



ANNUAL REPORT 2011-12

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PREFACE

The Ministry of Human Resource Development, Government of India, established the Indian Institute of Science Education and Research Thiruvananthapuram in 2008 to be a leading centre of research and teaching in basic sciences. The last four years have been of vigorous activity, starting from a group of 16 undergraduate students to 77 Ph.D. and 334 Undergraduate students today. I am happy to present this report of the activities of the past year, 2011-2012.

Our students have started making notable accomplishments. One of our 4th year BS-MS students was selected for the Lindau meeting of the Physics Nobel Laureates, in Germany. Three of our 2nd year students were selected for the Asian Nobel Laureates Meet in Israel. Four 3rd Year BS-MS students won the first prize for their poster at the YETI (Young Ecologists Meet and Interact) Meet held at IIT-Guwahati in December 2011. Two research papers have already been published by the undergraduate students, in tune with our mandate of integrating research and teaching at the undergraduate level. The process of this integrated approach of teaching undergraduates was possible with the number of Ph.D. students increasing to 64 in the reporting year. The large number of publications in leading refereed international journals listed in the report is a testimony to the intense interest and dedicated hard work of the faculty and the undergraduate and graduate students.

It is important to reckon that these achievements have been made in the constraints of crowded laboratories in the temporary campus. The faculty members have been putting maximum efforts to use every inch of space available so that the teaching and research at the institute is maintained at the highest standards possible. Thus despite the limited classroom spaces, faculty offices, rented hostels and crowded dining halls, our faculty and students keep the good effort going, making use of the available facilities to educate, to recreate, and to grow. We are eagerly waiting for our own campus to be ready. The construction of the first phase of the campus at Vithura started in March 2011. We hope to begin the process of shifting to our campus in a few months.

We had the privilege of hosting a string of eminent international visitors who contributed to the teaching and research programmes of the institute, for example Dr. E. C. G. Sudarshan, challenged the students in a free-for-all discussion on the directions of physics, be it the Higgs particle or particles that are faster than light.

We are grateful for the continued support from Ministry of HRD and other wings of the Govt. of India. All sections of the Govt. of Kerala supported the Institute in all its endeavors. The College of Engineering, Trivandrum (CET), generously supporting us in their campus, has been especially considerate to encourage all our activities. We thank the CET community for these.

I also gratefully acknowledge the inspiring guidance and support given by the Society, the Board of Governors, and the members of the Academic Advisory Committee and Building and Works Committee in this initial building phase of the institute amidst constraints and challenging situations.

Our ideas have been put into action by a small team of hardworking non-faculty personnel and experienced and dedicated professionals from govt. organizations giving their guidance and support in the functions of engineering, finance, purchase, personnel management and general administration. Whether it is to procure high-end sophisticated equipment, get the laboratory ready for installation of instruments on time, to monitor the progress of construction activities in the Vithura campus, to streamline the admission process, or to make arrangements for the students' sports week, it is their unstinting works that have sustained the activities to achieve the desired results and accomplishments.

Finally it is the students of IISER, the ones who decided to follow their passion for science and the members of the faculty that help them, define this institute. I thank them all.

1st November 2012.

E. D. Jemmis
Director

1. Preamble

Introduction

The Indian Institutes of Science Education and Research were established by Government of India between 2006 and 2008 at Kolkata, Pune, Mohali, Bhopal and Thiruvananthapuram.

The main objective of the institute is the development of excellent scientific manpower in the country by means of contemporary research oriented higher education.

The creation of Indian Institute of Science Education and Research Thiruvananthapuram was notified by Government of India vide no. 22-6/2007-TS.I dated 28th February, 2008 of Department of Higher Education, Ministry of Human Resource Development as an autonomous organization.

The institute came into being on 20th February, 2008 when it was registered as a society under the Travancore - Cochin Literary Scientific and Charitable Society Registration Act (12 of 1955) vide no. T.342/08 dated 20th February, 2008.

The Institute will now function under the provisions of National Institutes of Technology (Amendment) Act 2012.

The institute has been operating from June 2008 in the transit campus provided by Government of Kerala in the College of Engineering Trivandrum. The Kerala Government has also given 200 acres of land in Vithura Panchayat, Thiruvananthapuram district, where the permanent campus is under construction.

IISER-Thiruvananthapuram Society

Chairman

Dr. V. M. Katoch, Secretary to the Government of India, Department of Health Research, Ministry of Health & Family Welfare and Director General, ICMR, NewDelhi.

Members

Prof. Sudhir K. Sopory, Vice Chancellor, Jawaharlal Nehru University, New Delhi.

Prof. A. Jayakrishnan, Vice Chancellor, University of Kerala, Thiruvananthapuram.

Prof. C. S. Poullose, Department of Bio-Technology, Cochin University of Science & Technology, Cochin.

Dr. Suresh Das, Director, National Institute of Interdisciplinary Science & Technology, Thiruvananthapuram.

Prof. M. S. Gopinathan, IISER- Thiruvananthapuram.

Prof. K. George Thomas, IISER- Thiruvananthapuram.

Ex-Officio Members

Smt Vibha Puri Das, Secretary, Department of Higher Education, Ministry of Human Resource Development, Govt of India, NewDelhi.

Dr. T. Ramasami, Secretary, Department of Science and Technology, Govt. of India , NewDelhi.

Prof. Bhaskar Ramamurthy, Director, Indian Institute of Technology Madras, Chennai.

Prof. Sukhdeo Thorat, Chairman, University Grant Commission, New Delhi.
Shri Sumit Bose, Secretary, Dept. of Expenditure, Ministry of Finance, Govt. of India.
Dr. M. K. Bhan, Secretary, Department of Biotechnology, Govt. of India, New Delhi.
Dr. Srikumar Banerjee, Secretary (DAE) & Chairman (AEC), DAE, Govt. of India.
Dr. V. K. Saraswat, Chairman, Defense Research & Development Orgn., Govt. of India, New Delhi.
Dr. K. Radhakrishnan, Secretary, Department of Space, Govt. of India, Bangalore.
Dr. Samir K. Brahmachari, Director General, Council of Scientific and Industrial Research (CSIR), Govt of India, NewDelhi.
Prof. P. Balaram, Director, Indian Institute of Science, Bangalore
Prof. K. N. Ganesh, Director, IISER- Pune
Prof. E. D. Jemmis, Director, IISER- Thiruvananthapuram
Dr. P. Prabhakaran, Chief Secretary, Government of Kerala.

Secretary

Shri Bharat Jyoti, Registrar, IISER- Thiruvananthapuram .
The Society met on 17th September 2011 during the year 2011-12.

Board of Governors

Chairman

Dr. V. M. Katoch, Secretary to the Government of India, Department of Health Research, Ministry of Health & Family Welfare and Director General, ICMR, NewDelhi.

Members

Dr. T. Ramasami, Secretary, Department of Science & Technology, Govt. of India, NewDelhi.
Dr. M. K. Bhan, Secretary, Department of Biotechnology, Govt. of India, New Delhi
Dr. K. Radhakrishnan, Chairman, ISRO and Secretary, Department of Space, Govt. of India.
Prof. V. Kannan, Department of Mathematics & Statistics, University of Hyderabad.
Dr. V. R. Muthukaruppan, Director - Research, Arvind Medical Research Foundation, Madurai.
Prof. S. M. Chitre, Distinguished Faculty Member, UM-DAE Centre for Excellence in Basic Sciences, University of Mumbai .
Dr. Gangan Pratap, Director, National Institute of Science Communication and Information Resources (NISCAIR), New Delhi .
Prof. Bhaskar Ramamurthy, Director, Indian Institute of Technology Madras, Chennai.
Prof. M. S. Gopinathan, IISER- Thiruvananthapuram.
Prof. K. George Thomas, IISER- Thiruvananthapuram.

Ex-officio Members:

Smt Vibha Puri Das, Secretary, Department of Higher Education, Ministry of Human Resource Development, Govt. of India, New Delhi .
Prof. E. D. Jemmis, Director, IISER- Thiruvananthapuram.
Prof. P. Balaram, Director, Indian Institute of Science, Bangalore.
Prof. K. N. Ganesh, Director, IISER- Pune.
Dr. P.Prabhakaran, Chief Secretary, Government of Kerala.
Shri A.N. Jha, Joint Secretary & Financial Advisor, MHRD, Govt. of India.

Secretary

Shri Bharat Jyoti, Registrar, IISER- Thiruvananthapuram .

The Board met on 17.05.2011, 21.06.2011, 17.09.2011, 17.11.2011 and 02.03.2012 during the year 2011-12.

Finance Committee

Chairman

Dr. V. M. Katoch, Secretary to the Government of India, Department of Health Research, Ministry of Health & Family Welfare and Director General, ICMR, NewDelhi.

Members

Prof. E. D. Jemmis, Director, IISER Thiruvananthapuram.

Shri Ashok Thakur, Special Secretary, Department of Higher Education, MHRD.

Shri A. N. Jha, Additional Secretary & Financial Advisor, MHRD, Govt. of India.

Prof. M. Radhakrishna Pillai, Director, Rajiv Gandhi Centre for Biotechnology (RGCB), Thiruvananthapuram .

Prof. K. George Thomas, IISER-Thiruvananthapuram.

Secretary

Shri Bharat Jyoti, Registrar, IISER- Thiruvananthapuram.

The Finance Committee met on 17.05.2011, 21.06.2011, 17.09.2011 and 02.03.2012 during 2011-12.

Building and Works Committee

Chairman

Prof E D Jemmis, Director, IISER- Thiruvananthapuram.

Members

Prof. Ravindra Gettu, Department of Civil Engineering, IIT Madras; Chennai.

Shri V. R. Rengaswamy, Head, E M & C, NCBS-TIFR, Department of Atomic Energy, Bangalore.

Shri Johnson Jacob, Kerala State Regulatory Authority Commission, Former Member, KSEB).

Shri P. A. Prabhakaran, Chief Consultant (Constructions), IISER- Thiruvananthapuram . (Former Chief Engineer, ISRO, Dept. of Space)

Prof. M. S. Gopinathan, IISER- Thiruvananthapuram.

Prof. K. George Thomas, IISER- Thiruvananthapuram.

Shri Bharat Jyoti, Registrar, IISER- Thiruvananthapuram.

Secretary

Shri J. Anil, Project Engineer cum Estate Officer, IISER-Thiruvananthapuram.

The Building & Works committee met on 16.5.11, 14.9.11, 8.12.11 and 21.02.12 during 2011-12.

Academic Advisory Committee

The following Academic Advisory Committee has undertaken the review and updating of curriculum, regulation and the other related matters of the academic programmes.

Prof. E. D. Jemmis, Director, IISER- Thiruvananthapuram - **Chairman.**

Prof. Umesh Varshney, IPC, Indian Institute of Science, Bangalore .

Prof. S. Ramakrishnan, MCB, Indian Institute of Science, Bangalore.

Prof. V. Balakrishnan, Department of Physics, Indian Institute of Technology-Madras, Chennai.

Prof. R. Balasubramanian, Director, Institute of Mathematical Sciences, Chennai.

Prof. M. Radhakrishna Pillai, Director, RGCB, Thiruvananthapuram.

Prof. M. S. Gopinathan, School of Chemistry, IISER- Thiruvananthapuram.

Prof. K. George Thomas, School of Chemistry, IISER- Thiruvananthapuram.

Shri Bharat Jyoti, Registrar, IISER- Thiruvananthapuram - **Secretary.**

The Academic Advisory Committee meeting was held on 18th June 2011.

2. Human Resource

Human resources of the institute in 2011-12 comprised the following :

Faculty	Regular Faculty		29
	Visiting Faculty		10
Technical and Non-Teaching Personnel	Officers	Regular	7
		Consultants & Others	9
	Subordinate	Regular	10
		Temporary & Contract	48
Students	BS-MS		202
	Ph.D.		64

Faculty

School wise list of faculties and their names and research areas are given below;

Assistant Professor	School of Biology	6
	School of Chemistry	7
	School of Physics	9
	School of Mathematics	4
Associate Professor	School of Mathematics	1
Professor	School of Chemistry	2

Name	Position	School	Area of Research
Dr. Anil Shaji	Assistant Professor	Physics	Quantum Information and quantum limited measurements
Dr. Ajay Venugopal	Assistant Professor	Chemistry	Inorganic and Organometallic Chemistry
Dr. Archana Pai	Assistant Professor	Physics	Gravitational Wave Physics, Statistical Signal Processing
Dr. Ayan Datta	Assistant Professor	Chemistry	Computational Chemistry of Materials, Magnetism and Molecular Aggregation
Dr. Dharmatti Sheetal	Assistant Professor	Mathematics	Differential equations, control and game theory, Navier Stokes' equations and image processing
Prof. E. D. Jemmis	Professor	Chemistry	Theoretical and computational chemistry

Prof. K. George Thomas	Professor	Chemistry	Photosciences nanomaterials and surface properties
Dr. Hema Somanathan	Assistant Professor	Biology	Sensory ecology and Plant-animal interactions
Dr. Joy Mitra	Assistant Professor	Physics	STM Tunnelling induced light emission and Plasmonics
Dr. Kalika Prasad	Assistant Professor	Biology	Evolution of regulatory logic controlling organ positioning in plants
Dr. Mahesh Hariharan	Assistant Professor	Chemistry	Biophysical Chemistry, Photophysics of Biomolecules (Effect of Light on DNA and Proteins)
Dr. Manoj A G Namboothiry	Assistant Professor	Physics	Optoelectronics Laboratory
Dr. K. T. Nishanth	Assistant Professor	Biology	Mechanisms for maintenance of genome stability in <i>Saccharomyces cerevisiae</i>
Dr. Prakash Rajendran (Up to 26.09.2011)	Assistant Professor	Mathematics	Abstract Harmonic Analysis
Dr. M. P. Rajan	Associate Professor (From 2.8.2011)	Mathematics	Numerical Functional Analysis/ Functional Analysis Financial Engineering/Mathematical Finance
Dr. Rajeev N Kini	Assistant Professor	Physics	Ultrafast and Terahertz spectroscopy of semiconductors
Dr. Ramanathan Natesh	Assistant Professor	Biology	Molecular Structural Biology, Crystallography and CryoEM structural studies of complexes of signal transduction proteins in cardiovascular disease, Proteins involved in <i>Mycobacterium Tuberculosis</i>
Dr. Ramesh Chandra Nath	Assistant Professor	Physics	Quantum Phase Transition in Frustrated Low-dimensional Spin Systems and Unconventional Superconductivity
Dr. Reji Varghese	Assistant Professor	Chemistry	Supramolecular Chemistry with DNA, DNA Nanotechnology, Functional Nanomaterials
Dr. M. M. Shaijumon	Assistant Professor	Physics	Multifunctional Nanostructured Materials and Energy Storage
Dr. Sachindranath Jayaraman	Assistant Professor	Mathematics	Linear Algebra - Non negative Matrices, Generalized Inverses and Applications

Dr. S. Shankara-narayanan	Assistant Professor	Physics	Black-holes, Cosmology and Quantum Gravity
Dr. Sreedhar B. Dutta	Assistant Professor	Physics	Statistical Physics and Quantum Field Theory
Dr. Sujith Vijay	Assistant Professor	Mathematics	Ramsey Theory on the Integers
Dr. Sunish Radhakrishnan	Assistant Professor	Biology	Cellular asymmetry and cell division in bacteria
Dr. Kana M Sureshan	Assistant Professor	Chemistry	Organic synthesis, Medicinal Chemistry, Supramolecular Chemistry
Dr. R. S. Swathi	Assistant Professor	Chemistry	Theoretical Spectroscopy and Quantum Chemistry
Dr. Tapas Manna	Assistant Professor	Biology	Cell cycle regulation in eukaryotic cells: structure-function of microtubule, centrosome and kinetochore proteins
Dr. Utpal Manna	Assistant Professor	Mathematics	Stochastic Partial Differential Equations, Stochastic Processes, Stochastic and Harmonic Analytic Approaches to Fluid Dynamics Models
Dr. Vinesh Vijayan	Assistant Professor	Chemistry	NMR Investigation of structure and dynamics of bio-molecules

Visiting Faculty

The following visiting faculty in addition to guest faculty for special topics rendered their services to meet the requirements of academic works.

1. Prof. M S Gopinathan, Ph.D (IIT Kanpur) FASc, FNA, Ex-Professor, IIT-M, Chennai	Chemistry
2. Prof. V Unnikrishnan Nayar, Ph.D(Kerala University) Ex-Dean, Cochin University of Science & Technology	Physics
3. Prof. M Padmanabhan, Ph.D (IIT Madras), Ex-Professor, MG University, Kottayam	Chemistry
4. Prof. P Jyothilingam Ph.D (TIFR) Commutative Algebra. Retd. Professor- Pondicherry University	Mathematics
5. Prof. Tara Nanda Ph.D (Courant Institute of Mathematical Sciences, NYU) Applied Mathematics	Mathematics
6. Prof. Subodh Shenoy, PhD (Yale) FASc, FNA, SS Bhatnagar Award, Ex-Professor, TWAS Trieste & University of Hyderabad.	Physics
7. Prof. M I Jinnah, PhD (TIFR), Ex-Professor of Mathematics, Kerala University.	Mathematics

8. Sri. M B Kulkarni, MSc (Biometrics), MPhil (Statistics) Associate Professor of Biostatistics, Nasik.	Mathematics
9. Shri O Thomas, Ex-Lecturer, Government College for Women, Thiruvananthapuram.	Lab Coordinator, Chemistry
10. Dr. T Ganga Devi, Ex-Principal, Government College for Women, Thiruvananthapuram.	Lab Coordinator, Biology

Administrative and Support Personnel

The institute has been operating with 16 regular staff and with 10 Consultants and contractual experienced professionals.

Recruitment of 5 personnel was done during the year and regular strength in position became 16 against a sanctioned strength of 66. The administrative personnel are enlisted as under:

Administration

1. Shri. Bharat Jyoti, IFS, Registrar
2. Shri. Anil J., Project Engineer cum Estate Officer
3. Shri. B. V. Ramesh, Assistant Registrar (Finance & Accounts)
4. Shri. S. Hariharakrishnan, Assistant Registrar (Administration & Academics)
5. Dr. Sainul Abideen P., Assistant Librarian
6. Shri. P. Y. Sreekumar, Scientific Officer
7. Shri. Krishnakumar A., Junior Engineer
8. Shri. Ajith Prabha, Office Assistant (Multi-Skill)
9. Smt. Navya Paul, Technical Assistant
10. Smt. Divya J., Technical Assistant
11. Smt. Nimi Joseph Chaly, Accountant
12. Smt. Nafeesa C. K., Library Assistant
13. Shri. Jeyaraj J. R., Library Information Assistant
14. Smt. Reshmi V. K., Technical Assistant
15. Shri. Vijesh K., Technical Assistant
16. Shri. Alex Andrews P., Technical Assistant

Consultants and Contractual Officers

1. Shri. B. K. Subburaman, Special Officer (Up to January 2012)
2. Shri. C. M. Abraham, Officer on Special Duty
3. Shri. S. B. Jayaram, Consultant (Purchase & Stores)
4. Shri. P. N. Mohanan, Consultant (Finance & Accounts)
5. Shri. V. P. Nair, Consultant (Human Resources)
6. Shri. P. A. Prabhakaran, Chief Consultant (Constructions)
7. Shri. P. R. Balakrishna Pillai, Consultant (Civil)
8. Shri. K. Muraleedharan Nair, Consultant (Civil)
9. Shri. R. Vasudevan Nair, Consultant (Electrical)
10. Shri. I. P. Laiju, Assistant Project Engineer (Electrical)

3. Academic Programmes and Students

Academic Programmes

The institute offers integrated BS-MS programme and Ph.D. programme in basic sciences.

The 5-year BS-MS programme is split into 10 semesters. The first 4 semesters consist of core courses common to all students. From the third year onwards, the students specialize in one of the major subjects (Biology, Chemistry, Physics or Mathematics) and one or more minors, and the final year devoted to a research project.

Evaluation is done by relative grading system and the minimum cumulative grade point average (CGPA) required for award of BS-MS degree is 5 (on a 10-point scale). The fellowship is contingent upon good academic performance with CGPA of 6 or above.

Students - BS-MS Dual Degree Programme

89 students joined the fourth batch of Five Year BS-MS Dual Degree Programme in August 2011, selected through three channels KVPY, IIT-JEE and Aptitude Test for the top 1% of class X and XII exams of all the State Boards, CBSE and ICSE.

The category distribution is as follows:

SC	ST	OBC	GEN	TOTAL	MALE	FEMALE	Admission Source		
							KVPY	IIT-JEE	DIRECT
15	02	28	44	89	40	49	04	09	76

Ph. D. Programme

31 students were admitted for Ph.D. Programme during the academic year 2011-12. Students admitted to the doctoral program are those qualified in anyone of the National Eligibility Tests such as GATE/CSIR-UGC JRF/ JEST.

Total student strength in 2011-12

Programme	2008-2009 admissions	2009-10 admissions	2010-11 admissions	2011-12 admissions	Total
5 Yr Integrated BS-MS	14	48	58	82	202
Ph. D	--	16	17	31	64
Total	14	64	75	113	266

Scholarship / Fellowship

As all the students admitted to the BS-MS Programme are drawn from KVPY, IIT/JEE merit list and INSPIRE scholarship eligible category of students of State Boards, CBSE and ICSE, they are awarded Fellowships of Rs 5000/- per month under KVPY or INSPIRE Programme of Department of Science & Technology, Government of India.

The PhD scholars who are JRFs/SRFs of CSIR/UGC/ICMR/DBT etc. draw fellowships and contingency according to the provisions of the granting organizations. The other qualified students admitted to PhD Program have also been given institute fellowship.

4. Research Activities

The institute has been active in frontier areas of research. The faculty members have gone ahead with research works initiated in the laboratories in the temporary campus. Several collaborative works with researchers in premier institutions in India and abroad are in progress. In addition to 11 ongoing sponsored projects, the faculty members have obtained following 6 new projects and 2 fellowships during 2011-12 from various funding agencies.

New Sponsored Projects

	Project Title	Principal Investigator	Sponsoring Agency / Amount Sanction / Duration
1	Coherent multi-detector gravitational wave search using LCGT and advanced interferometers under India-Japan S&T Co-operation	Dr. Archana Pai, School of Physics	DST - JSPS ₹5.46 lakh 2011-13
2	Gravitational Waves - Emerging Window of the Universe	Dr. Archana Pai, School of Physics	DST ₹12.24 lakh 2011-2014
3	Indo-German DST-MPG Partner Group on Cosmology and Gravity	Dr. Archana Pai, School of Physics	DST - MPG ₹37.277 lakh + Euro 60,000 2011-2014
4	Indo-German DST-MPG Partner Group on Cosmology and Gravity	Dr. S. Shankaranarayanan School of Physics	DST - MPG ₹37.277 lakh + Euro 60,000 2011-2014
5	Organic and organic-Inorganic hybrid Solar Cells: Optimisation of materials properties, Bulk Heterojunction Morphology and Device Efficiencies (OISC / Largecells)	Prof. K. George Thomas School of Chemistry	DST ₹56.44 lakh 2011-1014
6	Synthesis and physical properties of frustrated S=1/2 square lattice compounds	Dr. Ramesh Chandra Nath School of Physics	DST - SERB ₹52.84 lakh

New Fellowships

Awardee	Fellowship	Sponsoring Agency	Amount sanctioned and duration
Dr. Reji Varghese	Ramanujan Fellowship	DST, India	₹73 lakhs; 2011-2016
Dr. Nishant K.T. School of Biology	Wellcome Trust - DBT Intermediate Fellowship		₹290 Lakhs

5. Research Publications

Journal Articles

Matthias B. Lang, Carlton M. Caves and Anil Shaji, Entropic Measures of Non-Classical Correlations, *International Journal of Quantum Information* 9, 1553 (2011).

Animesh Datta and Anil Shaji, Quantum Discord and Quantum Computing - An Appraisal, *International Journal of Quantum Information* 9, 1787 (2011).

D. Jose and Ayan Datta, Role of Multicentered Bonding in Controlling Magnetic Interactions in pi-stacked bis-dithiazoyl radical, *Cryst. Grow. & Desgn.*, 11, 3137 (2011).

L. Rajith, A. K. Jissy, K. G. Kumar and Ayan Datta, A Mechanistic Study for the Facile Oxidation of Trimethoprim on Manganese Porphyrin Incorporated Glassy Carbon Electrode, *J. Phys. Chem. C*, 115, 21858 (2011).

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C. R. Gopikrishnan, D. Jose and Ayan Datta, Electronic Structure, Lattice Energies and Born Exponents for Alkali Halides from First Principles, *AIP Advances* 2, 012131 (2012).

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Katharina Kaleta, Martin Ruhmann, Oliver Theilmann, Subhendu Roy, Torsten Beweries, Perdita Arndt, Alexander Villinger, E. D. Jemmis, Axel Schulz, and Uwe Rosenthal, Experimental and Theoretical Studies of Unusual Four-Membered Metallacycles from Reactions of Group 4 Metallocene Bis(trimethylsilyl) acetylene Complexes with the Sulfur diimide $\text{Me}_3\text{SiN}=\text{S}=\text{NSiMe}_3$, *Eur. J. Inorg. Chem.* 4, 611 (2012).

Pattath Pancharatna, Musiri Balakrishnarajan, E. D. Jemmis, Roald Hoffmann, Polyhedral Borane

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Reshmi Thomas, Jatish Kumar, **R. S. Swathi** and **K. George Thomas**, Optical effects near metal nanostructures: Towards surface-enhanced spectroscopy. *Curr. Sci.* 102, 85 (2012).

Lei Feng, **J. Mitra**, P. Dawson and G. Hill, High sensitivity (1 ppm) hydrogen detection using an unconventional Pd/n-InP Schottky device, *Journal of Physics: Condens. Matter* 23, 422201 (2011).

Prasad K, Grigg SP, Barkoulas M, Yadav RK, Sanchez-Perez GF, Pinon V, Blilou I, Hofhuis HF, Dhonukshe P, Galinha C, Mähönen AP, Muller WH, Raman S, Verkleij AJ, Snel B, Reddy GV, Tsiantis M and Scheres B. Arabidopsis PLETHORA transcription factors control phyllotaxis, *Current Biology* 21:1123 (2011).

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Ma, X., Rogacheva, M.V., **Nishant, K.T.**, Zanders, S., Bustamante, C.D. and Alani, E. Mutation hotspots in yeast caused by long-range clustering of homopolymeric sequences, *Cell Reports* 1: 36 (2012).

M.P. Rajan, Volatility Estimation in Indian Stock market using Heteroscedastic Models, *Indian Journal of Finance*, 5, 26 (2011).

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Conference Proceedings

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Book Chapter

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6. Awards and Honours

The following faculty members have received awards/honours for their outstanding performance and academic standing.

Faculty	Honours/Awards
Prof. K. George Thomas School of Chemistry	A.V. Rama Rao Foundation Prize Lecture
Dr. Nishant K.T. School of Biology	Wellcome Trust - DBT Intermediate Fellowship
Dr. M.M. Shaijumon School of Physics	DAE Young Scientist Research Award
Dr. S. Shankaranarayanan S School of Physics	Buti Foundation Award
Dr. Reji Varghese School of Chemistry	Ramanujan Fellowship DST, India

7. Other Academic Activities

The faculties of the institute have participated in various national and international conferences as listed hereunder.

Conferences and Workshops Attended;

Faculty	Conference/Workshop	Venue	Date	International/ National
Dr. Ramesh Chandra Nath	German Physical Society Meeting	Berlin, Germany	March 25-30, 2012	International
Dr. Sachindranath Jayaraman	National Seminar on Algebra Analysis and Discrete Mathematics	Kerala University	February 2012	National
	International Conference on Combinatorial Matrix Theory & Generalized Inverses of Matrices	Manipal University	January 2012	International International
Dr. Reji Varghese	14th CRSI Annual Meeting	NIIST Trivandrum	February 2-5, 2012	National
	4th Inter-IISER Chemistry Meet	IISER-T'puram	December 14-16, 2011	National

Dr. K.M.Sureshan	14th CRSI annual meeting	NIIST Trivandrum	February 2-5, 2012	National
	4 th Inter IISER Chemistry Meet	IISER-Trivandrum	December 14-16, 2011	National
	26 th Carbohydrate conference	IICB Kolkata	November 23-25, 2011	National
	Mini Symposium on Chemical Biology	IISER Pune	November 14, 2011	National
	7 th JNC Research conference on chemistry of materials	Kochi, India	October 1-3, 2011	National
Dr.Tapas Manna	Annual meeting organized by American Society for Cell Biology	Denver, Colorado, U.S.A	December 2011	International
Dr. Manoj Namboothiry	Indo-US Workshop on "Frontiers of Excellence in Photovoltaic Science and Technologies" (FEPSAT)	IIT Mumbai	January 15-17 2012	International
	2nd International conference on Nanomaterials-ICN2012	Kottayam, Kerala	January 13, 2012	International
	7 th JNC Research conference on chemistry of materials	Cochin, Kerala	October 1 -3, 2011	National
Dr.Anil Shaji	Quantum discord workshop	Singapore	January 2012	International
	International school and conference on quantum information	Institute of Physics, Bhubaneshwar	December 2011	International
Dr. R. S. Swathi	JNC research conference on the Chemistry of Materials	Kochi, Kerala	October 2011	National
	14th CRSI annual meeting	NIIST Trivandrum	February 2-5, 2012	National
Prof. E. D. Jemmis	4 th Inter IISER Chemistry Meet	IISER-Trivandrum	December 14-16, 2011	National
	WATOC 2011	Sandiago de Compostella, Spain	July 17-22 2011	International
Dr. Ajay Venugopal	6th CRSI-RSC Symposium	NIIST, T'puram	February 2, 2012	National
	14th CRSI-NSC Symposium	NIIST, T'puram	February 3-5, 2012	National

Dr. Nishant K T	International conference on yeast biology	IIT Mumbai	December, 2011	International
Prof. K. George Thomas	Indo-US meeting on Nanophotonics and Nanoplasmonics	IISc Bangalore	January 2012	International
	IUSSTF Workshop on "Nanoparticle Assembly"	IIT Delhi	December 2011	International
	Indo-Japanese Joint Workshop on "Biomolecular Electronics and Organic Nanotechnology for Environment Preservation"	University of Hyogo, Japan	December 2011	International
	Meeting on Chemistry & Physics of Advanced Materials	IACS, Kolkata	October 2011	National
Dr. Ayan Datta	SimOC: Simulations in Organic Chemistry	Vigo, Spain	July 2011	International
	RNA 2012	IISc Bangalore	March 2012	National
Dr. M.M.Shaijumon	ICMAT-2011	Singapore	June 29- July2, 2011	International
Dr. Vinesh Vijayan	14th CRSI annual meeting	NIIST Trivandrum	February 2-5, 2012	National
	Indo-Swiss symposium	NCL Pune	January 23-25, 2012	National
	4 th Inter IISER Chemistry Meet	IISER-Trivandrum	December 14-16, 2011	National
Dr. Archana Pai	EGO-IndIGO Meet	IUCAA, Pune	November 1,2 2011	National
	International Conference on Gravitation and Cosmology	Goa	December 2011	International
	AstroCosmo @ Trivandrum	IISER-TVM, T'puram	November 18 2011	National
Dr.S Shankaranarayanan	International Conference on Gravitation and Cosmology		Goa 2011	December International
Dr. Rajeev N Kini	2nd International Workshop on Bismuth-containing semiconductors: Theory, Simulation and Experiment	Surrey, UK	18th-20th July 2011	International

Invited Lectures and Seminars Delivered

Faculty	Title of Lecture	Venue	Date
Prof. K. George Thomas	Sir C. V. Raman: His Life and Contributions to Science	NIIST, Trivandrum	Feb-12
	Coupled and Chiral Surface Plasmons in Metal Nanostructures	Indian Institute of Science, Bangalore	Jan-12
	Hybrid Nanostructures: Role of Interface in Light-Matter Interaction	IIT Delhi	Dec-11
	Nanohybrids as Sensors and Superstructures	University of Hyogo, Japan	Dec-11
	Plasmons and Surface Enhanced Spectroscopy	IACS, Kolkata	Oct-11
	Hybrid Nanomaterials for Sensing and Light Energy Conversion	JNCASR, Bangalore	May-11
Dr. Sunish Radhakrishnan	Unorthodox regulators of asymmetric cell division in a bacterium	Department of Biotechnology, St. Thomas College, Palai, Kerala	Mar-12
	Decoding cell fate programs and cytokinetic coupling in an asymmetric bacterium	Department of Biotechnology, Pondicherry University	Feb-12
Dr. Sachindranath Jayaraman	The nonnegative rank factorization problem	Kerala University	Feb-12
	Matrix Partial Orders and Reverse Order Laws in Infinite Inner Product Spaces	Manipal University	Jan-12
Dr. Reji Varghese	Supramolecular Polymers, Organogels, and Liquid crystals	Christ College, Irinjalakuda, Kerala	Feb-12
	Hydrogen Bonding	St. Thomas School, Trivandrum	Nov-11
Dr. M.P. Rajan	Invitation to Mathematical Finance	Marthoma College, Thiruvalla, Kerala	Mar-12
	Modern Mathematics	Christian College, Chengannur, Kerala	Jan-12
	Scope of Mathematics	St. Thomas School, Trivandrum	Oct-11

	Financial Engineering in Industry	Globeop, Mumbai	Sep-11
	The role of a Modern Mathematician-Scientist/Millionaire?	Summer Programme for KVPY Fellows, IISER TVM	Jun-11
Dr. Anil Shaji	Quantum Limited Measurements	IIST, Trivandrum	Mar-12
	Non-Classical correlations in quantum systems	National University, Singapore	Jan-12
	Structure of Physics	NIIIST, Trivandrum	Dec-11
	Entropic measures of non classical correlations	Institute of Physics, Bhubaneshwar	Dec-11
	Quantum information theory and quantum computing	Department of Computer Science, University of Kerala, Trivandrum	Nov-11
	UGC Staff College, Trivandrum	Oct-11	
	Solid state qubits: An Overview	JNC research conference on the Chemistry of Materials, Kochi	Oct-11
Dr. R.S. Swathi	Optical excitations in metal nanostructures: towards surface-enhanced spectroscopy	IACS, Kolkata	Feb-12
		Inter-IISER Chemistry Meet, IISER-TVM	Dec-11
	Theoretical chemistry using the tools of programming	St. Thomas college, Thrissur	Dec-11
	Fundamentals of molecular spectroscopy		
	The fascinating world of theoretical chemistry	Amrita Vishwa Vidyapeetham, Kollam	Nov-11
	The fascinating world of atoms and molecules	St. Thomas School, Trivandrum	Sep-11
Dr. K.M. Sureshan	Exciting world of Chemistry	KMM Govt. Women's College Kannur	Dec-11
	Drug Discovery: A chemist's Role	CECRI, Karaikudi	Dec-11
		NIIIST, Trivandrum	Jul-11
	Soft optics from Organogels	Inter-IISER Chemistry Meet, IISER-TVM, St. Mary's College, Sultan Bathery	Dec-11
			Nov-1

	Sugar-derived organogels for soft optics	JNC Research Conference on Chemistry of Materials, Cochin	Sep-11
	Chemistry: Our Life, Our Future	IICB Kolkata	Nov-11
	Revised Pharmacophore for IP ₃ R activation	St. Thomas School, Trivandrum	Nov-11
	Chemistry, the Central Science	St. Mary's College Sultan Bathery	Nov-11
	The impact of click chemistry on Modern Science	Govt. Girls High School, Payyannur	Nov-11
		SNGS Pattambi	Nov-11
		SB College, Changanacherry	Oct-11
Dr. Tapas Manna	Transfection of mammalian cells: paving the ways to study expression or suppression of genes	Dept. Of Biotechnology, University of Kerala	Mar-12
Dr. Rajeev N Kini	Recent Trends in Photonics	Cochin University of Science and Technology	Feb-12
Dr. Ayan Datta	Computational Design of Bio-Materials Based on Nucleic Acid Bases	IISc, Bangalore	Mar-12
	OrganoGold and Gold Nanoparticles: Structures and Applications	University of Vigo, Spain	Jul-11
Dr. Kalika Prasad	Control of Phyllotaxis in plants	Indian National Science Academy, Delhi	Oct-11
	Spiralling Among Plethora of Patterns: Which Alternative to Choose?	St. Thomas School, Trivandrum	Jul-11
Dr. Nishant KT	Genetic analysis of baker's yeast MSH4-MSH5 suggests the presence of a dispensable crossover buffer	IIT Mumbai	Dec-11
Dr. M. M. Shaijumon	Nanotechnology: Fundamentals and Applications	NIT Srinagar	Mar-12
	Nanoscience and our Energy Future		
	Hybrid nanostructures for Energy Storage Applications	St. Aloysius College, Mangalore	Feb-12

	Nano-architectures for micro-battery applications	Mahatma Gandhi University	Jan-12
	Nano-materials for Energy Applications	Marian Engineering College, Trivandrum	Dec-11
	Hybrid nanostructures and Applications	Kerala University	Nov-11
	3D Lithium ion Micro-batteries	Advanced Materials Corporation, Pittsburgh, USA	Jul-11
	Nanostructured materials for 3D micro-batteries	ICMAT, Singapore	Jul-11
	Templated hybrid Nano-architectures for Energy Storage Applications	ICMAT, Singapore	Jun-11
Dr. Archana Pai	Matched Filtering Technique Multi-detector GW Networks	Tezpur University	Jan-12
Dr. S. Shankaranarayanan	Entanglement entropy in all dimensions	ICGC, Goa	Dec-11
	Entanglement and Black-hole entropy: Universality in all dimensions	IIT Kharagpur	Nov-11
Dr. Sujith Vijay	Combinatorial Games	St. Thomas Residential School	Jul-11
		Summer Programme for KVPY Fellows, IISER-TVM	Jun-11
Dr. Manoj Namboothiry	Organic Photovoltaics - Nanocomposites for High Efficiency	St. Aloysius College, Mangalore	Feb-12
	Clean Energy Options and Nuclear Safety	Govt. College for Teacher Education	Feb-12
	Organic Photovoltaics	Mahatma Gandhi University	Jan-12
Dr. Vinesh Vijayan	Towards Tau-K19 fibril structure	NCL Pune	Jan-12
	NMR structural characterization of Bio-molecules	St. Michael's College, Cherthala	Jul-11

Outreach Programme

A one-day workshop titled *Astro-Cosmo @ Trivandrum* was held at the Indian Institute of Science Education and Research-Thiruvananthapuram on 18 November, 2011. The workshop helped in creating interaction of people working in Astronomy, Astrophysics and Cosmology at different academic centres in and around Trivandrum.

As part of the International Year of Mathematics celebrations, the School of Mathematics of the institute conducted a one day workshop on algebraic geometry on 12th March 2012, where eminent mathematicians lectured on different facets of the subject. 45 students, including more than 25 outstation participants, attended the workshop.

Distinguished Visitors

A number of reputed scientists and academicians from abroad and within the country have visited the Institute and given seminars, and the faculty and the students have interacted with them. The eminent visitors included:

1. Prof. S. Bhattacharya, Tata Institute of Fundamental Research, Mumbai, India
2. Prof. S. Subramanian, Research Scientist, Radiation Biology Branch, National Institute of Health, Bethesda, USA
3. Prof. Ayusman Sen, Pennsylvania State University, USA
4. Dr. A.V Rama Rao, Founder Chairman, Managing Director, Avra Laboratories Private Limited, Hyderabad, India
5. Prof. M. Vijayan, Molecular Biophysics Unit, Indian Institute of Science, Bangalore, India
6. Prof. Mukundan Thelakkat, Macromolecular Chemistry, University of Bayreuth Germany
7. Dr. Sourav Pal, Director, National Chemical Laboratory Pune
8. Prof. Anthony K Cheetham, Department of Materials Science and Metallurgy, University of Cambridge
9. Prof. P. K. Kaw, Director, Institute of Plasma Research, Gandhinagar, TBA, India
10. Prof. D. Balasubramanian, Director of Research, L V Prasad Eye Institute
11. Prof. S. R. Shetye, Director, National Institute of Oceanography, Dona Paula.
12. Prof. Goverdhan Mehta, School of Chemistry, University of Hyderabad, Hyderabad, India
13. Prof. John Kuriyan, Department of Chemistry, University of California-Berkeley
14. Prof. Ben Scheres, Utrecht University, The Netherlands
15. Dr. Suresh Das, National Institute of Interdisciplinary Science and Technology (CSIR), Trivandrum, India
16. Prof. Roger Wiegand, University of Nebraska, USA
17. Prof. Martin Bojowald, Institute for Gravitation and Cosmos, Penn State, USA
18. Prof. Gerald B Folland, University of Washington, USA
19. Prof. Sivaguru S Sritharan, Naval Post Graduate School, USA
20. Prof. Prashant V Kamat, University of Notre Dame, USA
21. Prof. E.C.G. Sudarshan, University of Texas, USA
22. Prof. S. G. Rajeev, Department of Physics and Astronomy, University of Rochester, USA
23. Prof. Sanjeev Dhurandhar, IUCAA, Pune, India

Lectures, Colloquia and Seminars

Foundation Day Lecture

The institute celebrated its third foundation day on 19th November, 2011. National Research Professor R.A. Mashelkar FRS delivered the foundation day lecture titled "Making the Impossible Possible."

Colloquia

Speaker	Institute	Title	Date
Prof. S. Bhattacharya	Tata Institute of Fundamental Research, Mumbai, India	Peeling, Cracking, Sticking and Flow: Dynamics at Soft Interfaces	30.3.2012
Prof. S. Subramanian	Research Scientist, Radiation Biology Branch, National Institute of Health, Bethesda	The Myriad Facets of Magnetic Resonance	15.2.2012
Prof. Ayusman Sen	Pennsylvania State University, USA	Fantastic Voyage: Powering Nanomachines	1.2.2012
Dr. A.V Rama Rao	Founder Chairman, Managing Director, Avra Laboratories Private Limited, Hyderabad	Scientist to Entrepreneur	20.1.2012
Prof. M. Vijayan	Molecular Biophysics Unit, Indian Institute of Science, Bangalore	Development of Structural Biology in India: A Personal Perspective	13.1.2012
Prof. Mukundan Thelakkat	Macromolecular Chemistry I University of Bayreuth Germany	Organic and hybrid photovoltaics: from materials to devices	1.11.2011
Dr. Sourav Pal	Director, National Chemical Laboratory Pune	Chemistry in shaping materials for the future	14.10.2011
Prof. Anthony K Cheetham	Department of Materials Science and Metallurgy, University of Cambridge	Recent Development in Inorganic-Organic Framework Materials	4.10.2011
Prof. P. K. Kaw	Director, Institute of Plasma Research, Gandhinagar TBA	Hymn to Agni - God of Fire : Story of mankind's search for new sources of energy.	30.9.2011
Prof. D. Balasubramanian	Director of Research, L V Prasad Eye Institute	What else can chemistry do in the 21st century?	26.9.2011
Prof. S. R. Shetye	Director, National Institute of Oceanography, Dona Paula	Impact of the North Indian Ocean and the surrounding mountains on the Indian Summer Monsoon	16.9.2011
Prof. Goverdhan Mehta	School of Chemistry, University of Hyderabad	Celebration of Chemistry for a Better Future: Lessons and Inspirations	26.08.2011

Prof. John Kuriyan	Department of Chemistry, University of California- Berkeley	Structural Mechanisms Underlying the Activity of Protein Kinases	6.8.2011
Prof. Ben Scheres	Utrecht University, The Netherlands	Non-linear regulatory networks for plant development	18.7.2011
Dr. Suresh Das	National Institute of Interdisciplinary Science and Technology (CSIR), Trivandrum	Photoresponsive Materials	1.4.2011

Seminars

Speaker	Institute	Title	Date
Dr. Y. Adithya Lakshmana	Indian Institute of Science(IISc), Bangalore	Ultrafast Raman Loss Spectroscopy (URLS): Resonance excitation effect and line width changes	30.3.2012
Prof. Mitradas Panickar	National Center for Biological Sciences, Bangalore	Approaches to understand Serotonin 2A Receptor function	30.3.2012
Dr. Prosenjit Das	Indian Institute of Space Science and Technology (IIST)	Planes of the form $b(X,Y)$ $Z^n - a(X,Y)$ over a DVR	30.3.2012
Dr. Priya Mahadevan	S.N.Bose National Centre for Basic Sciences, Kolkata	Magnetism when you least expect it	29.3.2012
Dr. Micah Leamer	Chennai Mathematical Institute	Asymptotic behavior of the dimensions of syzygy modules	29.3.2012
Dr. Padubidri Shivaprasad	Baulcombe Laboratory, Dept. of Plant Sciences University of Cambridge	RNA silencing in plant disease resistance and in genome hybridization	22.3.2012
Prof. Amiya Kumar Pani	IIT Bombay	Scientific Computing: A New Way of Looking at Mathematics	22.3.2012
Dr. Nonappa	Department of Chemistry, University of Jyväskylä, Finland	A Journey from Biomimetic Synthesis to Solid State Chemistry	21.3.2012
Prof. Roger Wiegand	University of Nebraska	Direct Sum Relations Among Finitely Generated Modules	19.3.2012

Prof. Sylvia Wiegand	University of Nebraska	Prime ideal skeletons	19.3.2012
Dr. Raman Govindarajan	Head, R&D, Sanofi-India	Building Academic and Clinical Partnerships to enable translational research in India-specific diseases	14.3.2012
Prof. S. Datta Gupta	School of Physics, University of Hyderabad	Critical coupling to anti-lasers	14.3.2012
Dr. Narayanan Raghupathy	Center for Genome Dynamics, Jackson Laboratory, USA	Understanding the Genetics of Gene Expressions Using Next-Generation Sequencing Technologies	9.3.2012
Dr. Thiruvancheril G. Gopakumar	Institute for Experimental & Applied Physics, Christian-Albrecht University, Germany	Functional Molecular Materials	7.3.2012
Dr. Natalie Hempel de Ibarra	Centre for Research in Animal Behaviour, University of Exeter, UK	Visual Ecology of Bees	2.3.2012
Prof. P N Rangarajan	Department of Biochemistry Indian Institute of Science, Bangalore	The Tale of Two Transcription Factors	1.3.2012
Dr. C.V. Ramana	National Chemical Laboratory, Pune	Molecular Complexity via Metal Catalysis: Enriching Total Synthesis with Metal Mediated Transformation	29.2.2012
Dr. V Ravi Chandra	Physics Department Technion - Israel Institute of Technology Haifa 32000, Israel	Competing interactions in magnetic systems: studies on some low dimensional spin models.	27.2.2012
Dr. P.M.Gurubasavaraj	University of Rochester, New York	Low Coordination Iron Complexes as Model Complexes for Nitrogenase and Group 4 Metal Oxide	21.2.2012
Prof. Martin Bojowald	Institute for Gravitation & Cosmos, Penn State, USA	Quantum gravity, space time structure, and cosmology	16.2.2012
Prof. Gerald B Folland	University of Washington, USA	Beyond Fourier series: Fourier transforms and Hermite functions	14.2.2012
Prof. Sivaguru S Sritharan	Naval Post Graduate School, USA	An invitation to Large Deviation Theory	13.2.2012
Dr. Turab Lookman	Los Alamos National Laboratory	Heterogeneity and Phase Transformations in Materials	10.2.2012

Prof. Dulal Panda	Biosciences and Bioengineering, IIT-Bombay	FtsZ assembly dynamics coordinates bacterial cell division	7.2.2012
Dr. Ullasa Kodandaramaiah	Dept of Zoology, University of Cambridge	From pattern to process- eyespots and sexual parasites in butterflies	7.2.2012
Dr. P.Jayadeva Bhatt	Department of Bioscience and Bioengineering, IIT Bombay	Dimorphic transition in yeast- A paradigm to understand cancer .	3.2.2012
Dr. Sanjith Das	IIT, Kharagpur	Geometric flows without and with higher order terms	2.2.2012
Dr. Jeet Kalia	National Institute of Health, Bethesda, USA	Chemistry, Biology and the Interface	27.1.2012
Dr.Tirumala Kumar Chowdary	Tufts University School of Medicine, Boston	Passing the Baton-Structure Reveals Regulatory Role of gH /gl Complex In Herpesvirus Entry	24.1.2012
Dr.Krishnaswami Raja	Department of Chemistry, University of New York	Bionanoparticle-Polymer Hybrids and Curcumin Conjugates for Biomedical Applications.	23.1.2012
Dr.Mamatha Reddy	Dana-Farber Cancer Institute, Boston, USA	Glucose Metabolism and oxidative stress in cancer	19.1.2012
Dr. Syam Anand	Dept of Microbiology and molecular genetics, University of Pittsburgh School of Medicine	Single-molecule visualization of head-on collision between polymerizing RecA and translocating PcrA on ssDNA	18.1.2012
Dr. Purusharth Rajyaguru	University of Arizona	To translate, remain silent or get destroyed: How are m RNA fate decisions made?	16.1.2012
Dr. Deepshikha Jaiswal-Nagar	Goethe University, Frankfurt	Magnetocaloric effect and magnetic cooling near a fluid - induced quantum - critical point	11.1.2012
Dr. Supurna Sinha	Raman Research Institute, Bangalore	Nonlocal photon pair Entanglement in intensity Interferometry	6.1.2012
Dr. A Thirumurugan	University of Cambridge	Material chemistry with metal organic frame work materials	6.1.2012
Dr. Samuel Joseph	RRI, Bangalore	Atom Interferometers and the gravitational redshift	5.1.2012

Prof. Prashant V Kamat	University of Notre Dame, USA	Role of metals in semiconductor assisted photocatalysis	4.1.2012
Dr. P Ajith	California Institute of Technology, USA	Interfacing analytical and numerical relativity for gravitational wave astronomy	4.1.2012
Dr. Madhu Thalakulam	Sandia National Laboratories, USA	Charge sensing spectroscopy in Si/SiGe quantum dot qubits	16.12.2011
Prof. Nobuyuki Kanda	Osaka City University, Japan	Status of new Japanese interferometric gravitational wave detector LCGT	7.12.2011
Prof. E.C.G. Sudarshan	University of Texas	Quantum Optics and Faster than Light Particles	2.12.2011
Prof. D. J. Saikia	National Center for Radio Astronomy, TIFR	The zoo of active galaxies: Seyferts, radio galaxies and quasars	22.11.2011
Dr. Pabitra B. Chatterjee	Dept. of Chemistry, Colorado State University, USA	Taking coordination chemistry into nano-confinement: An efficient model for bio-inorganic chemistry	14.11.2011
Prof. Amitabha Chattopadhyay	CCMB, Hyderabad	Role of membrane cholesterol in the organisation and function of serotonin-1A: implications in health and disease	9.11.2011
Dr. Stephen Grigg	Utrecht University, Utrecht, The Netherlands	Knowing your top from your bottom; Polarity decisions in plant development	8.11.2011
Dr. Ravi Venkatramani	Department of Chemistry, Duke University, Durham, USA	Moving Charges Through Nucleic Acid Sequences: Making Sense of Mechanisms and Rates in Dynamic Media	31.10.2011
Dr. Vandana Sharma	Max Planck Institute of Nuclear Physics, Heidelberg, Germany	Real-time observation of ultrafast electron rearrangement in molecules	24.10.2011
Dr. Saikrishnan K	Indian Institute of Science Education and Research, Pune	Structural studies of the molecular machine RecBCD	19.10.2011

Dr. Anupama	Department of Paleobiology,	Understanding plant-	29.9.2011
Krishnamurthy	Institut de Francais	pollinator relationships and reconstructing past vegetation: proxy applications of pollen	
Dr. Anil Kumar Pasupulati	University of Michigan	Novel Regulators of Growth Hormone Receptor gene expression and Growth Hormone Action	28.9.2011
Dr. S.Murti Srinivasula	National Cancer Institutes National Institutes of Health Bethesda, MD, USA	Autophagy in Host immunity	26.9.2011
Dr. M. Unnikrishnan	International Centre for Theoretical Physics, Trieste, Italy	Electronic correlations in hybrid interfaces and transition metal oxides	23.9.2011
Dr. Dinesh Topwal	BaD ELpH Beamline, Elettra Synchrotron Light Source, Trieste, Italy	Spectroscopy of self-assembled networks and nanosystems	22.9.2011
Dr. Ravi Muddashetty	Dept of Cell Biology, Emory University	Micro manipulation in neurons - microRNAs, dynamic modulators	15.9.2011
Prof. Paiké J Bhat	School of Biosciences & Bioengineering, IIT Mumbai	Galactose genetic switch of yeast: A paradigm par excellence	12.9.2011
Dr. Prasad V. Bharatam	National Institute of Pharmaceutical Education and Research, Mohali	Quantum Chemical Analysis of Drug Metabolism and Toxicity	2.9.2011
Dr. Dulal Senapati	Jackson State University, USA	Multipodal Plasmonic Nanomaterials: Growth Mechanism and their Applications	29.8.2011
Prof. S. G. Rajeev	Department of Physics and Astronomy, University of Rochester, USA	A toy model for fluid mechanics	23.8.2011
Dr. Smita Sarkar	Department of Electrical and Computer Engineering, North Carolina State University	Materials and Technologies for Energy, Electronics and beyond	22.8.2011
Dr. Govind S. Krishnaswami	Chennai Mathematical Institute	A KdV-like wave equation with some remarkable properties	22.8.2011

Dr. Akash Gulyani	Department of Pharmacology, University North Carolina of	Department of Pharmacology, University of North Carolina	19.8.2011
Dr. Sheetal Dharmatti	Institut de Mathematiques de Toulouse, France	Feedback Boundary Stabilization of Two Dimensional Navier-Stokes Equations	12.8.2011
Prof. Sanjeev Dhurandhar	IUCAA, Pune	The global search for Gravitational Waves	21.7.2011
Dr. Sabari Sankar	Institute for Genetics, University of Cologne, Germany	Genomic flux in bacteria	12.7.2011
Dr. K. G. Arun	Chennai Mathematical Institute, Chennai	Parametrized Tests of Post-Newtonian theory	12.7.2011
Dr. Nisanth N.Nair	Department of Chemistry, Indian Institute of Technology, Kanpur	Chemical Reactions in Virtual Laboratory	24.6.2011
Prof. B.V. Rajarama Bhat	Indian Statistical Institute, Bangalore	An introduction to Markov chains in Biology	6.5.2011
Dr. Cristina Cissa	Parma University Dip. Chimica GIAF	Organic chromophores for advanced applications: models and spectroscopy	6.5.2011
Dr. Siddharth Ramakrishnan	Columbia University, USA	A Window into Hormones and Development	2.5.2011
Dr. Roy Karnati	School of Life Sciences, University of Hyderabad	Ocular Surface Integrity and Homeostasis	27.4.2011
Prof. Richard J. Saykally	Department of Chemistry, University of California, Berkeley	Water Music: The Latest word on the most important substance in the Universe	25.4.2011
Dr. Kaushal Verma	Department of Mathematics, Indian Institute of Science	Smooth and Real Analytic Functions	18.4.2011

8. Facilities

Laboratory

The Institute has augmented the research infrastructure during financial year 2011-2012 by adding the following new equipment:

Gamma ray spectrometer and GM Counter, UV Transilluminator, Refrigerated Shaker Incubator, High Speed Vacuum Concentrator, Bath Sonicator, Thermoscientific Provision High Performance mechanical convection incubator, dual platform gel rocker, Lyophiliser, Julabo water bath, Trinocular Stereo zoom microscope, Autoclave SX700, TOMY, Bio safety Cabinet Class II Type A2, Accublock digital dry bath, High Speed Vacuum Concentrator, Eppendorf minispin, mixmate and microcentrifuge.

Library

Institute library is growing fast to meet academic and research needs of the IISER community. Library adopts state of the art technologies to facilitate access to online and print resources to its users. Major international journals and online resources in Physics, Chemistry, Biology, Mathematics, and interdisciplinary areas have been subscribed. Library possesses more than 5,200 books, 10,000 e-Books, over 4,200 e-journals, 1700 standards, and 15,700 conference proceedings.

The library's extensive online collection includes full-text e-journal databases, journal archives, books, bibliographic and review databases, standards which are useful for the academic and research activities of the IISER community. Full-text e-journals, Archives, and e-books that include the publications of more than 40 international societies, institutes and scientific publishers. e-Books from Cambridge University Press have been added this year.

Library has memberships/affiliations in national bodies like Indian National Digital Library in Engineering, Science and Technology (INDEST) Consortium established by the Ministry of HRD, & INFONET Consortium established by the University Grants Commission (UGC).

Institute is also part of the IISER Library Consortium, constituted jointly by all IISERs. E-Journals Archives from Annual Reviews, Institute of Physics, Nature, Oxford University Press, Royal Society of Chemistry, Springer were also made available through the consortium during 2011-12. Institute library hosted 3rd 'IISER Librarians Meet' under the umbrella of IISER Library Consortium on 13th June 2011.

Shri. Sainul Abideen P., Assistant Librarian, was a resource person in three training programmes/workshops on Library and Information Science organized by academic and government institutions.

Computing and Networking Facility

The institute has a gigabit fiber and ethernet based data network in the transit campus. Internet connectivity is through a 100 Mbps line provided as part of the National Knowledge Network (NKN). This will be upgraded to 1 Gbps soon. Additional bandwidth through a BSNL leased line is also available. 2 Mbps leased line connectivity was established via BSNL to the permanent campus site also during 2011-12.

The institute has a computer lab with 50 workstations, three computational clusters and several servers providing instructional and research support including Moodle course management suite,

DNS, DHCP, NFS and other services. The IT personnel of the institute provide both hardware and software support to the faculty, students and staff in addition to making computational software like GAUSSIAN, MATLAB, QCHEM etc. available for use.

Since August 2011, the institute has a fully functional virtual classroom funded by the NKN project. The classroom has been in use for over two semesters facilitating the exchange of at least two courses each semester between IISER Thiruvananthapuram, IISER Pune and TIFR Center for Applicable Mathematics in Bengaluru as well as allowing for the streaming of research talks and colloquia from the premier institutes in the country. The virtual classroom facility also allows for the recording and storage of lectures and seminars organized by the institute.

Hostels

In the fourth year of the establishment of the Institute, two additional buildings in the vicinity of the present campus were taken on rent for housing the increasing number of students of the 5 year integrated BS-MS dual degree and Ph.D. Programme. In all, 8 buildings hired on rent were used as Hostels.

9. Sports and Cultural Activities

Sports

The institute's Annual Sports Fest, ITSAV was held on 10th and 11th September, 2011. With each year, ITSAV has become a bigger event in the Annual Calendar of IISER-Trivandrum with more participation and more intense competition as a natural result. Events included athletics, badminton, cricket, football, table tennis, throw ball, badminton and volleyball. The events were held in the transit campus using the facilities of the College of Engineering (CET). Apart from the Sports day activities, IISER-TVM students regularly play friendly matches (Football and Cricket) with IIST-Trivandrum, CET Trivandrum and other local colleges.

Cultural Activities

The cultural club of the institute organized various events throughout the academic year. Onam was celebrated on 18th September 2011 with various cultural programs like traditional "pulikali" and "thiruvathira" dances, followed by the Sadya, a traditional feast and games in the afternoon, culminating in Vadamvalli (Tug-of-war).

Hindi Diwas as celebrated on 14th Septemeber 2011. Faculty members and staff participated in Panel discussion and Speech in Hindi followed by Hindi poem and songs by students.

Diwali was celebrated on 26th October 2011 with cultural programs and Rangoli competition.

IISER-TVM students participated in cultural festivals at other institutions including IIST, IISER-Pune and CET. IISER-TVM students came in 1st and 3rd positions in "Devil's advocate" and "Technology quiz" respectively in IISER-Pune cultural festival MIMAMSA.

The students' science club organised Science festival, Anvesha 2012 on 18th February 2012. The science club also organized quiz and crossword competition for students.

Santoor recital by Pt. Tarun Bhattacharya accompanied by Shri Pradyut Mukherjee on Tabla, was organised jointly by IISER-TVM and SPICAMACY on 17th February 2012.

Independence Day and Republic Day were celebrated with the national flag hoisting and patriotic songs.

Institute's cultural festival, Ishya, was held on the 23th, 24th and 25th of March 2011. Various events including literary and creative writing, debate, quiz, drawing, painting and photography were conducted with full participation from the student body. Ishya 2012 culminated on the 25th evening with stage performances by students - dances, dramas, songs etc.

10. Permanent and Transit Campus

Permanent Campus

The institute's fully residential permanent campus is under construction in 200 acres of land made available by Government of Kerala at Vithura Panchayat in Nedumangad Taluk about 40 km from Thiruvananthapuram. The campus is located on the southern slope of the 'Kottamala' hill and borders the reserve forest and private plantations. The master plan has been prepared taking maximum advantage of the hilly terrain and maintains maximum topographical features with suitable provision for future expansion. The campus is being developed taking into account the 'Green building' concepts to achieve four star rating as per GRIHA (Green Rating for Integrated Habitat Assessment) norms so as to minimize the demand on non-renewable resources and maximize the utilization efficiency of these resources when in use by incorporating suitable design for energy conservation, rain water harvesting, waste water recycling, solar power systems etc. The campus development is being planned with minimum foot print and retaining maximum green cover.

The total built-up area of the campus master plan is 1,17,000 Sq.m. The major facilities provided in the master plan include Academic Complex, Hostel Blocks, Residence Blocks, Recreation & Utilities and Engineering Services.

The construction of the campus is being undertaken in two phases. Construction of the first phase for a built-up area of about 65,000 Sq.m commenced in March 2011 and is expected to be completed by March 2013. Planning for the remaining area is in progress.

Transit Campus

To accommodate the growing academic and research activities of the institute, the essential additions of facilities for class-rooms, research and teaching labs and the offices in the transit campus in the College of Engineering, Trivandrum (CET) and several hired premises for hostels have been made. One 380 KVA DG set and a 400 KVA Transformer were installed to meet the uninterrupted power requirements of research labs operating in the Transit Campus. A Prefabricated structure was erected for a built-up area of about 400 sq.m which is in use as Laboratory and Class room and a few office cabins.

11. Statement of Accounts

The Annual Statement of Accounts of IISER, Thiruvananthapuram for the year 2011-12 consists of:

Balance Sheet with schedules forming part of Balance Sheet;

Income and Expenditure Account with supporting Schedules; and

Receipt and Payment Account

A Grant-in-Aid of ₹40.00 Crore was sanctioned by the Ministry of Human Resource Development, Government of India.

Income from Annual Fees & Others for the year is ₹0.43 Crore.

Total Expenditure of the institute during the year 2011-12 is ₹48.91 Crore as under:

Expenditure on Salary	-	₹ 2.87 Crore
Non-Salary expenditure	-	₹ 4.95 Crore
Other Administrative expenses	-	₹ 5.13 Crore
Capital expenditure	-	₹ 35.96 Crore

Separate Audit Report of the Comptroller & Auditor General of India on the accounts of the Indian Institute of Science Education and Research, Thiruvananthapuram for the year ended 31st March 2012

(Letter No.OA/AB/7-IV/SAR/IISER/12-13/246, dated 22nd October 2012)

1. We have audited the attached Balance Sheet of Indian Institute of Science Education and Research, Thiruvananthapuram as at 31 March 2012 and the Income & Expenditure Account/ Receipts & Payment Account for the year ended on that date under Section 20(1) of the Comptroller & Auditor General's (Duties, Powers & Conditions of Service) Act, 1971. The audit has been entrusted for the period upto 2012 - 2013. These financial statements are the responsibility of the Institute's management. Our responsibility is to express an opinion on these financial statements based on our audit.
2. This Separate Audit Report contains the comments of the Comptroller & Auditor General of India (CAG) on the accounting treatment only with regard to classification, conformity with the best accounting practices, accounting standards and disclosure norms, etc. Audit observations on financial transactions with regard to compliance with the Law, Rules & Regulations (Propriety and Regularity) and efficiency -cum - performance aspects, etc., if any, are reported through Inspection Reports /CAG's Audit Reports separately.
3. We have conducted our audit in accordance with auditing standards generally accepted in India. These standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatements. An audit includes examining, on a test basis, evidences supporting the amounts and disclosure in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of financial statements. We believe that our audit provides a reasonable basis for our opinion.
4. Based on our audit, we report that:
 - i We have obtained all the information and explanations , which to the best of our knowledge and belief were necessary for the purpose of our audit:
 - ii The Balance Sheet, Income & Expenditure Account and Receipt & Payment Account dealt with by this report have been drawn up in the format approved by the Ministry of Finance, Government of India .
 - iii In our opinion, proper books of accounts and other relevant records have been maintained by the Indian Institute of Science Education and Research, Thiruvananthapuram as required under Regulation 16.1 forming part of Memorandum of Association of the Institute in so far as it appears from our examination of such books.
 - iv We further report that :
 - A. Balance Sheet
 - A.1 Liabilities
 - A.1.1 Current Liabilities and Provisions: ₹4.14 crore

EMD and Caution Deposit

This is overstated by ₹5.28 lakh due to inclusion of Caution Deposit from students for Mess. Since Mess is run on students' money and not out of Government grants, this should not have been included in Institute's accounts. This resulted in overstatement of Current Assets to the same extent.

A.2 Current Assets, Loans and Advances - ₹71.96 crore

A.2.1 Loans, Advances and Other Assets - ₹53.76 crore

This is overstated by ₹3.74 lakh and Fixed Assets understated by ₹3.18 lakh (excluding amount of depreciation ₹0.56 lakh) due to inclusion of the final payments made for the purchase of electrical and electronic components amounting to ₹3.74 lakh under 'Loans and Advances', as the articles were received and taken into stock in August 2011. Expenditure for the year has been understated by ₹0.56 lakh due to non-inclusion of depreciation on Fixed Assets with corresponding understatement of Excess of Expenditure over Income.

B. Income and Expenditure

B.1 Income

B.1.1 Other income (Schedule 18) - ₹51.17 lakh

This is overstated by ₹11.90 lakh and Current Liabilities understated by the same amount due to inclusion of hostel mess charges and fee collected from students of the Institute under Miscellaneous Income. Consequently, the Excess of Expenditure over Income for the year is understated by ₹11.90 lakh.

B.2 Expenditure

B.2.1 Other Administrative Expenses (Schedule 21): ₹5.13 crore

This is overstated by ₹22.09 lakh due to inclusion of Mess provision for students in the Institute's account instead of maintaining a separate account for Mess with corresponding understatement of Current Assets, Loans and Advances. Consequently, the Excess of Expenditure over Income is overstated by ₹22.09 lakh.

C. Grants in aid

Out of the grants in aid of ₹102.89 crore (including ₹62.89 crore brought forward from previous year) received during the year, the organization could utilize a sum of ₹47.16 crore (on fixed assets ₹35.96 crore and Revenue Expenditure ₹11.20 crore) leaving a balance of ₹55.73 crore as unutilized grant as on 31 March 2012.

D. Management letter

Deficiencies which have not been included in the Audit Report have been brought to the notice of the Director, Indian Institute of Science Education and Research, Thiruvananthapuram through a management letter issued separately for remedial / corrective action.

- v. Subject to our observations in the preceding paragraphs, we report that the Balance Sheet, Income & Expenditure Account and Receipt & Payment Account dealt with by this report are in agreement with the books of accounts.
- vi. In our opinion and to the best of our information and according to the explanations given to us, the said financial statements read together with the Accounting Policies and Notes on Accounts, and subject to the significant matters stated above and other matters mentioned in Annexure to this Audit Report give a true and fair view in conformity with accounting principles generally accepted in India.
 - a. In so far as it relates to the Balance Sheet, of the state of affairs of the Indian Institute of Science Education and Research, Thiruvananthapuram as at 31 March 2012; and
 - b. In so far as it relates to Income & Expenditure Account of the deficit for the year ended on that date.

For and on behalf of the C and AG of India.

Sd/-

Director General of Audit (Central)

Place : Chennai

Date : 22 October 2012

Annexure

1. Adequacy of Internal Audit System

There is no internal audit system in the Institute.

2. Adequacy of Internal Control System

The Institute has not so far prepared an Accounting Manual

3. System of Physical Verification of Assets

The Institute had purchased fixed assets amounting to ₹23.89 crore for the year 2011-12. But these items were not taken in the fixed asset register. It has not maintained and updated fixed assets register indicating the location wise details of assets held. So, effectively physical verification of assets was not carried out.

4. System of Physical Verification of Inventory

There is no system of Physical verification of Inventory. The institute has not maintained the Central Stock Register for consumable and chemicals. So receipt, issue, consumption and balance of consumables / chemicals were not available.

5. Regularity in payment of statutory dues

The institute is regular in payment of Statutory dues.

Sd/-

Deputy Director (DT)-II

Action taken notes to the Separate Audit Report of the Comptroller and Auditor General of India on the Accounts of the Indian Institute of Science Education and Research, Thiruvananthapuram for the year ended 31st March 2012

Para 1 to 3 Introductory	-	No comments
Para 4 i to iii	-	No comments
Para 4 iv A	-	Balance Sheet
	A.1	Current Liabilities and provisions (Sch.7) EMD and Caution Deposit
Necessary rectification entry made in the books of accounts during the year 2012-13		
	A.2	Current Assets, Loans and Advances Loans , Advances and Other Assets ₹53.76 Crore Noted. Rectification has been carried out during the year 2012-13
Para 4 iv B		Income and Expenditure
	B.1	Other income (Schedule 18) ₹51.17 lakh Noted
	B.2.1	Other Administrative Expenses (Schedule 21) ₹5.13 Crore Noted. Separate Bank account for Mess has been opened.
Para 4 iv C		Grants-in-aid The facts and figures are confirmed.
Para 4 iv D		Management Letter Remedial / corrective actions have been taken for the deficiencies pointed out by the Audit.
Para 4 v	& vi	- No comments

Annexure

1. Adequacy of Internal Audit System
Noted
2. Adequacy of Internal Control System
Accounts Manual is being prepared.
3. System of Physical Verification of Assets
Noted for compliance. Appropriate action is being taken during the year 2012-13.
4. System of Physical Verification of Inventory
Noted
5. Regularity in payment of statutory dues
No Comments

INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH
THIRUVANANTHAPURAM

BALANCE SHEET AS AT 31ST MARCH 2012

CORPUS/ CAPITAL FUND AND LIABILITIES	Schedule	Amount in ₹	
		Current Year 2011-12	Previous Year 2010-11
CORPUS/CAPITAL FUND	01	69,67,73,916	34,41,06,025
RESERVES AND SURPLUS			
EARMARKED/ ENDOWMENT FUNDS			
SECURED LOANS AND BORROWINGS			
UNSECURED LOANS AND BORROWINGS			
DEFERRED CREDIT LIABILITIES			
CURRENT LIABILITIES AND PROVISIONS	07	4,13,61,235	2,39,27,078
UNSPENT BALANCE OF GRANT	26	55,79,05,700	63,14,99,915
UNSPENT BALANCE OF EXTERNAL PROJECTS	27	2,18,36,507	68,45,742
TOTAL		1,31,78,77,358	1,00,63,78,760
ASSETS			
FIXED ASSETS	08	59,83,24,928	33,11,57,022
INVESTMENTS-FROM EARMARKED/ENDOWMENT FUNDS			
INVESTMENTS-OTHERS			
CURRENT ASSETS, LOANS, ADVANCES ETC.	11	71,95,52,430	67,52,21,738
MISCELLANEOUS EXPENDITURE (to the extent not written off or adjusted)			
TOTAL		1,31,78,77,358	1,00,63,78,760
SIGNIFICANT ACCOUNTING POLICIES	24		
CONTINGENT LIABILITIES AND NOTES ON ACCOUNTS	25		

Sd/-
B.V.RAMESH
ASST. REGISTRAR (F&A)

Sd/-
P.N.MOHANAN
CONSULTANT (F&A)

Sd/-
BHARAT JYOTI
REGISTRAR

Sd/-
PROF. E.D.JEMMIS
DIRECTOR

INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH THIRUVANANTHAPURAM

INCOME AND EXPENDITURE ACCOUNT FOR THE PERIOD/YEAR ENDED 31.03.2012

	Schedule	Amount in ₹	
		Current Year	Previous Year
I N C O M E			
Income from Sales / Services			
Grants/Subsidies	13	12,94,48,273	12,73,66,136
Fees/Subscriptions	14	43,03,100	22,55,600
Income form Investments (Income on Invest. from earmarked/endowment funds transferred to Funds)			
Income from Royalty, Publication etc.	16		72,867
Interest Earned	17	3,78,19,248	83,15,567
Other Income	18	51,17,510	40,64,410
Depreciation Written Back			
Prior Period income		3,82,60,127	8,100
Increase/(decrease) in stock of Finished goods an works-in-progress			
TOTAL (A)		21,49,48,258	14,20,82,680
E X P E N D I T U R E			
Establishment Expenses	20	7,81,54,850	4,86,75,057
Other Administrative Expenses etc.	21	5,12,93,423	8,50,92,056
Expenditure on Grants, Subsidies etc.			
Interest			
Project Expenses	28		
Depreciation (Net Total at the year-end- corresponding to Schedule8)		9,23,82,138	6,67,50,525
TOTAL (B)		22,18,30,411	20,05,17,638
Balance being excess of Income over Expenditure (A-B)		-68,82,153	-5,84,34,958
Transfer to Special Reserve (Specify each)			
Transfer to/ from General Reserve			
BALANCE BEING SURPLUS/(DEFICIT) CARRIED TO CORPUS / CAPITAL FUND		-68,82,153	-5,84,34,958
SIGNIFICANT ACCOUNTING POLICIES	24		

For and on behalf of BOG

Sd/-
B.V.RAMESH
ASST. REGISTRAR (F&A)

Sd/-
P.N.MOHANAN
CONSULTANT (F&A)

Sd/-
BHARAT JYOTI
REGISTRAR

Sd/-
PROF. E.D.JEMMIS
DIRECTOR

INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH
THIRUVANANTHAPURAM

RECEIPTS AND PAYMENTS FOR THE PERIOD/YEAR ENDED 31.03.2012



RECEIPTS	Amount in Rupees		PAYMENTS	Amount in Rupees	
	CURRENT YEAR	PREVIOUS YEAR		CURRENT YEAR	PREVIOUS YEAR
I. Opening Balance			I. Expenses		
a) Cash in hand	66,212	1,44,345	a) Establishment Expenses		
b) Bank Balances			Corresponding to Sch.20	7,86,74,163	3,80,12,139
i) In current accounts			b) Administrative Expenses		
Canara Bank	19,87,259	1,23,33,398	Corresponding to Sch.21	5,43,40,397	13,42,00,025
Flexi Accounts		8,85,00,000			
ii) In deposit accounts	15,16,90,957	3,55,000			
iii) Savings accounts	44,07,78,853				
a) SB Travancore	71,44,206	35,84,901			
b) Canara Bank Project A/c	73,95,171	17,14,259			
II. Grants Received			II. Payments made against Funds		
a) From Govt. of India	11,54,00,000	90,00,00,000	for various projects	1,81,84,847	44,80,030
b) From State Government					
c) From other sources					
(details)					
DST	1,08,00,000	50,00,000			
CSIR	28,76,102	15,42,176			
KVPY	15,21,000	11,95,000			
UGC	2,07,000	8,03,110			
External Projects incldg.Int.	3,31,75,612	1,01,60,942			

RECEIPTS	Amount in Rupees		PAYMENTS	Amount in Rupees	
	CURRENT YEAR	PREVIOUS YEAR		CURRENT YEAR	PREVIOUS YEAR
III. Income on Investments from			III. Investments and deposits made		
a) Earmarked/Endow. Funds			a) Out of Earmarked/ Endowment funds		
b) Own Funds ()th. Investment)			b) Out of Own Funds (Investments-Others)		
IV. Interest Received			IV. Expenditure on Fixed Assets &Capital		
a) On Bank deposits	2,20,11,361	62,71,133	Work-in-Progress		
b) Loans. Advances etc.			a) Purchase of Fixed Assets		
V. Other Income (Specify)	99,34,793	43,19,211	b) Expenditure on Capital Work-in-Progress	33,95,90,868	24,22,44,308
VI. Amount Borrowed			V. Refund of surplus money/Loans		
VII. Any other receipts	11,02,926	10,77,742	a) To the Government of India		
			b) To the State Government		
			c) To other providers of funds		
			VI. Finance Charges (Interest)		
			VII. Other Payments	13,33,88,150	90,02,057
			VIII. Closing Balances		
			a) Cash in hand		66,212
			b) Bank Balances		
			i) In current accounts		
			Canara Bank Account	1,54,06,118	19,87,259
			ii) In Deposit /		
			Saving Accounts		
			a) With SBT	51,96,528	81,31,614
			b) With Canara Bank	14,12,40,598	59,14,82,402
			c) Canara Bank		
			Project A/c	2,00,69,783	73,95,171
	80,60,91,452	1,03,70,01,217		80,60,91,452	1,03,70,01,217

INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH THIRUVANANTHAPURAM

SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.03.2012

SCHEDULE 1- CORPUS/CAPITAL FUND:	(Amount-₹)			
	Current Year		Previous Year	
Balance as at the beginning of the year		3,44,106,025		23,46,77,281
(+) Add: Contributions towards Corpus/Capital Fund				
Amount utilised for acquiring capital asset	35,95,50,044		24,61,54,184	
Amount Committed for Lab Equipment and Library Books	35,95,50,044		24,61,54,184	
(-) Less: Depreciation provided for the above mentioned item written back				
(-) Less: WDV of Fixed Assets acquired out of Project Grants in the previous year			7,33,881	
(-) Less: Interest acquired from Project grant in the previous year			44,085	
(-) Amount Committed for Lab Equipment & Library Books in the Previous Year			7,75,12,516	7,82,90,482
Add/(Deduct): Balance of Net income/ (expenditure)	-68,82,153		-5,84,34,958	
Transferred from the Income and Expenditure Account				
BALANCE AT THE YEAR-END		69,67,73,916		34,41,06,025

SCHEDULE 7- CURRENT LIABILITIES AND PROVISIONS

	Current Year	Previous Year
A. CURRENT LIABILITIES		
1. Acceptances		
2. Sundry Creditors:		
a) For Goods		
b) Others	1,74,97,498	2,16,24,596
3. Advances Received		
4. Interest accrued but not due on:		
a) Secured Loans/borrowings		
b) Unsecured Loans/borrowings		
5. Statutory Liabilities:		
a) Overdue		
b) Others	46,10,811	4,77,200
6. Other current Liabilities	1,92,52,926	18,25,282
Total (A)	4,13,61,235	2,39,27,078
	-----	-----
B. PROVISIONS		
1. For Taxation		
2. Gratuity		
3. Superannuation/Pension		
4. Accumulated Leave Encashment		
5. Trade Warranties/Claims		
6. Others (Specify)		
Total (B)		
	-----	-----
Total (A+B)	4,13,61,235	2,39,27,078
	=====	=====

INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH THIRUVANANTHAPURAM

SCHE DULES FORMING PART OF BALANCE SHEET AS AT 31.03.2012



SCHEDULE 8- FIXED ASSETS of MAIN ACCOUNT													
DESCRIPTION	GROSS BLOCK						DEPRECIATION				NET BLOCK		
	Cost/valuation As at beginning of the year	Additions during the year		Total Additions	Deductions during the year	Cost/ valuation at the Year-end	Rate of Depreciation	As at the beginning of the year	On Additions During The year	On Deductions During the year	Total up to the year-end	As at the current year-end	As at the previous year-end
		Before 1.10.2011	After 30.09.2011										
FIXED ASSETS:													
LAND:													
a) Freehold													
Land obtained from Govt.	1				1							1	1
Vithura	930,506	24,000		24,000	954,506							954,506	930,506
b) Leasehold													
BUILDINGS:													
a) On Freehold Land											0	0	
Vithura	21,310,796	9,800,014	23,472,044	33,272,058	54,582,854	10%	3,473,577	3,937,326		7,410,903	47,171,951	17,837,219	
CET Campus (Trans)	14,606,077		388,085	388,085	14,994,162	10%	2,157,262	1,264,286		3,421,548	11,572,614	12,448,815	
b) On Leasehold Land													
c) Ownership Flats/Premises													
d) Superstructures on Land not belonging to the entity													
GENERATOR SET	1,218,323	18,961	3,759,258	3,778,219	4,996,542	15%	394,650	408,339		802,989	4,193,553	823,673	
ELECTRIC INSTALLATIONS	7,706,429	1,945,555	672,852	2,618,407	10,324,836	10%	1,020,322	896,809		1,917,131	8,407,705	6,686,107	
INTERIOR FURNISHING	660,307		47,525	47,525	707,832	10%	107,252	57,682		164,934	542,898	553,055	
FURNITURE, FIXTURES,	15,059,871	1,023,277	2,642,668	3,665,945	18,725,816	10%	2,215,157	1,518,933		3,734,090	14,991,726	12,844,714	
LAB FIXTURES	1,608,572	11,713	6,601,351	6,613,064	8,221,636	10%	372,013	454,895		826,908	7,394,728	1,236,559	
LAB EQUIPMENT	211,998,518	26,956,695	108,121,718	135,078,413	203,206	15%	26,464,612	39,952,238		66,416,850	280,456,875	185,533,906	
TUTORIAL EQUIPMENTS	186,551	114,538	24,222	138,760	325,311	15%	39,288	41,087		80,375	244,936	147,263	
OTHER EQUIPMENTS	6,886,448	875,042	896,395	1,771,437	8,657,885	15%	1,283,255	1,038,965		2,322,220	6,335,665	5,603,193	
HOSTEL KITCHEN EQUIPMENTS	325,694	242,221		242,221	567,915	15%	112,025	68,384		180,409	387,506	213,669	
LIBRARY BOOKS	12,720,187	719,192	806,873	1,526,065	14,246,252	60%	8,689,135	3,092,208		11,781,343	2,464,909	4,031,052	
LIBRARY JOURNALS	68,470,135	804,742	39,853,574	40,658,316	109,128,451	60%	38,997,404	30,122,556		69,119,960	40,008,491	29,472,731	
COMPUTER/PERIPHERALS	26,485,162	5,004,547	4,100,606	9,105,153	35,590,315	60%	17,776,425	9,458,152		27,234,577	8,355,738	8,708,737	
VEHICLES - MOTOR CAR	701,044				701,044	15%	232,527	70,278		302,805	398,239	468,517	
TOTAL OF CURRENT YEAR	390,874,621	47,540,497	191,387,171	238,927,668	203,206	629,599,083				195,717,042.00	433,882,041.00	287,539,717.00	
CAPITAL WORK-IN PROGRESS											164,442,887	43,617,305	
TOTAL											598,324,928	331,157,022	
Date to be given as to cost of assets on hire purchase basis included above													

INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH THIRUVANANTHAPURAM

SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.03.2012 SCHEDULE 11- CURRENT ASSETS, LOANS, ADVANCES ETC.

	(Amount ₹)	
	Current Year	Previous Year
A. CURRENT ASSETS:		
1. Inventories:		
a) Stores and Spares		
b) Loose Tools		
c) Stock-in-trade		
Finished Goods		
Work-in-progress		
Raw Materials		
2. Sundry Debtors:		
a) Debts Outstanding for a period exceeding six months		
b) Others		
3. Cash balances in hand (including cheques/drafts and imprest)		66,212
4. Bank Balances:		
Main A/c		
a) With Scheduled Banks:		
- On Current Accounts	1,54,06,118	19,87,259
- On Deposit Accounts (includes margin money) & SB Account	14,64,37,126	59,96,17,027
b) With non-Scheduled Banks:		
- On Current Accounts		
- On Deposit Accounts		
- On Savings Accounts		
Project A/c		
a) With Scheduled Banks:		
- On Current Accounts		
- On Deposit Accounts (includes margin money)		
- On Savings Accounts	2,00,69,783	73,95,171

	(Amount ₹)	
	Current Year	Previous Year
<ul style="list-style-type: none"> b) With non-Scheduled Banks: <ul style="list-style-type: none"> - On Current Accounts - On Deposit Accounts - On Savings Accounts 		
5. Post Office- Savings Accounts		
	-----	-----
	18,19,13,027	60,90,65,669
	-----	-----
B. LOANS, ADVANCES AND OTHER ASSETS		
1. Loans:		
a) Staff (Motor Car Advance)	2,46,436	1,80,000
b) Other Entities engaged in activities/ objectives similar to that of the Entity		
c) Other (specify)		
2. Advances and other amounts recoverable in cash or in kind or for value to be received		
a) On Capital Account		
b) Prepayments	9,83,83,072	6,04,30,519
c) Others	10,80,57,180	3,35,050
3. Income Accrued:		
a) On Investments from Earmarked/ Endowment Funds		
b) On Investments-Others		
c) On Loans and Advances		
d) Others	1,85,89,821	27,81,934
(includes income due unrealized-Rs.....)		
4. Claims Receivable	31,23,62,894	24,28,566
TOTAL (B)	53,76,39,403	6,61,56,069
	-----	-----
TOTAL (A+B)	71,95,52,430	67,52,21,738
	=====	=====

INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH
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SCHEDULES FORMING PART OF INCOME AND
EXPENDITURE ACCOUNT FOR THE PERIOD/YEAR ENDED 31.03.2012

SCHEDULE 13 - GRANTS / SUBSIDIES
(Irrevocable Grants & Subsidies Received)

					Current Year		Previous Year	
1)	Central Government							
	Revenue Grant							
	Main A/c							
	Opening Unspent Grant				63,14,99,915		1,89,67,433	
	Add: Grant Received during the year							
	MHRD				40,00,00,000		90,00,00,000	
	(Rupees in Crore)							
		Gen	SC	ST	Total			
	Revenue	7.92	2.38	1.24	11.54			
	Capital	22.07	4.26	2.13	28.46			
		29.99	6.64	3.37	40.00			
	DST				1,08,00,000		50,00,000	
	CSIR				28,76,102		15,42,176	
	KVPY				15,21,000		11,95,000	
	UGC				2,07,000		8,03,110	
						1,04,69,04,017		92,75,07,719
	Less: Capital Expenses Incurred during the year- MHRD				35,95,50,044		24,61,54,184	
						68,73,53,973		68,13,53,535

	Current Year		Previous Year	
Less: Closing Unspent balance of grant	55,79,05,700		63,14,99,915	
			4,98,53,620	
Add: Amount committed for Lab Eqpt. & Lib. Books			7,75,12,516	
		12,94,48,273		12,73,66,136
PROJECT ACCOUNT				
Grant Received during the year				
Less: Capital Expenses Incurred				
during the year				
Less: Closing Unspent balance of grant				
2) State Government(s)				
3) Government Agencies				
4) Institutions/Welfare Bodies				
5) International Organisations				
6) Others (Specify)				
TOTAL		12,94,48,273		12,73,66,136

**INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH
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**SCHEDULES FORMING PART OF INCOME AND EXPENDITURE ACCOUNT
FOR THE PERIOD/YEAR ENDED 31.03.2012**

SCHEDULE 14- FEES/SUBSCRIPTIONS

	(Amount ₹)	
	Current Year	Previous Year
1) Onetime Fees	84,000	57,200
2) Annual Fees/Subscriptions	42,19,100	21,98,400
3) Seminar/Program Fees		
4) Consultancy Fees		
5) Others (Specify)		
	-----	-----
TOTAL	43,03,100	22,55,600
	=====	=====

INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH
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**SCHEDULES FORMING PART OF INCOME AND EXPENDITURE ACCOUNT
FOR THE PERIOD/YEAR ENDED 31.03.2012**

SCHEDULE 16- INCOME FROM ROYALTY, PUBLICATION ETC.

	(Amount ₹)	
	Current Year	Previous Year
1) Income from Royalty- Royalty for River Sand	--	72,867
2) Income from Publications		
3) Others (specify)		
	-----	-----
TOTAL	--	72,867
	=====	=====

INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH
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SCHEDULES FORMING PART OF INCOME AND EXPENDITURE ACCOUNT
FOR THE PERIOD/YEAR ENDED 31.03.2012

SCHEDULE - 17 INTEREST EARNED

	(Amount ₹)	
	Current Year	Previous Year
Main A/c		
1) On Term Deposits:		
a) With Scheduled Banks	3,67,78,932	82,37,417
b) With Non-Scheduled Banks		
c) With Institutions		
d) Others		
2) On Savings Accounts:		
a) With Scheduled Banks	10,40,316	78,150
b) With Non-Scheduled Banks		
c) With Institutions		
d) Others		
3) On Loans:		
a) Employees/Staff		
b) Others		
4) Interest on Debtors and Other Receivables		
Project A/c		
1) On Term Deposits:		
a) With Scheduled Banks		
b) With Non-Scheduled Banks		
c) With Institutions		
d) Others		
2) On Savings Accounts:		
a) With Scheduled Banks		
b) With Non-Scheduled Banks		
c) With Institutions		
d) Others		
3) On Loans:		
a) Employees/Staff		
b) Others		
4) Interest on Debtors and Other Receivables		
TOTAL	----- 3,78,19,248 =====	----- 83,15,567 =====

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SCHEDULES FORMING PART OF INCOME AND EXPENDITURE ACCOUNT
FOR THE PERIOD/YEAR ENDED 31.03.2012

SCHEDULE 18- OTHER INCOME

	(Amount ₹)	
	Current Year	Previous Year
1) Profit on Sale/disposal of Assets:		
a) Owned assets		
b) Assets acquired out of grants, or received free of cost		
2) Export Incentives realized		
3) Fees for Miscellaneous Services		
4) Miscellaneous Income	51,17,510	40,64,410
	-----	-----
TOTAL	51,17,510	40,64,410
	=====	=====

SCHEDULE 20 ESTABLISHMENT EXPENSES

	(Amount ₹)	
	Current Year	Previous Year
a) Salaries and Wages	7,81,54,850	4,86,75,057
b) Allowances and Bonus		
c) Contribution to Provident Fund		
d) Contribution to Other Fund (specify)		
e) Staff Welfare Expenses		
f) Expenses on Employees Retirement and Terminal Benefits		
g) Others (specify)		
	-----	-----
TOTAL	7,81,54,850	4,86,75,057
	=====	=====

INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH
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**SCHEDULES FORMING PART OF INCOME AND
EXPENDITURE ACCOUNT FOR THE PERIOD/YEAR ENDED 31.03.2012**

SCHEDULE 21- OTHER ADMINISTRATIVE EXPENSES ETC.

	(Amount ₹)	
	Current Year	Previous Year
a) Purchases		
b) Labour and processing expenses		
c) Cartage and Carriage Inwards		
d) Electricity and power	14,73,287	5,44,317
e) Water charges	3,03,402	1,17,357
f) Insurance		
g) Repairs and maintenance	18,07,305	9,19,959
h) Excise Duty		
i) Rent, Rates and Taxes	95,55,982	56,90,696
j) Vehicles Running and Maintenance	2,25,908	1,12,071
k) Postage, Telephone and Communication Charges	17,23,740	11,49,859
l) Printing and Stationary	10,03,520	12,03,985
m) Travelling and Conveyance Expenses	9,24,059	14,70,067
n) Expenses on Seminar/Workshops	31,69,766	30,13,513
o) Subscription Expenses		25,000
p) Expenses on Fees- Library Journals		
q) Auditors Remuneration	51,490	51,490
r) Hospitality Expenses		
s) Professional Charges		54,000
t) Provision for Bad and Doubtful Debts/Advances		
u) Irrecoverable Balances Written-off		
v) Packing Charges		
w) Freight and Forwarding Expenses		
x) Distribution Expenses		
y) Advertisement and Publicity	24,95,882	41,87,140
z) Others (specify)	2,85,59,082	6,65,52,602
	-----	-----
TOTAL	5,12,93,423	8,50,92,056
	=====	=====

SCHEDULE 24 - SIGNIFICANT ACCOUNTING POLICIES

1. Accounting convention

The accompanying financial statements are prepared on Historical Cost Convention.

2. Fixed Assets:

Cost of Assets acquired out of Grant from Government of India is credited to General Fund.

3. Closing Stock

Items issued to labs are treated as consumed and hence Closing Stock of Lab Consumables/ Chemicals is taken as NIL.

4. Depreciation

Depreciation on Fixed Assets has been charged under Written Down Value Method at rates specified as per the Income Tax rates. Assets put to use for more than 180 days has been depreciated at full rate and assets put to use for less than 180 days has been depreciated @ 50% of said rates.

5. Grant in aid

◆ Grant-in-aid received from Government of India, amounting ₹40,00,00,000/- during the year 2011-12 has been credited to the General Fund to the extent of amount spent for Capital expenditure and credited to the Income & Expenditure Account to the extent of amount utilised for Revenue expenditure. The above said amount includes the Capital grant of ₹28,46,00,000/- sanctioned on 30.03.2012 by MHRD and credited in Institute Bank Account on 04.04.2012 accounted as Receivable.

◆ Grant-in-aid received from DST amounting to ₹1,08,00,000/- has been credited to Income & Expenditure account to the extent of amount utilised for Revenue expenditure.

◆ Grant-in-aid received from CSIR amounting to ₹28,76,102/- has been credited to Income & Expenditure account to the extent of amount utilised for Revenue expenditure.

◆ Grant-in-aid received from KVPY amounting to ₹15,21,000/- has been credited to Income & Expenditure account to the extent of amount utilised for Revenue expenditure.

◆ Grant-in-aid received from UGC amounting to ₹2,07,000/- has been credited to Income & Expenditure account to the extent of amount utilised for Revenue expenditure.

6. Interest on Flexi / Fixed Deposits & Term deposits:

Interest on flexi / fixed deposits has been credited in the accounts on Accrual basis.

SCHEDULE 25 - NOTES ON ACCOUNTS

1. The land (approx 200 acres in Karipur Village, Vithura, Nedumangad Taluk, Thiruvananthapuram District) has been given by Government of Kerala at free of cost and hence recorded at nominal value in the accounts as per Accounting Standard: 12 - Accounting for Government Grants.
2. The construction work completed at CET Campus have been capitalized. Permanent infrastructure assets created in the temporary premises located in CET Campus will be handed over to CET on shifting of the location of the Institute permanently to Vithura as resolved vide Resolution No.III of the Minutes of the 5th Meeting of Board of Governors of IISER-TVM held on 10.04.2010. A Memorandum of Understanding in this regard has also been entered into between IISER - TVM and CET.
3. During the year Income & Expenditure Account shows excess of expenditure over income of ₹68,82,153/-
4. The Commitment for Purchases outstanding as on 31.03.2012 amounts to ₹13,90,73,144/- out of which provision has been created for an amount of ₹28,17,175/- pertaining to purchase of consumable against which payments have been made after 01.04.2012. The balance commitment is ₹13,62,55,969/-.
5. Library Journals are reference material and used like Library books hence it is capitalized
6. An amount of ₹9,70,61,000/- was paid to Kerala State Electricity Board (KSEB) for extension of electric power (6MVA) at 33KV to IISER, Vithura. Since it is not a leased or owned Line of the institute, the expenditure is of revenue nature. The estimated time of work completion was 18 months starting from 01.09.2010. Therefore, considering the work will be progressing, the proportionate amount for 7 months i.e., ₹3,77,45,944/- (Sep.2010 - Mar.2011) was charged to Income & Expenditure Account and the balance was debited to Prepaid expenditure (Current Asset) in the previous year. However, the work is not yet started by KSEB as envisaged. Thus, the amount debited as expenditure in the previous year is now reversed and shown as prior period income and the amount paid to Kerala State Electricity Board is fully shown as Prepaid expenditure. In addition an amount of ₹5,14,183/- being the employer's contribution to NPS, Pension contribution etc., is also reversed.
7. Change in Accounting Policies
 - ◆ Depreciation has not been written back in the current financial year. As a result the Income and Expenditure account of the Institute for the current financial year shows excess of expenditure over income. The depreciation for the year equals to ₹9,23,82,138/-.
 - ◆ The treatment of Project Grant and its utilisation is on Cash Basis. The accounting of Assets acquired out of project grant & revenue expenditures met from such grant are not accounted in the institutes accounts. The unspent balance of Project Grant and interest is only shown under the Current Liabilities of the Institute's Balance Sheet.

INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH
THIRUVANANTHAPURAM

SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.03.2012

SCHEDULE 26- UNSPENT BALANCE OF GRANT



		(Amount ₹)	
		Current Year	Previous Year
a)	Opening balance of the funds	63,14,99,915	1,89,67,433
b)	Additions to the Funds:		
	i. Donation/grants		
	MHRD	40,00,00,000	90,00,00,000
	DST	1,08,00,000	50,00,000
	CSIR	28,76,102	15,42,176
	KVPY	15,21,000	11,95,000
	UGC	2,07,000	8,03,110
	ii. Income from investments made on account of funds	41,54,04,102	90,85,40,286
	iii. Other additions (specify nature)		
	TOTAL (a+b)	1,04,69,04,017	92,75,07,719
c)	Utilisation/Expenditure towards objectives of funds		
	i. Capital Expenditure		
	- Fixed Assets - MHRD	35,95,50,044	16,86,41,668
	- Others		
	Total	35,95,50,044	16,86,41,668
	ii. Revenue Expenditure		
	- Salaries, Wages and allowances etc.	7,81,54,850	4,86,75,057
	- Rent	95,55,982	56,90,696
	- Other Administrative expenses	4,17,37,441	7,30,00,383
	Total	12,94,48,273	12,73,66,136
	TOTAL (c)	48,89,98,317	29,60,07,804
	NET BALANCE AS AT THE YEAR-END (a+b-c)	55,79,05,700	63,14,99,915
		=====	=====

INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH
THIRUVANANTHAPURAM

SCHEDULES FORMING PART OF BALANCE SHEET AS AT 31.03.2012
SCHEDULE 27- UNSPENT BALANCE OF EXTERNAL PROJECTS Figures in Rupees

Figures in Rupees

NAME OF PROJECT	OPENING BALANCE	GRANT RECEIVED	INTEREST RECEIVED	NET AMOUNT RECEIVED	AMOUNT UTILISED		TOTAL EXPENDITURE	CLOSING BALANCE
					FIXED ASSETS	REVENUE EXPENDITURE		
1 DST FT PROJECT OF DR K M SURESHAN	103,861.00			103,861.00		301,145.00	301,145.00	(197,284.00)
2 DST SERC FT DR AYAN DATTA	202,940.00			202,940.00		66,450.00	66,450.00	136,490.00
3 J C BOSE	1,804,547.00			1,804,547.00		990,564.00	990,564.00	813,983.00
4 CSIR PROJECT OF DR. AYAN DATTA	217,786.00			217,786.00	57,950.00	119,051.00	177,001.00	40,785.00
5 CSIR PROJECT OF DR. KM.SURESHAN	444,721.00			444,721.00		292,178.00	292,178.00	152,543.00
6 CSIR PROJECT OF DR. TAPAS K MANNA	763,333.00			763,333.00	820,056.00	221,394.00	1,041,450.00	(278,117.00)
7 DST PROJECT OF DR. ANIL SHAJI	480,400.00			480,400.00	238,002.00	4,500.00	242,502.00	237,898.00
8 RAMALINGA SWAMY FELLOWSHIP OF DR. RAMANATHAN NATESH	885,504.00	1,520,000.00		2,405,504.00		1,326,526.00	1,326,526.00	1,078,978.00
9 RAMANUJAN FELLOW. OF DR ANIL SHAJI	650,000.00			650,000.00		1,025,487.00	1,025,487.00	(375,487.00)
10 RAMANUJAN FELLOW.OF DR. KM SURESHAN	650,000.00			650,000.00		1,111,104.00	1,111,104.00	(461,104.00)
11 RAMANUJAN FELLOW. OF DR. SHANKARA NARAYANAN	489,730.00			489,730.00		1,282,942.00	1,282,942.00	(793,212.00)
12 SSB AWARD OF PROF. ED. JEMMIS	-	180,000.00		180,000.00		195,000.00	195,000.00	(15,000.00)
13 SSB AWARD OF PROF.K.GEORGE THOMAS	15,000.00	180,000.00		195,000.00		195,000.00	195,000.00	-
14 CSIR PROJECT OF DR.HEMA SOMANATHAN		1,034,000.00		1,034,000.00	28,180.00	169,430.00	197,610.00	836,390.00
15 DST-FT PROJECT OF DR.ARCHANA PAI		500,000.00		500,000.00		97,374.00	97,374.00	402,626.00
16 DST-JPG PROJECT OF DR.ARCHANA PAI		260,000.00		260,000.00		181,298.00	181,298.00	78,702.00
17 DST-MGP PROJECT OF DR.RAMESH CHANDRANATH		62,000.00		62,000.00		61,625.00	61,625.00	375.00
18 DST PROJECT OF DR.K.GEORGE THOMAS		1,917,200.00		1,917,200.00		275,486.00	275,486.00	1,641,714.00
19 DST PROJECT OF DR.M.M. SHAIJUMON		830,000.00		830,000.00		326,252.00	326,252.00	503,748.00
20 DST RF PROJECT OF ANOOP THOMAS		60,000.00		60,000.00		-	-	60,000.00
21 DST SERB PROJECT OF DR.RAMESH CHANDRANATH		4,000,000.00		4,000,000.00		166,667.00	166,667.00	3,833,333.00
22 DST MPG PROJECT OF DR. ARCHANA PAI		1,242,560.00		1,242,560.00		112,960.00	112,960.00	1,129,600.00
23 DST MPG PROJECT OF DR.SHANKARA NARAYANAN		1,242,560.00		1,242,560.00		180,660.00	180,660.00	1,061,900.00
24 MPG PROJECT OF DR.ARCHANA PAI		2,147,758.00		2,147,758.00	182,440.00	96,043.00	278,483.00	1,869,275.00
25 NKN PROJECT OF DR ANILSHAJI		4,054,676.00		4,054,676.00	3,919,530.00	131,840.00	4,051,370.00	3,306.00
26 MPG PROJECT OF DR.SHANKARA NARAYANAN		2,126,314.00		2,126,314.00	182,625.00	255,225.00	437,850.00	1,688,464.00
27 RAMANUJAN FELLOW. OF DR.REJI VARGHESE		1,460,000.00		1,460,000.00		671,400.00	671,400.00	788,600.00
28 WELCOME TRUST DBT PROJECT OF DR.SUNISH R.		9,759,780.00		9,759,780.00	269,624.00	2,628,839.00	2,898,463.00	6,861,317.00
INTEREST ON SB ACCOUNT	137,920.00		598,764.00	736,684.00			-	736,684.00
	6,845,742.00	32,576,848.00	598,764.00	40,021,354.00	5,698,407.00	12,486,440.00	18,184,847.00	21,836,507.00