
CSIR-NPL	Prof. Ajay Dhar
CSIR-SERC	Prof. A. Rammohan Rao, Dr. Bala Pesala
CSIR-URDIP	Prof. Raj Hirwani, Prof. R. Jansi

Audited Accounts

AcSIR

Audited Accounts

ACADEMY OF SCIENTIFIC AND INNOVATIVE RESEARCH
ANUSANDHAN BHAWAN
2 RAFI MARG, NEW DELHI
Balance Sheet As At 31.03.2011

Sources of Funds:	Amount(Rs)
CSIR SEED Money	2,500,000
Excess of Income over Expenditure	118,809
Total	**2,618,809**
Application of Funds:	
State Bank of India	2,618,809
Total	**2,618,809**

Raghunathan & Anantharaman
Chartered Accountants

Partner

B. LAKSHMINARAYANAN
M.No. 025423

FAO
AcSIR

Associate Director
(FINANCE AND ADMN.)
AcSIR

D. Srinivasa Raghavan
Finance & Accounts Officer
SERC, CSIR Campus,
Taramani, Chennai-113.

ACADEMY OF SCIENTIFIC AND INNOVATIVE RESEARCH

ANUSANDHAN BHAWAN

2 RAFI MARG, NEW DELHI

Income & Expenditure Account for the Year 2010-11

Expenditures	Amount(Rs)	Incomes	Amount(Rs)
Bank Charges	230	Bank Interest	34,039
Contingencies	10,506	CIMAP Tuition Fee	7,000
Travelling Expenses	35,894	IHBT Tuition Fee	28,000
		IIIM Tuition Fee	44,000
Excess Income Over Expenditure	118,809	IIP Tution Fee	6,000
		SERC Tuition Fee	46,400
Total	**165,439**		**165,439**

Raghunathan & Anantharaman
Chartered Accountants

FAO
AcSIR

Associate Director
(FINANCE AND ADMN.)
AcSIR

R. LAKSHMINARAYANAN
M.No. 025423

ACADEMY OF SCIENTIFIC AND INNOVATIVE RESEARCH
ANUSANDHAN BHAWAN
2 RAFI MARG, NEW DELHI

Receipts & Payments For the Year 2010 - 11

Receipts	Amount(Rs)	Payments	Amount(Rs)
SEED Money	2,500,000	Bank Charges	230
Bank Interest	34,039	**By Balance c/d**	2,618,809
CIMAP Tuition Fee	7,000		
IIHBT Tuition Fee	28,000		
IIIM Tuition Fee	44,000		
IIP Tution Fee	6,000		
Total	**2,619,039**		**2,619,039**

Raghunathan & Anantharaman
Chartered Accountants

Part

CHARTERED ACCOUNTANTS

S. LAKSHMINARAYANAN
M.No. 028423

FAO
AcSIR

Associate Director
(FINANCE AND ADMN.)
AcSIR

ACADEMY OF SCIENTIFIC AND INNOVATIVE RESEARCH
ANUSANDHAN BHAWAN
2 RAFI MARG, NEW DELHI

Balance Sheet As At 31.03.2012

Sources of Funds:	**Amount(Rs)**
CSIR SEED Money	2,500,000
Profit & Loss A/c	118,809
Excess of Income over Expenditure	9,355,639
Total	**11,974,448**
Application of Funds:	
Apparatus & Equipments	36,382
State Bank of India	11,938,066
Total	**11,974,448**

Raghunathan & Anantharaman
Chartered Accountants
Partner

M. LAKSHMINARAYANAN
M.No. 026423

FAO
AcSIR

Associate Director
(FINANCE AND ADMN.)
AcSIR

डी. श्रीनिवास राघवन
D. Srinivasa Raghavan
वित्त एवं लेखा अधिकारी / Finance & Accounts Officer
एस ई आर सी, सी एस आई आर परिसर,
SERC, CSIR Campus,
तरामणि, चेन्नै-113. Taramani, Chennai-113.

ACADEMY OF SCIENTIFIC AND INNOVATIVE RESEARCH
ANUSANDHAN BHAWAN
2 RAFI MARG, NEW DELHI

Income & Expenditure Account for the Year 2011-12

Expenditures	Amount(Rs)	Incomes	Amount(Rs)
Bank Charges	4,349	Bank Interest	111,922
Contingencies	191,206	Tuition Fees	11,174,889
Travelling Expenses	1,169,828	MISC Receipt	90,000
Depreciation	15,593		
Honorarium	84,496		
Printing & Stationery	30,090		
Refreshment Exp	23,713		
Salary to Staff Members	501,897		
Excess Income Over Expenditure	9,355,639		
Total	**11,376,811**		**11,376,811**

Raghunathan & Anantharaman
Chartered Accountants
Partner

FAO
AcSIR

Associate Director
(FINANCE AND ADMN.)
AcSIR

डॉ. श्रीनिवास राघवन
D. Srinivasa Raghavan
वित्त एवं लेखा अधिकारी / Finance & Accounts Officer
एस ई आर सी, सी एस आई आर परिसर,
SERC, CSIR Campus,
तरामणि, चेन्नै-113. Taramani, Chennai-113.

ACADEMY OF SCIENTIFIC AND INNOVATIVE RESEARCH

ANUSANDHAN BHAWAN

2 RAFI MARG, NEW DELHI

Receipts & Payments For the Year 2011 - 12

Receipts	Amount(Rs)	Payments	Amount(Rs)
Bank	2,618,809	IT Remittance	50,190
IT Remittance	50,190	Imprest Advance	25,000
Imprest Advance	11,210	TA Advance	57,000
TA Advance	50,155	Bank Charges	4,349
Bank Interest	111,922	Honorarium	69,496
CSIR Tuition Fees	9,725,725	Refreshment Exp	12,013
MISC Receipt	90,000	Salary to Staff Members	501,897
		Bank	11,938,066
Total	**12,658,011**		**12,658,011**

Raghunathan & Anantharaman
Chartered Accountants

Partner
M. LAKSHMINARAYANAN
M.No. 026423

FAO
AcSIR

Associate Director
(FINANCE AND ADMN.)
AcSIR

डी. श्रीनिवास राघवन
D. Srinivasa Raghavan
वित्त एवं लेखा अधिकारी / Finance & Accounts Officer
एस ई आर सी, सी एस आई आर परिसर,
SERC, CSIR Campus,
तरामणि, चेन्नै-113. Taramani, Chennai-113.

Annexures

AcSIR

A1. Highlights of Projects

A1 (1) : List of Projects completed by M.Tech 2009-11 participants

S. No.	Student Name	Lab Name	Title of the Project
M. Tech (PGRPE)-2009-11: Advanced Semiconductor Electronics			
1.	**Ms. Aditi**	CSIR-CEERI	Design and Development of Capacitive Micromachined Ultrasonic Transducer
2.	**Mr. Amit Kumar Mishra**	CSIR-CEERI	Design of Fourth-Order Low-Pass Continuous-Time Filter Using Chopper-Stabilised Amplifiers
3.	**Mr. Ankush A. Jain**	CSIR-CEERI	Design and Development of MEMS Gyro-Accelerometer
4.	**Ms. G. Srivani Padma**	CSIR-CEERI	Design and Fabrication of gan/ingan Blue LED
5.	**Mr. S. Santosh Kumar**	CSIR-CEERI	Design and Development of Piezo-resistive MEMS Absolute Pressure Sensor
6.	**Mr. William Ringal Taube N.**	CSIR-CEERI	Design and Fabrication of Nanostructures-embedded Silicon Solar Cell
M.Tech (PGRPE) -2009-11: High Power Microwave Devices and System Engineering			
7.	**Ms. A. Mercy Latha**	CSIR-CEERI	Modelling of High Efficiency Multi-stage Depressed Collector of Travelling Wave Tubes.
8.	**Ms. A. S. Nirmala Devi**	CSIR-CEERI	Design Studies on Sheet Beam Klystron Cavity
9.	**Mr. Niraj Kumar**	CSIR-CEERI	Study of Beam Dynamics in Plasma Assisted BWO
10.	**Mr. Vishant**	CSIR-CEERI	Analytical Analysis of Eigenmodes in a Tapered Cavity Gyrotron
M.Tech (PGRPE) -2009-11: Mechatronics			
11.	**Mr. Aman Arora**	CSIR-CMERI	Shape Memory Alloy Actuated Arm for Traversing Complex Trajectories
12.	**Ms. N. S. Lakshmi Prabha**	CSIR-CMERI	Face Recognition Invariant to Plastic Surgery and Age
13.	**Ms. Rekha Jayaprakash**	CSIR-CMERI	Hand Gesture Recognition for Sign Language Interpretation
14.	**Ms. Shikha Jain**	CSIR-CMERI	Sensor Error Modeling & Particle Filter Based Data Fusion Applied to Mobile Robotics
15.	**Mr. Srinivasa Reddy N.**	CSIR-CMERI	Modeling and Simulation of a Jumping Frog Robot
16.	**Mr. Sumit Kumar**	CSIR-CMERI	Design and Implementation of Novel Power Electronics Interface for Battery-Ultracapacitor Hybrid Energy Storage System

S. No.	Student Name	Lab Name	Title of the Project
M.Tech (PGRPE) -2009-11: Advanced Instrumentation Engineering			
17.	**Mr. Ashish Gaurav**	CSIR-CSIO	Embedded Reading Machine for Visually Impaired
18.	**Mrs. Devshree Kumar**	CSIR-CSIO	Development of Edge based Fibre Bragg Grating Interrogator
19.	**Mr. Divya Agrawal**	CSIR-CSIO	Closed Loop Control for Anaesthesia Drug Delivery
20.	**Ms. Naga Vara Aparna Akula**	CSIR-CSIO	Moving Target Detection in Infrared Imagery
21.	**Mr. Raj Kumar Pal**	CSIR-CSIO	Design and Development of Endoscope Manipulator for Minimally Invasive Surgery
22.	**Mr. Ripul Ghosh**	CSIR-CSIO	Time-Frequency Based Vehicle Detection in Seismic Signals
23.	**Ms. Rishemjit Kaur**	CSIR-CSIO	Performance Enhancement of Electronic Nose
24.	**Mr. Ritesh Kumar**	CSIR-CSIO	PC Audio Port Based Instrumentation for itongue
25.	**Ms. Sudeshna Bagchi**	CSIR-CSIO	Study of Electrostatically Deposited Gas Sensors
M.Tech (PGRPE) -2009-11: Advanced Petroleum Science and Technology			
26.	**Ms. Bhavya B**	CSIR-IIP	Hydropyrolysis of Lignocellulosic Biomass to Value Added Hydrocarbons
27.	**Mr. Diptarka Sagupta**	CSIR-IIP	Bioethanol production from molasses using thermophiles and recovery by solvent extraction
28.	**Mr. Indrajit K Ghosh**	CSIR-IIP	Studies on the Separation of Detergent Grade Linear -Olefins and Paraffins (C14-C18 range) from Coker Gas oil by Urea Adduction Methodology
29.	**Mr. Mohit Anand**	CSIR-IIP	Kinetic Modelling and Process Optimization for Hydroprocessing of Jatropha oil
M.Tech (PGRPE) -2009-11: Materials Resource Engineering			
30.	**Mr. Abdul Rauh Sheik**	CSIR-IMMT	Extraction of Nickel from Spent Catalyst: Flow Sheet Development
31.	**Mr. Bhaskaran K.**	CSIR-IMMT	Development of A Variant of Scalar Constitutive Equations Suitable for Description of The Near Super-Plastic Regimes of Deforming
32.	**Ms. M. Jeevitha**	CSIR-IMMT	Pulse DC Sputter Deposition of Single and Multilayer Chromium Nitride Thin Films for Mechanical Application

S. No.	Student Name	Lab Name	Title of the Project
33.	**Ms. Priyanka Rajput**	CSIR-IMMT	Direct Reduced Iron through Non-Thermal Low Temperature Hydrogen Plasma
34.	**Mr. R. Karthik**	CSIR-IMMT	Size and Shape Controlled Synthesis of Silver Nanoparticles Using Aspergillus flavus
35.	**Mr. Rajakishore Sahoo**	CSIR-IMMT	Variation of Microstructural Parameters in Titanium Alloys near Superplastic Regime of Deformation: A Phenomenological Study
36.	**Mr. U. Balaji**	CSIR-IMMT	Fabrication of Ordered Porous Oxides by Anodization for Application as Templates for Nanowire Synthesis & Gas Sensing
37.	**Ms. V. Aishvarya**	CSIR-IMMT	Optimization of Parameters for Growth and Lipid Production using Chlorella sp. IMMTCC-2 under Photoautotrophic and Mixotrophic Conditions

M.Tech (PGRPE) -2009-11: Engineering of Structures

38.	**Mr. A. Arun Kumar**	CSIR-NAL	Fluid-structure interaction studies for flutter analysis of an airfoil in time domain using cbs algorithm for fem based n-s solver
39.	**Mr. B. Vinoth**	CSIR-NAL	Vertical drop test and simulation studies on stiffened metallic cylindrical shell structures
40.	**Mr. C. Karthikeyan**	CSIR-NAL	Simulation studies for signal channel active vibration control using least mean square (lms) algorithms
41.	**Mr. M. Yogeshwaran**	CSIR-NAL	Structural design and analysis of a typical trainer aircraft fuselage
42.	**Mr. S. Nadeem Masood**	CSIR-NAL	Spring-in in composite structures
43.	**Mr. Naman Dugar**	CSIR-NAL	Structural design and analysis of a typical trainer aircraft wing
44.	**Mr. Saransh Jain**	CSIR-NAL	Damage and load identification in composite structures using artificial neural networks
45.	**Mr. Shanwaz Mulla**	CSIR-NAL	Ground simulation of flutter instability on a plate wing
46.	**Ms. T. Sivaranjani**	CSIR-NAL	Delamination studies in composite laminates
47.	**Ms. C.Bharathi Priya**	CSIR-SERC	Vibration Control of Structures with MR Dampers using Bio-Inspired Control Algorithm

S. No.	Student Name	Lab Name	Title of the Project
48.	**Ms. M. Keerthana**	CSIR-SERC	CFD Studies of Fluid-Structure Interaction Effects on Rectangular Sections
49.	**Mr. Mohit Verma**	CSIR-SERC	Simulation of Real-time Substructuring to Evaluate Dynamic Response of a Structure
50.	**Mr. Nawal Kishore Banjara**	CSIR-SERC	Remaining fatigue life of steel railway bridges under enhanced axle loads
M.Tech (PGRPE) -2009-11: Environmental System Modelling and Optimisation			
51.	**Mr. Abhinav Sharma**	CSIR-NEERI	Numerical Modelling Study of Dispersion in Street Canyon
52.	**Ms. Siva Ramy Sanam**	CSIR-NEERI	Integrated hydrogeological and modeling studies around Koradi ash ponds

A1 (2): List of Projects completed by M.Tech 2010-12 participants

M.Tech (PGRPE)-2010-12: Engineering of Infrastructure & Disaster Mitigation			
1.	**Mr. Anindya Pain**	CSIR-CBRI	Rock Slope Stability Assessment using Rock Mass Characterization and Discontinuity Modelling
2.	**Mr. Mickey Mecon Dalbehera**	CSIR-CBRI	Performance Evaluation of Hybrid Fibre Reinforced Concrete
3.	**Mr. Piyush Mohanty**	CSIR-CBRI	Behaviour of Stone Columns in Layered Soil
4.	**Mr. Randhir Kumar Choudhary**	CSIR-CBRI	Computational and Experimental Strategies for Health Monitoring of Structuresusing Wireless Sensor Network
5.	**Mr. Siddharth Behera**	CSIR-CBRI	Structural Evaluation of Precast Beam-Column Joints
6.	**Ms·Tarannum Meraj**	CSIR-CBRI	Structural Behaviour of Fibre Reinforced Latex Modified Concrete
M.Tech (PGRPE)-2010-12: Advanced Semiconductor Electronics			
7.	**Mr. Aniruddh Singh Kushwaha**	CSIR-CEERI	Design and Fabrication of InGaN Solar Cells
8.	**Mr. Dheeraj Kumar Kharbanda**	CSIR-CEERI	Development and Characterization of Miniature Hotplate Using LTCC Technology
9.	**Mr. R. Ganesh Raj**	CSIR-CEERI	Sigma-Delta based ADC for Audio Applications

S. No.	Student Name	Lab Name	Title of the Project
10.	**Ms. Mridula Madhusudan**	CSIR-CEERI	Design and Optimization of GaAs-based Multi-junction Solar Cells
11.	**Mr. Rahul Prajesh**	CSIR-CEERI	Fabrication of Si Nanowire Array Using CMOS compatible Technique
12.	**Mr. Sanjeev Kumar**	CSIR-CEERI	Design, Fabrication and Characterization of Cantilever for SPM Using MEMS Technology
13.	**Mr. Sumit Kumar Khandelwal**	CSIR-CEERI	Design and Fabrication of SIW-based MEMS Filter
M.Tech (PGRPE) -2010-12: High Power Microwave Devices and System Engineering			
14.	**Mr. Om Ranjan**	CSIR-CEERI	Sheet Beam Gyrotron –A Novel Concept
15.	**Ms. Parul Gupta**	CSIR-CEERI	Design of RF Section for 80 kW 505.8 MHz Klystron
16.	**Mr. Purushothaman N.**	CSIR-CEERI	Study of Metamaterials and Their Applications in TWTs
17.	**Mr. Sushil Kumar Shukla**	CSIR-CEERI	THEM for MBC Characterization
M.Tech (PGRPE) -2010-12: Mechatronics			
18.	**Mr. Anirudh Kumar**	CSIR-CMERI	Design Methodology for Safe Parking of a Battery Powered Electric Vehicle with Run Time State of Charge Estimation using Kalman Filter on Chip
19.	**Mr. Jagat Jyoti Rath**	CSIR-CMERI	Reaching Law based Sliding Mode Scheme for Speed and Current Control of 3-Phase BLDC Drive
20.	**Mr. Mohd Afroz Akhtar**	CSIR-CMERI	Development of Micro-Inverter using Phase Modulated Full Bridge DC-DC Boost Converter
21.	**Mr. Saikat Kumar Shome**	CSIR-CMERI	On FFT Based Vibration Analysis for Fault Diagnosis of Induction Motor Using Field Programmable Gate Arrays
22.	**Mr. Sidharth Pradhan**	CSIR-CMERI	Hydrodynamic Focusing for Micro Chip Based Flow Cytometer
23.	**Mr. Soumen Mandal**	CSIR-CMERI	Multi-sensory Approach for Dynamic Health Monitoring in Micro-Turning Process
24.	**Mr. Swarn Singh Rathour**	CSIR-CMERI	Design and Development of a Mechanism for Biorobotic Pectoral Fin Actuation for Underwater Application
M.Tech (PGRPE)-2010-12: Engineering of Infrastructure & Disaster Mitigation			
25.	**Mr. Ashutosh Arun**	CSIR-CRRI	Road Crash Frequency and Severity Prediction Models for Indian National Highways using Conventional and Soft-Computing Tools

S. No.	Student Name	Lab Name	Title of the Project
26.	**Mr. Gagandeep Singh**	CSIR-CRRI	Influence of Elastomeric Polymer Modified Binder on the thickness of Bituminous Pavement

M.Tech (PGRPE) -2010-12: Advanced Instrumentation Engineering

27.	**Mr. Deewakar Sharma**	CSIR-CSIO	Analysis of Microchannels for Micro Scale Cooling Using Liquid Metals
28.	**Mr. Manoj Kumar Patel**	CSIR-CSIO	Study of Electrostatic-Induction spray system for Agriculture Applications
29.	**Mr. Mohd Mansoor Khan**	CSIR-CSIO	Uniaxial Fibre Bragg Grating Accelerometer
30.	**Mr. Mukesh Kumar**	CSIR-CSIO	Performance Study of Digital Light Engine Based Display Technology
31.	**Ms. Neha Khatri**	CSIR-CSIO	An Experimental Study on the Effect Of MRF on Diamond Turned Surfaces
32.	**Ms. Nishtha Pawar**	CSIR-CSIO	Long Period Fibre Grating Based Humidity Sensor
33.	**Mr. Prashant Kumar**	CSIR-CSIO	Modelling And Estimation of Spatiotemporal Surface Dynamics of Aut - A Middle Himalyan Region, using Landsat Imagery
34.	**Mr. Ravi Dhawan**	CSIR-CSIO	Hollow Core Photonic Crystal Fibre Based Gas Cell
35.	**Mr. Shashi Poddar**	CSIR-CSIO	Template matching and image enhancement to improve HUD images

M.Tech (PGRPE) -2010-12: Advanced Petroleum Science and Technology

36.	**Ms. Jayati Trivedi**	CSIR-IIP	Studies On Production of L-Lactic Acid From Lignocellulosic Biomass Using Consolidated BioProcessing
37.	**Ms. Madhvi Gera**	CSIR-IIP	CFD Studies on the Effect Of Engine Variable On In-Cylinder Flow and Combustion Propane Fueled SI Engine
38.	**Mr. Botcha Neelam Naidu**	CSIR-IIP	Process Intensification for Hydroprocessing of Vegetable Oils
39.	**Mr. Shashank Suman**	CSIR-IIP	Methane Activation for Value added Product Synthesis Via Heterogeneous Catalysis

M.Tech (PGRPE) -2010-12: Materials Resource Engineering

40.	**Mr. Abhishek Pandey**	CSIR-IMMT	Processing of Oxide Dispersion Strengthened Ferritic Steel Powder by High Energy Ball milling and its Characterisation
41.	**Mr. Amulya Bihari Pattnaik**	CSIR-IMMT	Acoustic Emission during Tensile Deformation of 2.25Cr 1Mo Steel and α-Brass

S. No.	Student Name	Lab Name	Title of the Project
42.	**Mr. Debidutta Debasish**	CSIR-IMMT	Mechanical Characterization and Erosive Wear Analysis of Plasma Sprayed Mo-TiN Composite Coatings
43.	**Ms. Meenal Mohindra**	CSIR-IMMT	Improvement of Pelletization Process for High LOI, High Blaine Number, and Hydrophobic Iron Ore Concentrate
44.	**Ms. Pallishree Prusti**	CSIR-IMMT	Study on Coal Particle Dynamics in Air Dense Medium Fluidized Bed System
45.	**Mr. Sachida Nanda Sahu**	CSIR-IMMT	Study on Mixing and Segregation Behaviour in Particulate Fluidized System
46.	**Mr. Shubhra Bajpai**	CSIR-IMMT	Deposition and nano mechanical characterization of multilayer hydrogenated and nitrogen doped DLC coating deposited by RF-PCVD method
47.	**Ms. Siksha Swaroopa**	CSIR-IMMT	Evolution of Design Criteria of an Integrated Electrochemical Mixer settler (ECMS) for Ionic Liquids System
48.	**Ms. Swagatika Dash**	CSIR-IMMT	CFD Design of a Microfluidic Device for Continuous Separation of Charged Gold Nano Particles
M.Tech (PGRPE) -2010-12: Engineering of Structures			
49.	**Ms. Akshara P.**	CSIR-NAL	Shock-wave boundary-layer interaction studies on a blunt body using micro jet control
50.	**Ms. Anbarasi J.**	CSIR-NAL	Elevator Jamming Studies On Commuter Category Aircraft
51.	**Mr. Ashwin Kumar Subramanyam**	CSIR-NAL	An Experimental Investigation of the Acoustics of Annular Aerospike Nozzles
52.	**Mr. Balaji S.**	CSIR-NAL	Numerical Simulation and Experimental Validation of Compliant Surface Gas Film Bearings
53.	**Mr. Niranjan C.K.**	CSIR-NAL	Convergence Studies For Cloud Sequencing in Grid Free Methods
54.	**Mr. Sahil Bansal**	CSIR-NAL	Preliminary Aerodynamic Design of Regional Transport Aircraft
55.	**Mr. Sanketh Ailneni**	CSIR-NAL	Multi rate sensors based inertial navigation for Micro Aerial Vehicles
56.	**Mr. Shikhar Jaiswal**	CSIR-NAL	Implementation of Matrix Dissipation Scheme for Solution of Two-Dimensional Navier-Stokes Equations
57.	**Mr. Tahzeeb Hassan Danish**	CSIR-NAL	Characterization of Strut-mounted 'Through Cavity' for Scramjet Application

S. No.	Student Name	Lab Name	Title of the Project
M.Tech (PGRPE) -2010-12: Advanced Modeling and Simulation in Chemical Engineering and Sciencen			
58.	**Mr. Abhishek Gupta**	CSIR-NCL	Metabolic flux engineering: An in silico systems approach for microbial strain design
59.	**Mr. Akash Arora**	CSIR-NCL	Modeling of fluid spreading on a spinning disc
60.	**Ms. Indhupriya S.**	CSIR-NCL	Studies on transfer of melanosomes from melanocyte to keratinocytes
61.	**Ms. Neetu Kumari**	CSIR-NCL	Modelling of cavitating flows
62.	**Ms. Nupur Bansal**	CSIR-NCL	Secondary structure dependence and solvation effects in protein folding and aggregation using molecular dynamics simulations
63.	**Ms. Rashmi**	CSIR-NCL	Development and applications of signal processing techniques for studying bio systems
64.	**Mr. Vikash Kumar**	CSIR-NCL	Batch to continuous transformation of exothermic nitration reaction for API synthesis
M.Tech (PGRPE) -2010-12: Environmental System Modelling and Optimisation			
65.	**Mr. Ankit Gupta**	CSIR-NEERI	Computational Fluid Dynamics (CFD) Analysis of Catalytic Converter
66.	**Mr. Rakesh Kadaverugu**	CSIR-NEERI	Modelling of Dynamic Gas Exchanges Between Trees and Atmospher
67.	**Mr. S.A. Praveen**	CSIR-NEERI	Mathematical Modelling of Spray Pulsed Reactor for Dehydrogenation of Cyclohexane
M.Tech (PGRPE) -2010-12: Engineering of Structures			
68.	**Ms. B.S. Sindu**	CSIR-SERC	Engineering of Carbon Nanotube Reinforced Cement
69.	**Mr. M. Surendran**	CSIR-SERC	Fracture analysis of structural component with multi site damage
70.	**Mr. Rohit**	CSIR-SERC	Crack Growth Studies on Full Scale Structural Components subjected to Monotonic and Large Amplitude Cyclic Loading
71.	**Mr. Prabhat Ranjan Prem**	CSIR-SERC	Experimental and Analytical Investigations on Ultra High Performance Concrete

A2. Statutes & Ordinances Committee

S.No.	Name & Affiliation
1.	**Prof. Nagesh R. Iyer,** Convener CSIR-Structural Engineering Research Centre, Chennai, Tamil Nadu
2.	**Mr. Zakir Thomas,** Co-Convener Project Director, CSIR-Open Source Drug Discovery
3.	**Prof. Gangan Prathap** CSIR-National Institute of Science Communication and Information Research, New Delhi
4.	**Dr. Shantanu Sengupta** CSIR-Institute of Genomics and Integrative Biology, New Delhi
5.	**Dr. Debashis Bandopadhyay** CSIR-Planning and Performance Division, New Delhi
6.	**Prof. Partha Banerjee** CSIR-National Institute of Science, Technology and Development Studies, New Delhi
7.	**Prof. Mitali Mukherjee** CSIR-Institute of Genomics and Integrative Biology, New Delhi

A3. Course Committee

S.No.	Name & Affiliation
1.	**Prof. Amitabha Chattopadhyay,** Convener CSIR-Centre for Cellular & Molecular Biology, Hyderabad, Andhra Pradesh
2.	**Prof. Raj Singh,** Co-Convener CSIR-Central Electronics Engineering Research Institute, Pilani, Rajasthan
3.	**Prof. A Ajayaghosh** CSIR-National Institute for Interdisciplinary Science & Technology, Thiruvananthapuram, Kerala
4.	**Prof. P. Goswami** CSIR-Fourth Paradigm Instiute, Bengaluru, Karnataka
5.	**Prof. B D Kulkarni** CSIR-National Chemical Laboratory, Pune
6.	**Prof. K.S.Krishna** CSIR-National Institute of Oceanography, Goa
7.	**Prof. Kunal Ray** CSIR-Indian Institute of Chemical Biology, Kolkata, West Bengal
8.	**Prof. Neelima Saikia** CSIR-North-East Institute of Science and Technology, Jorhat, Assam
9.	**Prof. Rakesh M. Jha** CSIR-National Aerospace Laboratories, Bengaluru, Karnataka
10.	**Prof. Suman Kumari Mishra** CSIR-National Metallurgical Laboratory, Jamshedpur, Jharkhand
11.	**Prof. Santa Chawla** CSIR-National Physical Laboratory, New Delhi
12.	**Prof. S.N. Shome** CSIR-Central Mechanical Engineering Research Institute, Durgapur, West Bengal
13.	**Prof. A.Ram Mohan Rao** CSIR-Structural Engineering Research Centre, Chennai, Tamil Nadu
14.	**Prof. S.K.Mishra** CSIR-Institute of Minerals and Materials Technology, Bhubaneswar, Odisha
15.	**Prof. H.K.Sardana** CSIR-Central Scientific Instruments Organisation, Chandigarh
16.	**Prof. Ajay Dhar** CSIR-National Physical Laboratory, New Delhi

A4. Admission Committee

S.No.	Name & Affiliation
1.	**Prof. A Ajayaghosh,** Convener CSIR-National Institute for Interdisciplinary Science & Technology, Thiruvananthapuram, Kerala
2.	**Dr. Shantanu Sengupta,** Co-Convener CSIR-Institute of Genomics and Integrative Biology, New Delhi
3.	**Prof. Raj Singh** CSIR-Central Electronics Engineering Research Institute, Pilani, Rajasthan
4.	**Dr. Chetan Gadgil** CSIR-National Chemical Laboratory, Pune
5.	**Prof. S. N. Shome** CSIR-Central Mechanical Engineering Research Institute, Durgapur, West Bengal
6.	**Prof. Amarnath Sen** CSIR-Central Glass & Ceramic Research Institute, Kolkata, West Bengal

A5. Examination Committee

S.No.	Name & Affiliation
1.	**Prof. Amitabha Chattopadhyay,** Convener CSIR-Centre for Cellular & Molecular Biology, Hyderabad, Andhra Pradesh
2.	**Prof. S. N. Shome,** Co-Convener CSIR-Central Mechanical Engineering Research Institute, Durgapur, West Bengal
3.	**Prof. Santa Chawla** CSIR-National Physical Laboratory, New Delhi
4.	**Prof. A. Ram Mohan Rao** CSIR-Structural Engineering Research Centre, Chennai, Tamil Nadu
5.	**Prof. Raj Singh** CSIR-Central Electronics Engineering Research Institute, Pilani, Rajasthan
6.	**Dr. Sudip Ganguly** CSIR-Indian Institute of Petroleum , Dehradun
7.	**Prof. M. Lakshmi Kantam** CSIR-Indian Institute of Chemical Technology, Hyderabad, Andhra Pradesh
8.	**Prof. V. Mudkavi** CSIR-National Aerospace Laboratories, Bengaluru, Karnataka
9.	**Prof. Ram Rajsekharan** CSIR-Central Institute of Medicinal & Aromatic Plants , Lucknow, Uttar Pradesh
10.	**Prof. Asha A. Juwarkar** CSIR-National Environmental Engineering Research Institute, Nagpur, Maharashtra
11.	**Prof. Shyam Sunder Rai** CSIR-National Geophysical Research Institute, Hyderabad, Andhra Pradesh
12.	**Prof. Amitava Ghosh** CSIR-Central Building Research Institute, Roorkee, Uttarakhand
13.	**Dr. Sanjay Kamble** CSIR-National Chemical Laboratory, Pune, Maharashtra

Tables

AcSIR

Lab-wise break up of current enrollments in participating CSIR labs under various programmes of AcSIR is summarized in the following:

Table 1: Lab-wise break up of M.Tech (PGRPE) admission

S.No.	Lab	2009 Session	2010 Session	2011 Session	2012 Session
1.	CSIR-CBRI	--	06	08	08
2.	CSIR-CEERI	13	11	20	17
3.	CSIR-CGCRI	--	--	--	05
4.	CSIR-CIMFR	--	--	--	10
5.	CSIR-CMERI	06	07	09	09
6.	CSIR-CRRI	--	02	06	07
7.	CSIR-CSIO	09	10	10	14
8.	CSIR-IICT	--	--	--	05
9.	CSIR-IIP	04	04	--	10
10.	CSIR-IMMT	10	10	08	--
11.	CSIR-NAL	09	12	--	--
12.	CSIR-NCL	--	08	10	--
13.	CSIR-NEERI	02	03	05	04
14.	CSIR-NML	--	--	--	05
15.	CSIR-NPL	--	--	08	09
16.	CSIR-SERC	04	04	05	16
	Total	57	78	89	119

Table 2: Faculty-wise list of Students in Participating CSIR Labs in Ph.D. Programme (Jan'11 Session)

S. No.	Laboratory	Biological Sciences	Chemical Sciences	Engineering Sciences	Mathematical & Information Sciences	Physical Sciences	Total
1.	CSIR-CDRI	10	0	0	0	0	10
2.	CSIR-CIMAP	3	0	0	0	0	3
3.	CSIR-CMMACS	0	0	0	1	0	1
4.	CSIR-CSIO	0	0	4	0	1	5
5.	CSIR-CSMCRI	8	25	0	0	0	33
6.	CSIR-HQ	1	0	0	0	0	1
7.	CSIR-IGIB	5	0	0	0	0	5
8.	CSIR-IHBT	18	10	0	0	0	28
9.	CSIR-IICT	22	100	0	0	0	122
10.	CSIR-IIIM	15	31	0	0	0	46
11.	CSIR-IIP	1	11	0	0	0	12
12.	CSIR-IITR	23	6	0	0	0	29
13.	CSIR-IMMT	2	10	0	0	0	12
14.	CSIR-NBRI	24	0	0	0	0	24
15.	CSIR-NCL	23	106	0	0	2	131
16.	CSIR-NEERI	2	0	0	0	0	2
17.	CSIR-NEIST	0	5	0	0	0	5
18.	CSIR-NIIST	0	14	0	0	0	14
19.	CSIR-NIO	0	0	0	0	5	5
20.	CSIR-NPL	1	1	0	0	10	12
	Total	157	319	4	1	18	500

Table 3: Faculty-wise list of Students in Participating CSIR Labs in Ph.D. Programme (Aug'11 Session)

S. No.	Laboratory	Biological Sciences	Chemical Sciences	Engineering Sciences	Mathematical & Information Sciences	Physical Sciences	Total
1.	CSIR-CCMB	1	0	0	0	0	1
2.	CSIR-CDRI	4	0	0	0	0	4
3.	CSIR-CFTRI	4	0	4	0	0	8
4.	CSIR-CRRI	0	1	0	0	0	1
5.	CSIR-CSIO	0	0	2	0	2	4
6.	CSIR-CSMCRI	7	13	0	0	0	20
7.	CSIR-IGIB	11	0	0	0	0	11
8.	CSIR-IHBT	8	4	0	0	0	12
9.	CSIR-IICT	7	18	0	0	0	25
10.	CSIR-IIIM	8	6	0	0	0	14
11.	CSIR-IITR	2	0	0	0	0	2
12.	CSIR-IMMT	2	7	0	0	1	10
13.	CSIR-NCL	12	50	0	0	0	62
14.	CSIR-NEERI	0	0	1	0	3	4
15.	CSIR-NEIST	0	2	0	0	0	2
16.	CSIR-NGRI	0	0	0	0	4	4
17.	CSIR-NIIST	2	7	0	0	0	9
18.	CSIR-NIO	0	0	0	0	8	8
19.	CSIR-NPL	0	3	0	0	11	14
	Total	68	111	7	0	29	215

Table 4: Faculty-wise list of Students in Participating CSIR Labs in Ph.D. Programme (Jan'12 Session)

S. No.	Laboratory	Biological Sciences	Chemical Sciences	Engineering Sciences	Integrated Engineering Sciences	Mathematical & Information Sciences	Physical Sciences	Total
1.	CSIR-CBRI	0	1	0	0	0	0	1
2.	CSIR-CDRI	16	3	0	0	0	0	19
3.	CSIR-CECRI	0	8	0	0	0	1	9
4.	CSIR-CEERI	0	0	3	9	0	0	12
5.	CSIR-CFTRI	5	0	0	0	0	0	5
6.	CSIR-CIMAP	10	3	0	0	0	0	13
7.	CSIR-CLRI	0	3	0	0	0	0	3
8.	CSIR-CMERI	0	0	2	6	0	0	8
9.	CSIR-CMMACS	0	0	0	0	3	0	3
10.	CSIR-CSIO	0	0	2	8	0	2	12
11.	CSIR-CSMCRI	6	11	0	0	0	0	17
12.	CSIR-IGIB	6	0	0	0	0	0	6
13.	CSIR-IHBT	8	2	0	0	0	0	10
14.	CSIR-IICT	5	34	0	0	0	0	39
15.	CSIR-IIP	1	7	0	4	0	1	13
16.	CSIR-IITR	19	0	0	0	0	0	19
17.	CSIR-IMMT	4	6	1	6	0	2	19
18.	CSIR-NBRI	19	0	0	0	0	0	19
19.	CSIR-NCL	7	25	0	0	0	1	33
20.	CSIR-NEERI	1	0	1	0	0	0	2
21.	CSIR-NGRI	0	0	0	0	0	9	9
22.	CSIR-NIIST	1	15	0	0	0	0	16
23.	CSIR-NIO	0	0	0	0	0	6	6
24.	CSIR-NML	0	0	3	0	0	0	3
25.	CSIR-NPL	0	0	0	0	0	8	8
26.	CSIR-SERC	0	0	4	4	0	0	8
27.	CSIR-URDIP	0	3	0	0	0	0	3
	Total	108	121	16	37	3	30	315

Table 5: Faculty-wise list of Students in Participating CSIR Labs in Ph.D. Programme (Aug'12 Session)

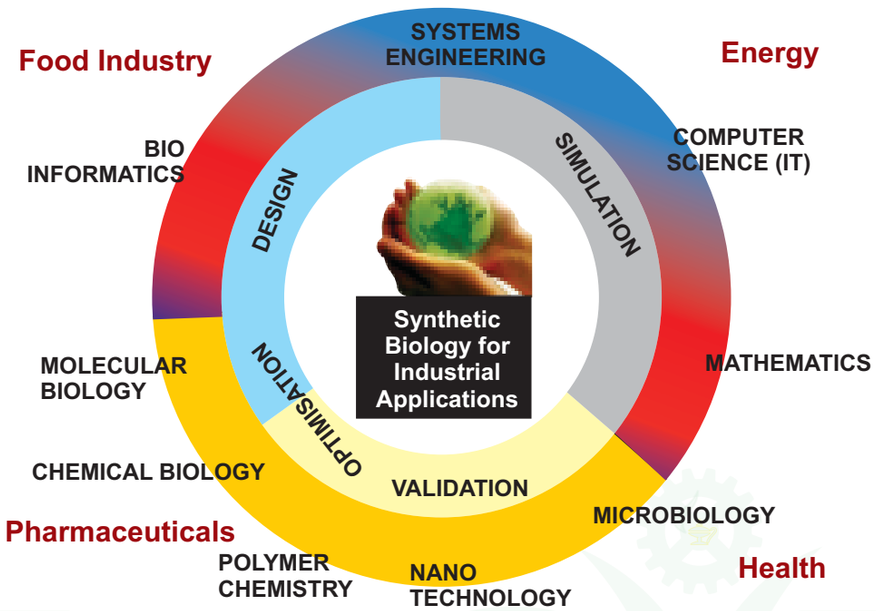
S. No.	Laboratory	Biological Sciences	Chemical Sciences	Engineering Sciences	Mathematical & Information Sciences	Physical Sciences	Integrated PhD	Total
1.	CSIR-CBRI	0	0	6	0	1	0	7
2.	CSIR-CDRI	20	6	0	0	0	0	26
3.	CSIR-CECRI	0	10	0	0	0	0	10
4.	CSIR-CEERI	0	0	4	0	3	7	14
5.	CSIR-CFTRI	8	0	5	0	0	0	13
6.	CSIR-CGCRI	0	0	3	0	3	0	6
7.	CSIR-CIMAP	5	0	0	0	0	0	5
8.	CSIR-CLRI	0	4	0	0	0	0	4
9.	CSIR-CMERI	0	0	2	0	0	0	2
10.	CSIR-CMMACS	0	0	1	0	0	0	1
11.	CSIR-CSIO	0	0	18	0	1	0	19
12.	CSIR-CSMCRI	1	8	0	0	0	0	9
13.	CSIR-HQ	6	0	0	0	0	0	6
14.	CSIR-IGIB	47	0	0	0	0	0	47
15.	CSIR-IHBT	8	1	0	0	0	0	9
16.	CSIR-IICB	2	0	0	0	0	0	2
17.	CSIR-IICT	8	61	1	0	0	0	70
18.	CSIR-IIIM	23	13	0	0	0	0	36
19.	CSIR-IIP	0	4	0	0	0	0	4
20.	CSIR-IITR	10	4	0	0	0	0	14
21.	CSIR-IMMT	4	3	2	0	2	0	11
22.	CSIR-NBRI	12	0	0	0	0	0	12
23.	CSIR-NCL	12	60	8	0	3	0	83
24.	CSIR-NEERI	0	0	0	0	3	0	3
25.	CSIR-NEIST	3	3	0	0	0	0	6
26.	CSIR-NGRI	0	0	0	0	11	0	11
27.	CSIR-NIIST	0	15	1	0	2	0	18
28.	CSIR-NIO	0	0	0	0	5	0	5
29.	CSIR-NML	0	0	2	0	0	0	2
30.	CSIR-NPL	1	4	0	1	7	0	13
31.	CSIR-SERC	0	0	1	0	0	3	4
32.	CSIR-URDIP	0	0	0	2	0	0	2
	Total	170	196	54	3	41	10	474

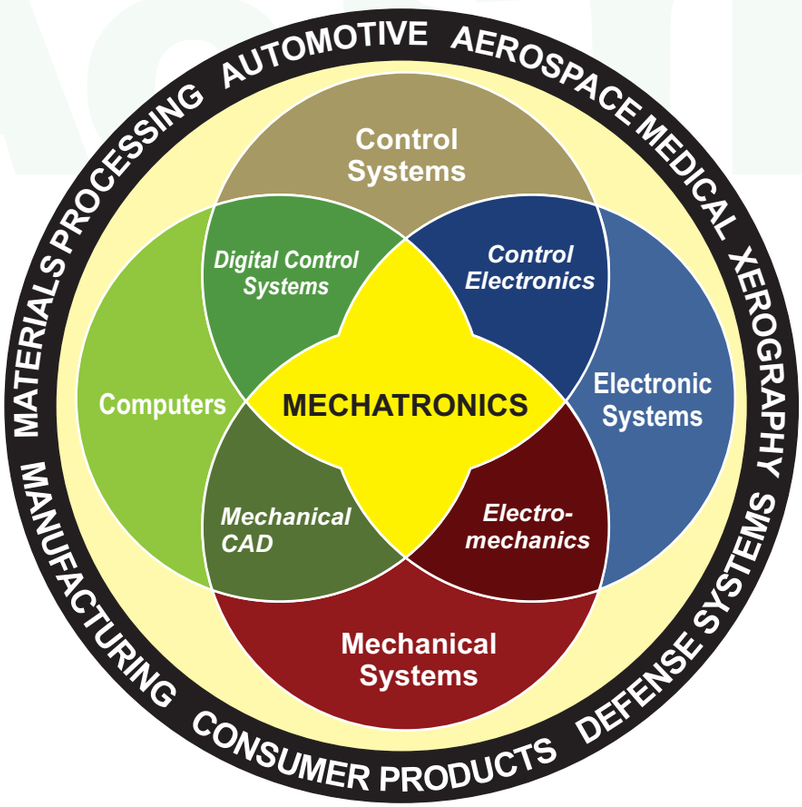
Table 6: Faculty-wise list of Students in Participating CSIR Labs in Ph.D. Programme (Jan'13 Session)

S. No.	Laboratory	Biological Sciences	Chemical Sciences	Engineering Sciences	Mathematical & Information Sciences	Physical Sciences	Integrated PhD	Total
1.	CSIR-CCMB	3	0	0	0	0	0	3
2.	CSIR-CDRI	10	0	0	0	0	0	10
3.	CSIR-CECRI	0	3	0	0	1	0	4
4.	CSIR-CFTRI	13	0	1	0	0	0	14
5.	CSIR-CIMAP	9	2	0	0	0	0	11
6.	CSIR-CLRI	0	8	0	0	0	0	8
7.	CSIR-CMERI	0	3	7	0	0	0	10
8.	CSIR-CMMACS	0	0	1	2	0	0	3
9.	CSIR-CRRI	0	1	0	0	0	1	2
10.	CSIR-CSIO	0	0	0	0	3	0	3
11.	CSIR-CSMCRI	2	12	0	0	0	0	14
12.	CSIR-IGIB	24	0	0	0	0	0	24
13.	CSIR-IHBT	8	4	0	0	0	0	12
14.	CSIR-IICB	13	0	0	0	0	0	13
15.	CSIR-IICT	5	60	2	0	0	0	67
16.	CSIR-IIIM	15	0	0	0	0	0	15
17.	CSIR-IIP	0	6	0	0	0	0	6
18.	CSIR-IITR	3	3	0	0	0	0	6
19.	CSIR-IMMT	6	0	1	0	0	0	7
20.	CSIR-NBRI	11	0	0	0	0	0	11
21.	CSIR-NCL	13	29	2	0	3	0	47
22.	CSIR-NEERI	0	0	0	0	8	0	8
23.	CSIR-NEIST	0	2	0	0	0	0	2
24.	CSIR-NGRI	0	0	0	0	8	0	8
25.	CSIR-NIIST	2	11	0	0	0	0	13
26.	CSIR-NIO	0	0	0	0	7	0	7
27.	CSIR-NISTADS	0	0	0	0	0	0	0
28.	CSIR-NPL	0	4	0	0	5	0	9
	Total	137	148	14	2	35	1	337

Focus on Inter-multi-trans disciplinary Science and Engineering

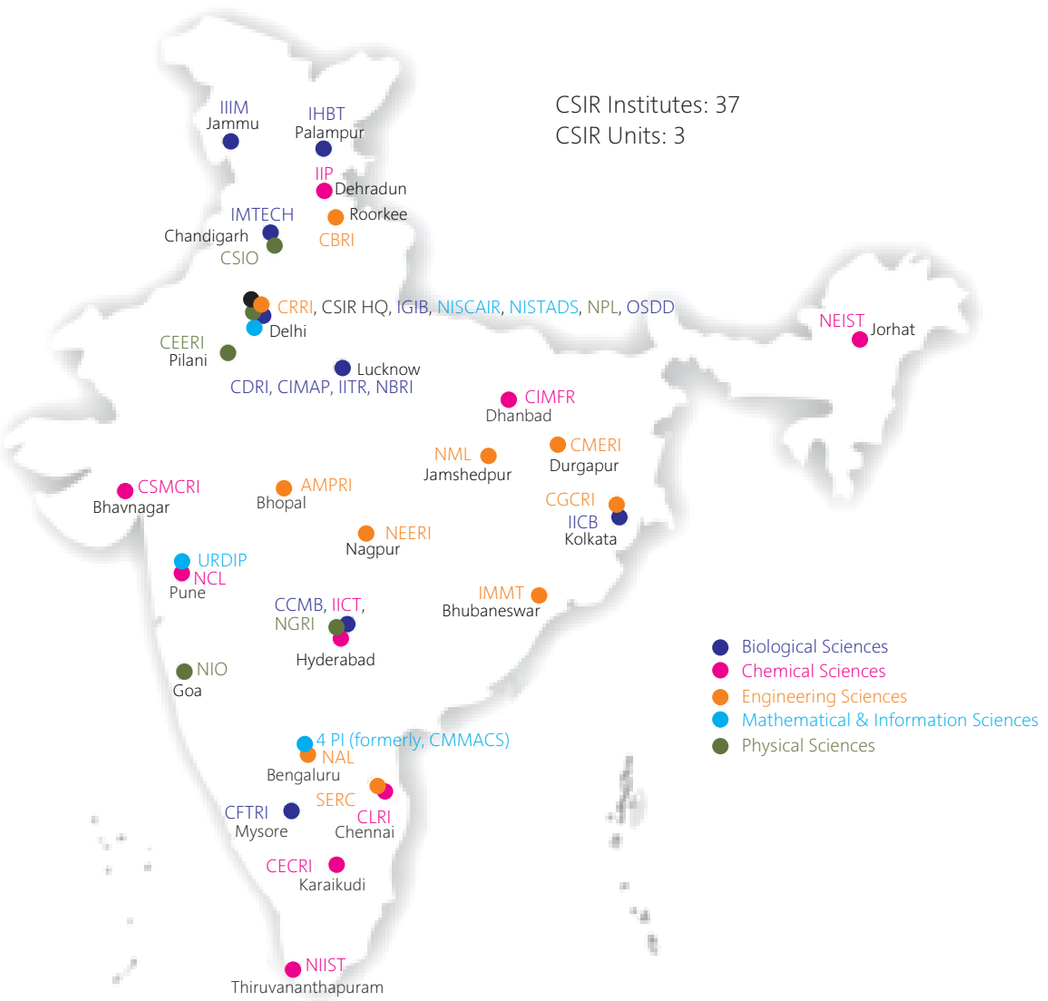
Synthetic Biology : An Example of Integrative Science





AcSIR Campuses in CSIR Labs

- Pan India Footprint



Map not to scale only schematic

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