KNOWLEDGE ACTIVITIES AND PRODUCTS: PUBLICATIONS, PRESENTATIONS

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

Inside

- Publications in Journals
- Patent Filed
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- Conference/Workshops/Seminars/Scientific Meetings at CSIR-4PI
- Invited Talks
- Visitors at CSIR-4PI

Publications inJournals

1. Suresh M, Amritha P P, Mohan A K and **Anil Kumar V**, An investigation on HTTP/2 security, Journal of Cyber Security and Mobility, 7(1), 161-180, 2018

2. **Ashish** and **Parvez I A,** Identifying the transition zone between east and west Dharwarcraton by seismic imaging, Pure and Applied Geophysics, 175(1), 171-191, DOI:10.1007/s00024-017-1657-0, 2017

3. **Gouda K C**, Sahoo S K, Samantray P, **Himesh S,** Simulation of extreme temperature over Odisha during May 2015, Weather and Climate Extremes, 17, 17-28, 2017

4. **Gouda K C**, Sahoo S K, Samantray P, **Himesh S,** Comparative study of monsoon variability over India and Odisha State, Climate, 5(4), 79, DOI:10.3390/cli5040079, 2017

5. Shruti Y, Hattarki Pooja**, Gouda K C**, Nageswara Rao P P, Study of climate variability and its correlation with sugar cane yield over Bagalkote using remote sensing, International Journal of Creative Research Thoughts, 5(3), 246-255, 2017

6. Malini P J, **Gouda K C** and Laxmikantha B P, Impact of climate change on agriculture sector using RS and GIS, International Research Journal of Engineering and Technology, 5(2), 940-945, 2018

7. Lin X, **Indira N K, Swathi P S**, et.al, Simulating CH_4 and CO_2 over South and East Asia using the zoomed chemistry transport model LMDz-INCA, Atmos. Chem. Phys., 18, 9475-9497, DOI:10.5194/acp-18-9475-2018, 2018

8. **Kantha Rao B** and **Rakesh V**, Observational evidence for the relationship between spring soil moisture and June rainfall over the Indian region, Theoretical and Applied Climatology, 132 (3–4), 835–849, DOI:10.1007/s00704-017-2116-7, 2017

9. **Mohapatra G N, Rakesh V** and **Ramesh K V**, Urban extreme rainfall events: Categorical skill of mesoscale model simulation for localized and non-localized events, Quarterly journal of Royal Meteorological Society, 143, 2340–2351, 2017

10. **Parvez I A,** Nekrasova A and Kossobokov V, Seismic hazard and risk assessment based on unified scaling law for earthquakes: Thirteen principal urban agglomerations of India, Natural Hazards, 92(3), 1509-1522, DOI:10.1007/s11069-018-3261-8, 2018

11. Joshi A U, Dhananjay A Sant, **Parvez I A**, Govindan Rangarajan, Manoj A Limaye, Soumyajit Mukherjee, Mithesh J Charola, Meghnath N Bhatt and Sagar P Mistry, Sub-surface profiling of granite pluton using microtremor method: Southern Aravalli, Gujarat, India, International Journal of Earth Sciences, 107(1), 191-201, DOI:10.1007/s00531-017-1482-9, 2018

12. Ramees R Mir**, Parvez I A, Gaur V K, Ashish**, Chandra R and Romshoo S A, Crustal structure beneath the Kashmir basin adjoining the Western Himalayan Syntaxis., Bull. Seismo. Soc. Am.107 (5), 2443-2458, 2017

13. **Parvez I A,** Magrin A, Vaccari F, **Ashish,** Ramees R Mir, Peresan A and Panza G F, Neo-deterministic seismic hazard scenarios for India – a preventive tool for disaster mitigation, *Journal of Seismology*, 21(6), 1559-1575, DOI 10.1007/s10950-017-9682-0, 2017

14. Dhananjay A Sant, **Parvez I A,** Govindan Rangarajan, Satish J Patel, Madhuri N Bhatt, Sanoop Salam T A, Subsurface profiling along Banni plains and bounding faults, Kachchh, Western India using microtremors method, Journal of Asian Earth Sciences, 146, 326-336, DOI: 10.1016/j.jseaes.2017.06.002, 2017

15. Santhanalakshmi S, Sangeeta K and **Patra G K,** Design of secure cryptographic hash function using soft computing techniques, International Journal of Advances in Soft Computing and its Applications, 9(2), 235-248, 2017

16. Vidya M H, Sathyanararyan S V and **Patra G K,** Security analysis and improvement to permutation parity machine ACCENTS Transactions on Information Security 2(8), 87-94, DOI:10.19101/TIS.2017.28003, 2017

17. Ganesan P, Priyanka B R, Mahfooz Sheikh, Murthy D HR and **Patra G K,** A secure key exchange protocol using link weights and dynamic tree parity machine (TPM), ACCENTS Transactions on Information Security, 2(8), 78-81, DOI:10.19101/TIS.2017.28001, 2017

18. Supantha Paul, Subimal Ghosh, **Rajendran K**, and Raghu Murtugudde, Moisture supply from the Western Ghat forests to water deficit east coast of India, Geophys. Res. Letters, 45, 4337-4344, DOI:10.1029/2018GL078198, 2018

19. Alfred Johny and **Ramesh K V**, Reliable drought projections over India for twenty first century, Vayumandal, 43, 60-71, 2017

20. Paul Pynadath, **Ramesh K V** and Mohandas Chadaga, Modeling and simulation of hydroelectric power projects: A case study on Mullaperiyar reservoir, International Journal of Civil Engineering and Technology, 8 (4), 762-769, 2017

21. Elsu C Alex, **Ramesh K V** and Sridevi H, Quantification and understanding the observed changes in land cover patterns In Bangalore, International Journal of Civil Engineering and Technology, 597-603, 2017

22. Aravind S, **Ramesh K V** and Shambavi Kamath M, Modelling the impact of socio-economic dynamics on urbanization over Hyderabad, International Journal of Civil Engineering and Technology, 368-375, 2017

23. **Sajani Surendran,** Sulochana Gadgil, **Rajendran K**, Stella Jes Varghese and Kitoh A, Monsoon rainfall over India in June and link with northwest tropical pacific-June ISMR and link with northwest tropical pacific, Theoretical and Applied Climatology, DOI:10.1007/s00704-018-2440-6, 2018

24. Mukul M, **Sridevi Jade**, Ansari K, Matin A and Joshi V, Structural insights from geodetic Global Positioning System measurements in the Darjiling-Sikkim Himalaya, Journal of Structural Geology, DOI:10.1016/j.jsg.2018.03.007, 2018

25. Ningombam S S, **Sridevi Jade** and Shrungeshwara T S, Parameterization of water vapor using high-resolution GPS data and empirical models, Journal of Atmospheric and Solar-Terrestrial Physics, 168, 58-69, 2018

26. **Sridevi Jade**, Shrungeshwara T S, Kireet Kumar, Pallabee Choudhury, Rakesh K Dumka and Harsh Bhu, India plate angular velocity and contemporary deformation rates from continuous GPS measurements from 1996 to 2015, Nature, Sci. Rep. 7, 11439, DOI:10.1038/s41598-017-11697, 2017

Publications in Proceedings

1. Rahisha T and **Gouda K C**, Web based Information System to support sustainable development of Mangalore coast using EO image and GIS, Coastal Zone Congress, Melbourne, Australia, July 17-18, 2017

2. Nagaraj Bhat and **Gouda K C,** A Comparative analysis of climate change over thermal power plant using reanalysis and satellite data, WMO Data Assimilation Symposium, Florianópolis, Brazil, Sep 11-15, 2017

3. **Gouda K C**, Advance forecasting capability of hydro-meteorological disasters, International Round Table on the Impact of Extreme Natural Events: Science & Technologies for Mitigation, Colombo, Srilanka, Dec 13-15, 2017

4. **Mohapatra G N** and **Rakesh V**, Configuration and validation of WRF model coupled with urban canopy model for simulation of extreme rainfall events, Proceedings of INTROMET, SAC, ISRO, Ahmedabad, November 7-10, 2017

5. **Prabhu, Thangavelu R P, Patra G K** and **Anil Kumar V,** Design and development of high performance computing facility as a private cloud for CSIR, National Conference on Contributions of SC/ST Scientists and Technologists towards Advancement of Science and Engineering (NCSCSTASE-2018), NAL Bangalore, January 23-25, 2018

6. Kannoth Shimna and **Sithartha Muthu Vijayan M**, A simple algorithm to remove artefacts and aliasing from the ionospheric irregularities detected using GPS, 42nd Committee on Space Research Scientific Assembly, COSPAR 2018, Pasadena, California, July 14-22, 2018, C1.4-0021-18, 789

7. **Sithartha Muthu Vijayan M** and Kannoth Shimna, Influence of source geometry in determining the characteristics of tsunami-induced TIDs, 42nd Committee on Space Research Scientific Assembly, COSPAR 2018, Pasadena, California, July 14-22, 2018, C1.4-0019-18, 788

Presentations in Conferences/ Symposia/ Workshops/ Seminars

1. Silpa K and **Anil Earnest**, Static and Kinematic Characteristics of the Outer Rise Earthquakes after the 2004 Mw 9.2 Sumatra-Andaman Megathrust Rupture, Humboldt Colloquium, November 23, 2017

2. **Ashapurna Marndi** and **Patra G K,** Comparative study of different deep learning techniques, , Tenth National Women's Science Congress, Bangalore, Nov. 6-7 2017

3. **Ashapurna Marndi** and **Patra G K**, Deep learning technique to estimate missing values of ocean color data, Impact of Aeronautical & Aerospace Programmes on Emerging India, Bangalore, March 31- April 1, 2017

4. Sahoo S K, **Gouda K C** and Himesh S, Climate enabled vector borne disease simulation, 2nd Conference on Impact of Environmental Changes on Infectious Diseases, Trieste, Italy, May 08-19, 2017

5. **Indira N K**, Indian GHG operational systems, calibration and contribution to flux estimation, National Training Workshop on Greenhouse Gases Measurements, Interpretation and Inverse Modelling, Indian Institute of Tropical Meteorology, Pune, July 10-14, 2017

6. **Indira N K**, Basic statistics and probability for GHG sciences, National Training Workshop on Greenhouse Gases Measurements, Interpretation and Inverse Modelling, Indian Institute of Tropical Meteorology, Pune, July 10-14, 2017

7. **Indira N K**, Indian GHG operational systems, calibration and contribution to flux estimation, National Training Workshop on Greenhouse Gases Measurements, Interpretation and Inverse Modelling, Center for Advanced Training (CAT), Indian Institute of Tropical Meteorology (IITM), Pune, July 10-14, 2017

8. **Indira N K**, Greenhouse gases calibration measurements and modeling in CSIR-4PI, TRACE-i Workshop, Top-Down Estimation of Regional GHG Sources and Sinks Constrained by Atmospheric Observations and Modelling and their Concurrent Evaluation over India, Indian Institute of Science Education and Research Bhopal, March 12, 2018

9. Amritha Babu, Azharuddin, **Kalyani Devasena C**, **Sharada M K**, Shelva Srinivasan M K, Sofia Evelin, Suganya R, and **Swathi P S,** Modelling and simulation of marine ecosystem and evaluation with satellite data, Impact of Aeronautical and Aerospace programmes on Emerging India (conducted by CSIR pensioners welfare Association), March 31st-1st April 2017 (Won Best poster award - First prize).

10. **Kalyani Devasena C**, **Sharada M K** and **Swathi P S** and Shelva Srinivasan M K, Impact of physical processes on ocean chlorophyll and primary productivity using model simulations and observations, 10th National Women's Science Congress, Ramaiah College of Sciences Bangalore, November 6-7 2017. (Best paper under Vasundereyam theme).

11. **Parvez I A** and Ramees R Mir, Simulation of ground motion in NW Himalaya and adjacent areas using stochastic finite-fault method. DOI:10.3997/2214-4609.201701492, 79th EAGE Conference and Exhibition, Paris, June, 2017

12. **Parvez I A** and S Vishal Gupta, Site response study of seismically active Srinagar city, Kashmir valley from ambient noise measurements, International Workshop on Earthquakes and Tsunami: Modeling and Observation by ICTP, Italy, Hanoi, Vietnam, December 2017

13. **Swathi P S**, Measurement network design, National Training Workshop on Greenhouse Gases Measurements, Interpretation and Inverse Modelling, Indian Institute of Tropical Meteorology, Pune, July 10-14, 2017

14. **Swathi P S**, Transcom, National Training Workshop on Greenhouse Gases Measurements, Interpretation and Inverse Modelling, Indian Institute of Tropical Meteorology, Pune, July 10-14, 2017

15. **Swathi P S**, Ecosystem modelling, National Training Workshop on Greenhouse Gases Measurements, Interpretation and Inverse Modelling, Center for Advanced Training (CAT), Indian Institute of Tropical Meteorology (IITM), Pune, July 10-14, 2017

16. **Swathi P S**, Network design for GHG stations, National Training Workshop on Greenhouse Gases Measurements, Interpretation and Inverse Modelling Center for Advanced Training (CAT), Indian Institute of Tropical Meteorology (IITM), Pune, July 10-14, 2017

17. **Swathi P S**, Network design for Carbon dioxide measurements, TRACE-i Workshop, Top-Down Estimation of Regional GHG Sources and Sinks Constrained by Atmospheric Observations and Modelling and Their Concurrent Evaluation over India, Indian Institute of Science Education and Research, Bhopal, March 12, 2018

Internal Reports

1. **Ashish**, Ramees R Mir, **Chiranjeevi V G** and **Parvez I A**, Establishment of seismic network in Kashmir Himalaya, TR-CM-1801

2. **Himesh S**, Sahoo S K, **Gouda K C**, Ajilesh P P and Samantray P, Impact of land-use changes on genesis and evolution of extreme rainfall event: A case study over Uttarakhand, RR CM-1701

Participation in Conferences/Symposia/Workshops/Training Programmes

Anil Kumar V
Engineers' Conclave 2017, NAL, September 14-16, 2017
Pre-IETF (Internet Engineering Task Force) Conference, Indian Internet Engineering Society, Infosys, Bangalore, India, November 8-9, 2017
DST ICPS Cyber Security Workshop, IIT Delhi, March 13, 2018

Ashapurna Marndi
Engineers' Conclave 2017, NAL, September 14-16, 2017

Gouda K C
3rd Coastal Zone Congress, Melbourne, July 18, 2017
CSIRO Conference on Computational and Data Intensive Science Big Data Conference, July, 17-20, 2017
Workshop on Advanced machine learning for science, Melbourne Convention Centre, July 20, 2017
Google Cloud Workshop, Melbourne Convention Centre, July 20, 2017

NCBS Indo-Africa Health Science Meeting, NCBS, Bangalore, Jan 30-31, 2018

Patra G K
Engineers' Conclave 2017, NAL, September 14-16, 2017

Prabhu
Training Programme on Capcity Building Programme for Technical Officers, CSIR HRDC, Ghaziabad, April 24-28, 2017
Workshop-cum Training Programme on E-Procurement, CSIR HRDC, Ghaziabad, May 15-16 2017

Suchanda Ray & Thangavleu R P
Programme on Effective Implementation of RTI Act and Record Management, CSIR HRDC, Ghaziabad, April 06-07, 2017

Thangavleu R P
Engineers' Conclave 2017, NAL, September 14-16, 2017
Programme on Finance for Non-Finance Executives, National Institute of Financial Management (NIFM), Faridabad, May 18-19, 2017.

Sridevi Jade, R.P. Thangavelu and K.R. Balakrishna
Workshop on Sexual Harassment of Women at Workplace: Prevention, Redressal and Procedures, CSIR Human Resource Development Centre (HRDC), Ghaziabad, September 18-19, 2017

Chiranjeevi Vivek G, Pavithra N R, Gouda K C, Senthilkumar V, Ramesh K V
3rd India International Science Festival (IISF) 2017, Chennai 13-16, October 2017

Gouda K C, Pavithra N R
CSIR-Technofest Exhibition, NAL, Bangalore, 25 -26 October 2017

Conference/Workshops/Seminars/Scientific Meetings at CSIR-4PI

CSIR – Fourth Paradigm Institute Foundation Day
Prof Bimal Roy, Head, R C Bose Center for Cryptology & Security and former Director, ISI Kolkata was the Chief Guest for the Foundation held on 26 October 2017. He spoke on his experience in solving problems that are relevant to Government and Society using statistical methods.

Invited Talks

Anil Kumar V
Python for packet processing, ACM India Summer School on Information and System Security, VIT University, Vellore, May 29 - June 16, 2017

Packets, protocols and attacks in cyberspace, ACM India Summer School on Information and System Security, VIT University, Vellore, May 29-June 16, 2017

Low-Rate denial-of-service on multipath transmission control protocol (MPTCP), DST ICPS Cyber Security Workshop, Department of Computer Science, IIT Kanpur, October 23 – 24, 2017

Stream control transmission protocol and potential denial-of-service attack, Pre-IETF Conference, Indian Internet Engineering Society, Infosys, Bangalore, India, November 8-9, 2017

Packets, protocols and attacks in cyberspace, Army Signaling Group, C-DAC, Noida, November 30, 2017

Cyber security research at CSIR Fourth Paradigm Institute: Opportunities and challenges, student faculty interaction, Cyber Security Center, Amrita Vishwa Vidyapeetham, Coimbatore, February 26, 2018

Feasibility evaluation, impact quantification and mitigation of low-rate cyber attacks on multipath transmission control protocol, DST ICPS Cyber Security Workshop, IIT Delhi, March 13, 2018

Denial-of-Service attacks on cyberspace: From evolution to the State-of-the-Art, Application of Computational Mathematics, Department of Mathematics, St. Joseph's College, Bangalore, March 15 - 16,2018

Gouda K C
High performance computing, cloud and big data for multi-sector applications, Nagarjuna College of Engineering, Bangalore, April 22, 2017

Data modelling and geo-informatics, Karnataka Remote Sensing Application Centre, Bengaluru, April 23, 2017

Simulation and prediction of Indian monsoon, Global Change Institute, Univ.of Queensland, Australia, June 18-19, 2017

Monsoon prediction and its impact on agriculture, Sydney Institute of Agriculture, University of Sydney, June 26, 2018

Multi-scale modelling of monsoon, University of New South Wales, Sydney, June 28, 2017

Weather and climate modelling at CSIR-4PI, CSIRO, Canberra, Australia, June 29-30, 2017

Evaluation of ensemble methodology fating or monsoon force, CSIRO, Hobart, Tasmania, Australia, August 4-5, 2017

An approach of multi-scale monsoon prediction and agro-advisories, CSIRO, University of Adelaide, August 22-23, 2017

Modelling of Indian monsoon using CCAM, CSIRO, Aspandale, Melbourne, Australia

Advance forecasting capability of hydro-meteorological disasters, International Round Table on The impact of extreme natural events: Science & Technologies for Mitigation, (IRENE), Colombo, Srilanka, December 13-15, 2017

Weather and climate modelling, Workshop on Applications of Computational Mathematics, St. Joseph's College, Bangalore, March 15-16, 2018

Mudkavi V Y
Basics of Modelling, Simulations and the equations of fluid mechanics, Workshop on Applications of Computational Mathematics, St. Joseph's College, Bangalore, March 15-16, 2018

Parvez I A
Modelling and simulation of ground motion for earthquake hazard assessment, Workshop on Applications of Computational Mathematics, St. Joseph's College, Bangalore, March 15-16, 2018

Patra G K

Interdisciplinary modelling approach for designing cryptographic primitives, Workshop on Applications of Computational Mathematics, St. Joseph's College, Bangalore, March 15-16, 2018

Rakesh V

Operational weather forecasting – A high computing problem, Key note speaker and chief guest, International Conference on Applied Soft Computing Techniques, MCA Department, Kalasalingam University, Madurai City, Tamilnadu, April 22-23, 2017

Rajendran K

An editorial roundtable, Indian Academy of Sciences, Bengaluru, April 3, 2017

Monsoon 2017, CFSv2 high resolution ensemble forecasts using April and May ICs, Monsoon Café, DCCC, IISc, Bengaluru, August 16, 2017

Future climate change projection for Kerala using ultra-high resolution Global Climate Model, DoECC, Government of Kerala, Thiruvananthapuram, October 4, 2017

Ramesh K V

Modelling and informatics for new frontier of research, Key note speaker and chief guest, International conference on Applied Soft Computing Techniques, MCA Department, Kalasalingam University, Madurai City, Tamilnadu, April 22-23, 2017.

Sithartha Muthu Vijayan M

Synergy of material science, plasma physics and geophysics in understanding multiscale earth system phenomena: Challenges and opportunities, National Workshop on Recent Advances and Applications of Materials Science (NWRAAMS-2017), Gandhigram Rural Institute, Gandhigram, November 2-3, 2017

The recent trends in data intensive scientific research: Scope for physics students in the fourth paradigm, Department of Physics, M V Muthiah Government Arts College for Women, Dindigul

Sharada M K

Modelling of marine ecosystem, Workshop on Applications of Computational Mathematics, St. Joseph's College, Bangalore, March 15-16, 2018

Thangavelu R P

High performance computing and applications, Workshop on Applications of Computational Mathematics, St. Joseph's College, Bangalore, March 15-16, 2018

Yajnik K S

Decadal scale variations in climate, 32nd Gujarat Science Congress held at Bhavnagar, Gujarat, February 4-5, 2018