8

KNOWLEDGE PRODUCTS: PUBLICATIONS, PRESENTATIONS…..

Knowledge creation, knowledge enhancement, knowledge dissemination and knowledge management have been among the core activities of CSIR-4PI (erstwhile C-MMACS). Ever since its inception, CSIR-4PI (erstwhile C-MMACS) has maintained a high knowledge output in terms of publications and other scientific programmes, knowledge synthesis and exchange through conferences, workshops, brainstorming sessions, etc.

On the occasion of Silver Jubilee Year (1988-2013) CSIR-4PI (erstwhile C-MMACS) has brought out a publication **"Compendium of Publications: Silver Jubilee Issue"** *with collection of abstracts of all CSIR-4PI (erstwhile C-MMACS) publications since its inception. Also a* **"Coffee Table Book'** *to cover the events organised by CSIR-4PI (erstwhile C-MMACS) for the last 25 years with glimpses of the ongoing activities in CSIR-4PI (erstwhile C-MMACS) was brought out.*

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Ramesh K V, Trends in spice production: the challenge of projection, *Workshop on Spice Disease Modelling, Cardamom Research Institute (ICRI)*, Spices Board, Myladumpara, 10-11 October, 2013

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Shelva Srinivasan M K, Sundara Deepthi M V, Sharada M K, Swathi P S and Kalyani Devasena C, Sensitivity of iron limitation parameter to primary productivity in the Arabian Sea using a 3-d biogeochemical model, *International Conference on Computational and Data Intensive Science,* CSIR-4PI (erstwhile C-MMACS), Bangalore, August 2013.

Participation in Conferences/ Symposia/ Workshops/ Training Programmes

Patra G K, Asia Crypt 2013, International Association for Cryptographic Research, 1-5 December 2013, Bangalore

Patra G K, Indo-US Workshop on High Performance Computing, Applications and Big Data Analytics, SERC, IISc, 15-18 December 2013

Anil Earnest, CSIR Leadership Development Programme (LDP), CSIR-HRDC, New Delhi, 29 May - 8 June 2013.

Conference/Workshops/Seminars/Scientific Meetings organized by CSIR-4PI (erstwhile C-MMACS)

Workshop on Inverse Problems and Applications (With Special Emphasis on High Dimensional Data Assimilation), 06 - 10 May 2013

Physical theories allow us to make predictions: given complete description of the physical system, we can predict the outcome of some measurements. This problem of predicting the result of measurements is called the forward problem. The inverse problem consists of using the actual result of some measurements to infer the values of the parameter that characterizes the system.

In this workshop we cover the basic requirement to understand the methods involved in solving a problem through inversion. We have speakers covering the advance techniques like Kalman filtering, 4D var and data assimilation techniques. All the five days we will have numerical problems and hands on sessions.

Technology Day Lecture, 11 May 2013

Technology Day Lecture delivered by Prof Ashok Misra, Former Director, Indian Institute of Technology – Bombay, and Chairman, Intellectual Ventures on Fostering Creativity and Inventions in Science & Technology, 11 May 2013.

Workshop on Harnessing Improved Weather and Climate Information for Renewable Energy Generation under Public Sector Linkages Program, CSIR-4PI (erstwhile C-MMACS) and TERI, Bangalore, 13-22 May 2013

The workshop on Harnessing improved weather and climate information for renewable energy generation was being organized under the AusAID Public Sector Linkages Program (PSLP) by Commonwealth Scientific and Industrial Research Organization (CSIRO), Australia jointly with CSIR-4PI (erstwhile C-MMACS) and TERI Bangalore from 13-22 May 2013 at CSIR-4PI (erstwhile C-MMACS).

The objective of the workshop was to train participants about Conformal Cubic Atmospheric Model (CCAM) of CSIRO, Australia for its validation and application in India and to share information on renewable energy resource assessments over India and Australia. This 10-day capacity building workshop provided training on the use of a mesoscale atmospheric model for the purpose of assessing wind and solar resource. The workshop was based around the transfer of expertise built by the Australian Commonwealth Scientific and Industrial Research Organisation (CSIRO) in the use of weather/climate observations and in the development of regional modelling for the renewable energy sector, particularly using the CSIRO mesoscale model, CCAM

National Symposium on Recent Advances in Cyber Security (RACS), 6-7 June 2013

Cyber space is known for its inherent security vulnerabilities. The scale and sophistication of cyber threats continues to increase exponentially across the globe. Considering the high global and national significance of Cyber Security, CSIR-4PI (erstwhile C-MMACS) had organized a National Symposium on Recent Advances in Cyber Security (RACS) on 6th and 7th June 2013 at S R Valluri Auditorium, National Aerospace Laboratories. The main theme of the two day Symposium was "Security Dynamics of Indian Cyber Space and Associated Challenges". The primary objective of the Symposium was to bring together the Cyber Security community in the country to discuss the state-of-the-art in the domain including both research and practical aspects.

The program was unique to the fact that there were reputed speakers to address and provide comprehensive coverage of all most all areas of cyber security. About 150 participants from various Academic, Research (including about 20 CSIR laboratories), and private IT industries participated and benefited out from the presentations and discussions. The program was part of the silver jubilee celebration of CSIR-4PI (erstwhile C-MMACS).

ArcGIS Desktop Training as part of the GIS Laboratory 5-14 August 2013

GIS Application Laboratory in the Network Building developed under IAIMS project is now has Arc GIS 10.1 including four extensions (Spatial Analyst, Geo Statistical Analyst, Data Interportability and 3D Analyst) with four licenses. As part of this, ESRI has given a seven-day training on GIS (4 days for basic and 3 days for specific applications) at CSIR CMMACS.

Silver Jubilee International Conference on Computational and Data Intensive Science, 26 - 28 August 2013

CSIR-4PI (ERSTWHILE C-MMACS) invited the international scientific community to the conference in Bangalore to discuss latest developments in the Computational and Data Intensive Paradigm of research. The main aim is to bring together experts working on these fields using vast amount of data and high performance computing. The conference will feature a structured program encompassing all branches of data intensive science and high performance computing. Highlights of the conference include keynote presentations by world-leading experts, contributed papers.

HPC Workshop, 29 August 2013

As an extension of the International Conference on Computational and Data Intensive Science, a One Day HPC Workshop was organized for the CSIR Scientists to get acquainted with the usage of the 360TF supercomputer, so that the facility can be used by them remotely. Apart from CSIR-4PI (ERSTWHILE C-MMACS) Intel provided training to the participants about maximizing the performance of the system.

Workshop on Seismic Vulnerability and Risk Assessment, 21-26 October 2013

The workshop was organized under the ongoing Indo-Norwegian project "Earthquake Hazard and Risk Reduction on the Indian Subcontinent (RRISC)". The objective of the workshop was to develop capacity building among young students in particular from earthquake engineering background to teach them a broad aspects of seismic desgin of buildings, their responses to different kind and size of earthquakes, seismic attenuation and ground motion prediction equations, different building typology and scenario ground motion modlling. Fifteen final year B Tech students from BMS college of Engineering as recommended by college and five students from CSIR-4PI (erstwhile C-MMACS) had attended the workshop. The lectures and tutorials were condcuted in the morning session and the field trip was arranged in the afternoon to see various building typologies in Bangalore city. Prof Raghunath, Civil Engineering Department of BMS College also accompanying the students.

Celebration of International Open Access Week, 24th October 2013

CSIR-4PI (erstwhile C-MMACS) & CSIR National Aerospace Laboratories jointly celebrated the International Open Access Week on Thursday 24th October 2013 Conference Hall, Network Building, CSIR-4PI (erstwhile C-MMACS), Bangalore. The programme started with an invocation by Mr G N Mohapatra and followed by welcome address by Prof Seshu, Head, CSIR-4PI (erstwhile C-MMACS) and address by Dr Girija Gopalratam, Advisor, Management & Administration, NAL Dr Poornima Narayan, Head, ICAST, NAL presented a lecture on CSIR Initiatives and Dr Francis Jayakanth, J R D Tata Library, IISc, Bangalore delivered his talk "What is Open Access and why should we care? " He emphasized that OA is an excellent model of publishing for researchers, teachers, and academician. OA helps developing countries to get access the latest developments in global context. He also spoke about author's concerns and copyright issues, effective way to achieve OA.

Vigilance Awareness week 2013

The Valedictory function of Vigilance Awareness Week - 2013 was organised by CSIR – NAL and CSIR-4PI (erstwhile C-MMACS) on Thursday, the 31st October, 2013 at S R Valluri Auditorium, NAL, Bangalore. Prof P Seshu, Head, CSIR-4PI (erstwhile C-MMACS) welcomed the gathering and informed that the main purpose of observing the week dedicated to Vigilance Awareness is to rededicate ourselves

and to reaffirm our commitment to see that public service in our country is rendered with dedication, sincerity and honesty. The Chief Guest Dr Shalini Rajneesh, IAS and Secretary to Government of Karnataka, Department of Personnel and Administrative Reforms and also incharge of implementing Karnataka Guarantee of Services to Citizens Bill, 2011 popularly known as "Sakala", in her lecture on "Reinventing Government" gave brief details of the "SAKALA" Act.   Shri Shyam Chetty, Director, presided over the function. He said that this year the theme of observing Vigilance Awareness Week is "Promoting Good Governance – Positive Contribution of Vigilance". Shri Shyam Chetty, Director, CSIR – NAL and Prof P Seshu, Head, CSIR-4PI (erstwhile C-MMACS) distributed prizes for the winners of various competitions conducted in connection with the Vigilance Awareness Week for the students of Kendriya Vidyalaya, NAL and the employees of NAL and CSIR-4PI (erstwhile C-MMACS).

DST-PAC Atmospheric Science Meeting, 29-30 November, 2013

The Department of Science & Technology (DST), Government of India Fourth Meeting of the Programme Advisory Committee on Atmospheric Sciences (PAC-AS) was held during 29 – 30 November, 2013 at CSIR CMMACS. Head, CSIR CMMACS welcomed the DST PAC Board experts. About 25 Principal Investigators from all over India presented their new project proposals and progress of existing project proposals during the two day DST-PAC review meeting.

Women's Day Celebrations, 7 March 2014

CSIR - National Aerospace Laboratories and CSIR-4PI (erstwhile C-MMACS) organized the Women's Day Celebrations on 7th March 2014 at S R Valluri Auditorium. This year, two eminent personalities from diverse fields were invited as guests of honour: Ms Vatsala Watsa, IAS (Retd) Former Additional Chief Secretary, GoK and Ms Roopa Iyer, renowned Dancer, Choreographer and Movie Director. Dr Poornima Narayan, Chairperson, International Women's Day Celebrations, NAL welcomed the gathering and introduced the chief guests to the audience by highlighting the multi-faceted achievements of the guests of honour. Lecture on "Women as Administrators-Challenges and Opportunities" was presented by Ms Vatsala Watsa in an extremely impressive, yet informal manner. Ms Roopa Iyer talked on the importance of Satya & Dharma. She stressed that a woman should not fight for equality, instead she should strive to scale greater heights to automatically earn the respect from all. In his presidential address, The Director, NAL remarked that he was amazed at the level ladies can multitask & deliver. He thanked the guests for their presence and for delivering such motivating lectures.

Invited Talks

Anil Kumar V, Trends in Supercomputing, National Conference on Scientific Computing (NCSC-2013), Indian Institute of Information Technology (IIIT), Trivandrum, 20-21 June 2013.

Anil Kumar V, DDoS Attacks on the Internet: The Challenges and Countermeasures, TEQIP sponsored Industry Institute Interaction Programme, PSG College of Technology, Coimbatore, 22-23 November 2013.

Goswami P, Weather Informatics for New Age Applications, World Meteorological Day, Special Lecture, Department of Physics, Bangalore University, Bangalore, 19 March 2014.

Patra G K, High Performance Secure Communication Protocol using Public Key Cryptographic Techniques based on Neural Networks, International Conference on Multimedia Processing, Communication and Information Technology, JNN College of Engineering, Shimoga, 19-21 December 2013.

Patra G K, Mathematical Models in Designing Cryptographic Primitives: An Inter-disciplinary Approach, Workshop on Mathematical Modelling in Computer Science and Information Technology, Vellore Institute of Technology, Vellore, 20-22February, 2014,

K Rajendran, Role of Ocean and Atmospheric Dynamics in Climate change, 1st Climate Science and Policy Workshop, IIT Bombay, 6-7 March 2014.

K Rajendran, Glaciers, Paleo-climate Conditions, International Conference on Climate Change and the Himalayas: Current Status and Future Perspective, CSIR NISCAIR, New Delhi, 28-31 October 2013

Sajani Surendran, Climate change and the Indian monsoon, 1st Climate Science and Policy Workshop, IIT Bombay, 6-7 March 2014

Senthilkumar V, National Workshop on Synthesis and Characterization of Nanomaterials (NWSCN-14), V O Chidambaram College, Thoothukudi, 25 -26 February 2014

Swathi P S, Marine Ecosystem Modelling and Debugging Parallel Codes, Summer School on Fundamentals of Ocean Modelling on Global and Regional Scales, INCOIS Hyderabad, 5-14 August, 2013

Shukla A K, Homotopy Analysis Method for Nonlinear Differential Equations with a Non-Homogeneous Term, National conference on Recent Advancements in Numerical Methods and its Applications 2014, University of Pondicherry, January 27, 2014

In-house Seminars/Lectures

Prakasa Rao E V S, C-MMACS, Assessment and Modelling of Agricultural System Processes for Climate Change Adaptation, 27 September 2013

Swathi P S, C-MMACS, A Brief Introduction to IPCC's Assessment Report 5 (AR5), 13 November 2013

Mahfooz Sheikh M, C-MMACS, FPGA based Solutions— A Perspective, 27 March 2014

Guest Lectures

Attreyee Ghosh, IISC Bangalore
Understanding the Deep Earth: Lessons from Geodynamic Modeling, 25 April 2013

Madhulika Bhati, NISTADS, New Delhi
Chemical Processes in the Environment: Modelling and Application, May 2 2013

Prashant Mandlik, UDC, USA
Phosphorescent Organic Light-Emitting Diodes (PHOLEDs), May 9 2013

Ashish Lele, NCL, Pune
From Macromolecular Structure to Polymer Processing: Bridging length and time scales, 16 May 2013

Raghu Murtugudde, ESSIC, USA
Dynamic-Thermodynamic Coupling and Ecosystem-Biogeochemical Variability in the Tropics, May 17 2013
Climate Change and the Cooperative Species, May 20 2013

Rajendran L, DM, Tamil Nadu,
Nonlinear Reaction-Diffusion Equations in Physical Chemistry, June 13 2013

Bharath Shekkar, GDCSM, USA
Modelling Seismic Waves in Viscoelastic, Anisotropic, Heterogeneous Media, 20 June 2013

Rahul Mangharam, CISU, USA
Closing the Loop with Cyber-Physical System Modelling, June 27 2013

Surajit Sen, PSU, USA
Strong Nonlinearity - Solitary Waves, Breathers and Quasi-Equilibrium and Why We Care...., 25 July 2013

Asha Gopinathan, MRDG, Bangalore
Simulation of the Brain - From Neurons to Large Scale, 5 September 2013

Jindal V K, Punjab University
Interesting Observations of Theoretical Investigations in Fullerenes, Carbon Nanotubes and Graphene, 3 October 2013

Rao J S, ALTAIR, Bangalore
Multi-physics based Optimization Approach to the Design of Advanced Turbomachinery, 7 October 2013

Gopalakrishnan S, IIT, Mumbai
Development of Efficient Galerkin Methods for Modeling Tsunamis and Storm-Surges, 21 November 2013

Prasad K, Multi-Tech Systems, USA
M2M (Machine-to-Machine) communications and "Internet of Things" - an Industry Perspective, 22 November 2013

Dharmaraju R, Centre for Disaster Management, Mysore
R & D Strides for Landslide Risk Mitigation, 4 March 2014

Visitors at C-MMACS

Tilak Krishna Mahesh Agerwala, VP, Systems/IBM, USA, 03 April 2013.

Shamjith, C-DAC, Bangalore, 9, 15 & 17 April 2013.

Arunachalam, C-DAC, Bangalore, 10 & 16 April 2013.

Attreyee Ghosh, Assistant Professor, IISc Bangalore, 25 April 2013.

Lan David Locker, Managing Director, Zephir Ltd, UK, 08 May 2013

Mohar Chattopadhyay, Research Scientist, CSIRO, Australia, 13 to 22 May 2013.

John Mc Gregor, Don Gunasekara, Alberto Troccoli, Scientist CSIRO, Australia, 13 to 22 May 2013.

Raghu Murtugudde, Professor, University of Maryland, 15 to 20 May 2013.

Mckeon Gregory Keith, APAC, Service Manager, SQI, Australia, 14 June 2013.

Parul Trivedi, Ahmedabad, 12 to 20 June 2013.

Bharath Shekar, CSM, USA, Bangalore, 20 June 2013.

Rahul Mangharam, CISU, USA, 27 June 2013

Bobby Philip, IISc, Bangalore, 8 July 2013.

Mohan Ram, DG, Ernet India, 11 July 2013.

Shri Kamalesh, Bangalore, 11 July 2013.

N L Sarda, IIT, Bombay 11 July & 17 December 2013

Subrata Karuna, C-DAC, Bangalore 12 July 2013.

Chandrashekar, Director, CSIR-CEERI, Pilam, 17 July 2013.

Viswajanani, CSIR-PPD, New Delhi, 17 - 19 July 2013

Bharadwaj, IISc Bangalore, 17 July 2013.

Surajit Sen, New York, 22 to 26 July 2013.

Devin Jensen, Vice President Altair, USA, 21 August 2013.

William Matthew Braithwaite, Senior Engineer, NVIDIA, 27 August 2013.

B Bhattacharjee, NDMA, New Delhi, 29 August 2013.

Huseyin Levent Akyil, Software Engineer, Intel, Bangalore, 17 September 2013.

Werner Krotz Wogel, Marketing Engineer, Intel, Bangalore, 17 September 2013.

Barry Edward, Director of Sales, USA, 18 September 2013.

Daniela Kuehn, Researcher, NORSAR, Berlin 21 September 2013.

Malolan R Cadambi, Greenshore Energy Pvt Ltd, 4 October 2013.

C V S Prakash, Mr Nagaraj Acharaya, Mr Deepak, Greenshore Energy Pvt Ltd, 4 October 2013.

C Amarnath, IIT Bombay, 7 October 2013.

Rao J S, ALTAIR**,** Bangalore, 7 October 2013.

Daniela Kuehn, Researcher, NORSAR, Berlin 21 October 2013.

Dominik Lang, Sr Research Engg, NORSAR, 21 October to 01 November 2013.

Gil Briman, VP, Mellanox Technologies Inc, 13 November 2013.

Marc Clifford Sultzbaugh, Senior VP, Mellanox Technologies, 13 November 2013.

Shaheed Jawahar, Chennai, 19 November 2013

K Prasad, Engg, Manager, Multi-Tech Systems, India, 22 November 2013.

S Gopal Krishnan, IIT, Bombay, 21 to 22 November 2013.

P K Mohanty, Additional Chief Secretary, Govt of Kerala, Trivandrum, 10 December 2013.

Sreekantan Nair, Director, Environment Directorate, Kerala, 10 December 2013.

Ravi S Nanjundiah, CAOS, IISc Bangalore, 10 December 2013.

Sangeetha Iyer, Amritha School of Engineering, Bangalore, 17 December 2013.

Valentine Anantharaj, Arthur Sanford Bland, Jeffrey Allen Nichols, Arthur Bernard Maccabe, Xiaolin Cheng, R&D Staff, Oak Ridge National Laboratory, USA, 19 December 2013.

Yukimasa Adachi, Researcher, MRIJM, 13 to 23 January 2014.

Greg McKeon, Director, Services, SGI Asia Pacific, 04 February 2014.

Dominik H Lang, Sr Research Engg, Germany, 19 February 2014.

Ramesh Venkata Peri, Architect, S/W Dev. Tools, Intel, America, 19 March 2014.

Sanjiv Motichand Shah, General Manager, Technical S/W Tools, Intel, Kenya, 19 March 2014.