DAY 1 — 2 NOVEMBER 2026 (MONDAY)

08:30-09:30 | Registration

09:30–10:45 AM | Inauguration Ceremony **Venue: PC Saxena Auditorium**

10:45-11:05 AM | IGU–Dr. Hari Narain Lifetime Achievement Award Talk

Role of Mineral Physics in Critical Minerals Exploration

Dr. G. Parthasarathy, DAE-Raja Ramanna Chair, AMD, Bengaluru

(Chair: | Dr. M Ravichandran)

11:05–11:30 AM | High Tea & Inauguration of Exhibition Stalls

Technical Sessions:

11:30 AM–01:00 PM | Technical Oral Presentation (Session – I) | ---Parallel Session-1

Session I: Interpretable AI and ML for subsurface Imaging and data analytics **Venue: PC Saxena Auditorium**

(Chair: Dr. S S Rai | Co-chair: Y Srinivas |)

1. Global Temperature Change Modelling via Nonlinear Bayesian Neural Network and Interpretable AI/ML
   Saumen Maiti
2. Pore Pressure Modelling via Interpretable AI/ML using Downhole Records of Well U1519A, Hikurangi Margin, New Zealand
   Saumen Maiti* and Goutami Das.
3. Automatic detection and discrimination of seismic events using SVM and RF Machine Learning Models
   Mahesh Yezarla, Rajesh Rekapalli, Sandeep
4. Groundwater quality prediction using hybrid machine learning approach – A case study from Kanyakumari District, Tamil Nadu, India
   Y. Srinivas, Annie Jose
5. Two-dimensional magnetotelluric inversion using neural surrogates and implicit neural representations
   Fareeda Begum Shaik, Roshan K Singh, Pankaj K Mishra*
6. Deep Learning-Assisted TEM Inversion for Delineating Potential Submarine ground water Discharge Pathways in Fractured Basaltic Coastal Environments
   Kuldeep Sarkar, Shreya Maurya, Nimatullah, Anand Singh
7. A Data-Driven Framework for Intensity-Based Earthquake Early Warning in the Uttarakhand Himalaya
   Sandeep, S. K. Pal*
8. Geophysical Data Fusion and Machine Learning for Subsurface Characterization of Deccan Trap Terrain
   Ronak Dahiya, Sanjay Rana, Abul Aas, Ajay Mishra*
9. Semi-Supervised Deep Learning Framework for High-Resolution Seismic Impedance Inversion in a Carbonate Reservoir
   Soutik Bhakta*, Ravi Kant, Sanjay Pandit, Rahul Singh, Shanu Biswas, Kumar Hemant Singh

11:30 AM–01:00 PM

Parallel Session-I Atmospheric Coupling, Ionospheric Dynamics and Climate **Venue: SOM Auditorium**

(Chair: Dr. A. Suryachandra Rao Co-chair: Prof. Rajeev Bhatla

1. Using Short Path VLF wave interferometer to characterize the properties of the Equatorial D-region of the Ionosphere
   Reuben Samson Yaqub, Mridula N., Nazeer M., Koushik N., Manu T, Vineeth C.,Tarun Kumar Pant
2. Impacts of Initial Seeds on the Evolution and Morphology of Simulated Equatorial Plasma Bubbles
   Shubham J. Mehta, Gopi K. Seemala, Sudhansu S. Rayaguru, Sanket J. Dore
3. Variations of Equatorial Electrojet during Geomagnetic Storm Conditions
   Sneha Vengurlekar and Geeta Vichare*
4. An investigation of the global responses of the thermal field of the MLT region to the 'Severe' geomagnetic storm of 10-11 October 2024
   Govind Narayanan K, Navin Parihar , Chinmaya Nayak, Alok Taori, Anand Kumar Singh, Shailendra Saini, Prasant K. Tiwari, and Ashok Priyadarshan Dimri
5. Longitudinal Characteristics of Solar Tides from Low-Latitude Ground Magnetic Observations
   Divyanshu Dwivedi , N. Phani Chandrasekhar*
6. Climate Vulnerability of Sorghum Production Across India's Agroclimatic Zones Under Future Climate Scenarios
   Mrinalini Srivastava, R.K Mall*
7. Identification of Asymmetries in Auroral Activity between Northern and Southern Hemispheres
   Shailja Saxena, Geeta Vichare

01:00–02:00 PM | Lunch Break

02:00–04:00 PM | Technical Oral Presentations (Sessions – II & III) & Parallel Session-2

02:00-03:10 PM Session-II: Space Geodesy, Crustal deformation and Seismotectonics **Venue: SOM Auditorium**

(Chair: Dr. Thamban Meloth Co-chair: Prof. Bikram Singh Bali)

1. Interseismic plate coupling along the Uttarakhand Himalaya from GNSS and ALOS-2 InSAR
   Dibyashakti Panda, Mridul Yadav, Eric O. Lindsey, G Srinivasa Rao*
2. Continuous GPS-Based Assessment of Crustal Deformation and GRACE-Based Hydrological Loading in Relation to Seismicity in NW Himalaya.
   Muskan Nazir Dar, Bikram Singh Bali
3. Crustal Deformation Study of Eastern Himalayan Syntaxis and Surroundings from SWS Analysis of Direct S
   Satyapriya Biswal, Debasis D Mohanty
4. Coseismic and Postseismic Gravity Changes of the 2025 Mw 8.8 Kamchatka Earthquake from High-Temporal-Resolution Satellite Gravimetry
   Kosuke Heki & Zheng Shuo
5. Tectonic and non-tectonic crustal deformation in Uttarakhand.
   *Rajeev Kumar Yadav**

6. Characterization of Present-Day Crustal Deformation in the Andaman–Nicobar Islands Using GNSS Measurements
   Sapna Ghavri, Ch. Patanjali Kumar, M. Vijaya Sunanda, Sudheer Joseph, Shiva Prasad, K. Rajesh, Balakrishnan Nair TM*
7. Resolution Analysis of GRACE-Derived Terrestrial Water Storage Using the Backus–Gilbert Approach
   Raghav Singh, Nishant Singh, Swapnil Pandey and Satya Prakash Maurya

03:10-04:10 PM Session-III Ionosphere seismology, geohazard monitoring, and early warning systems **Venue: SOM Auditorium**

(Chair: Prof. G Mohan | Co-chair: Dr. P S Sunil)

1. Ionospheric Seismology and Volcanology: Observing Earthquakes, Volcanoes and Tsunamis from Space
   Mala S. Bagiya
2. Periods and 3D geometry of coseismic ionospheric disturbances of two compact earthquakes in Northeast Japan
   Kosuke Heki & Muhammad Usman
3. Seismic Network Monitoring for Cascaded Hazard Early Warning in the Himalayas
   **Rajesh Rekapalli, Sandeep Gupta and N. Purnachandra Rao*
4. Seismic Source Inversion for Earthquakes and Landslides in Central Himalayas
   Vipul Silwal, Pankaj Lahon, Rinku Mahanta, M.L. Sharma, Himanshu Mittal*
5. Comparison of Cross-Correlation and Amplitude based Location Methods for Identifying Landslide Source Location
   Kethavarapu Raviteja, Rajesh Rekapalli, Mahesh Yezarla, Sandeep Gupta, V. Venkatesh*
6. Subsurface Imaging of Mars from Insight SEIS
   Prathmesh Tari*, Mala S. Bagiya, Rabin Das, Priyeshu Srivastava, Melanie Drileau, Philippe Lognonné, A.P. Dimri

Parallel Session-II **Venue: PC Saxena Auditorium**

IIG-SPL Special Session: From Solid Earth to Geospace: Processes, Mechanisms, Impacts, and Implications in Lithosphere, Atmosphere, Ionosphere, Magnetosphere Coupling

(Chair: Dr.A P Dimri | Co-chair: Dr.Tarun Kumar Pant)

Keynote Talk: Planetary Upper Atmosphere - Ideal Natural Laboratory to Understand Coupling From Below Dr. Tarun Kumar Pant

Keynote Talk: From Observations to Predictions: Mission Mausam and the Science of Coupled Earth-Ocean-Atmosphere Systems Dr. Akhilesh Mishra

1. Multi-year variability of low-latitude Mesospheric Winds and Temperatures,
   Vasundhara Barde, Jayashree Bulusu, Ashish Jadhav, S. Sathishkumar, S. Gurubaran and A. P.Dimri*
2. Impact of Secular Variation of the Dip Equator on EEJ Estimation
   Ayushi Srivastava, Murlidhar Mudgal, Rajesh Kumar Barad
3. Effect of Geomagnetic Storm of 01 January 2025 on Nocturnal Equatorial/Low Latitude Thermosphere-Ionosphere System
   Manu T, C. Vineeth, R. K. Choudhary, T. K. Pant

4. Spatial distribution of geomagnetic impulses from the Indian Sector during 2014-2025 based on Swarm satellite mission
   *Archana R.K and Kusumita Arora**
5. Multi-spacecraft study of ICME-ICME interactions, ICME-in-sheath and associated GLE #77 during 11-12th Nov 2025
   Harsh Bhati, Mani K Chettri, Hemam Dinesh Singh
6. Storm-Phase Evolution of Low-Latitude Pc5 Geomagnetic Pulsations and their Relationship with Solar-Wind Drivers during Severe Storms of Solar Cycle 25
   Manjula Lingala and Sergey Y. Khomutov
7. Ionospheric Response over Indian Sector to a Great Geomagnetic Storm: Insights from Multi-Instrument Observations and Physics-Based Simulations
   Arya Ashok, K. M. Ambili, and R. K. Choudhary
8. The hemispheric asymmetry in the impact of Disturbance Electric field in the Indian sector: - A Statistical analysis based on Geomagnetic storms of Dst<-50 Occurred during 2012-2016
   Archana, R.K., Lekshmi O Nair, C. Vineeth, T. K. Pant, Lijo Jose

04:10–04:25 PM | Tea Break

04:25–06:00 PM | Inauguration of Poster session

Poster Presentation Session – I Posters (P1-P66) Venue: PCSA Foyer Area

(Panelists: Dr. V V S S Sarma, Dr. Akhilesh Mishra, Dr. Biswajit Mandal, Dr. A Vasanthi, Dr. J N Tripathi, Dr. Rambabu Singh, Dr.Vivek Kumar, Dr. S P Anand, Dr. Sameer Ranjan, Dr. Bivin George, Dr. Nibedita Rakshit, Dr. Sanjay Bisht, Dr. Firoz Kadar Badesab)

ADVANCES IN GEOPHYSICS FROM GEODYNAMICS TO METALLOGENY, AND GREEN ENERGY TRANSITION

P1. IMAGING IRON ORE SUSCEPTIBILITY ZONES USING 3D MAGNETIC INVERSION WITH K-MEANS CLUSTERING: A CASE STUDY FROM SANINDIPUR IRON AND BAUXITE MINES, ODISHA

Ajak John Ateng*, Kuldeep Sarkar, Nimatullah, Shreya Maurya, and Anand Singh

P2. COMPARATIVE EVALUATION OF NZVI, NANO-OXYGEN BUBBLES, AND HYBRID BIOREMEDIATION FOR ARSENIC REMOVAL FROM CONTAMINATED WATER

Kushal Pal Singh* and N. Sathaiah

P3. PREDICTING ELECTRICAL SIGNATURES OF CRITICAL MINERAL SYSTEMS: A SYNTHETIC MODELLING APPROACH

Cheema Moran*, Ved P. Maurya, and Prakash Kumar

P4. GEOPHYSICAL SURVEYS USING UNMANNED AERIAL SYSTEMS IN MINERAL EXPLORATION

Muhammed Yaseen V, K Gangadhar, Navin Raja

P5. DEVELOPMENT OF A CONCEPT-DRIVEN GEOLOGICAL MODEL TO IDENTIFY THE POTENTIAL OF GEOLOGIC HYDROGEN IN THE EASTERN INDIA

Pampa Malik, Saurabh Datta Gupta

P6. INTEGRATED GRAVITY–AEROMAGNETIC INTERPRETATION AND 3D POTENTIAL FIELD INVERSION FOR MINERAL EXPLORATION IN THE SAKOLI FOLD BELT, CENTRAL INDIA

Ranadheer Satla, B Nageswara Rao

P7. ATTENTION-BASED SEISMIC REPRESENTATION LEARNING FOR HIGH-RESOLUTION SUBSURFACE IMAGING

Ritesh Yadav, Upendra K. Singh

P8. GEOCHEMICAL ATTENUATION OF FLUORIDE IN WATER USING NATURAL ZEOLITE: A REACTIVE COLUMN STUDY

N. Sathaiah*, D. Praveen, and Kushal Pal Singh

P9. APPLICATION OF ARTIFICIAL INTELLIGENCE FOR BASE METAL DEPOSIT CLASSIFICATION: A COST-EFFECTIVE RECONNAISSANCE-STAGE APPROACH USING IN-SITU LA-ICP-MS TRACE ELEMENTS, USING SPHALERITE GEOCHEMISTRY

Sima Gorai*, Bulusu Sreenivas

SOLID EARTH GEOSCIENCES

P10. TRANSDIMENSIONAL BAYESIAN INVERSION OF TELESEISMIC P-WAVE CODA FOR IMAGING SEDIMENT AND BASEMENT ARCHITECTURE IN THE BENGAL BASIN

A Manikho Rajina*, Satish Maurya, Gollapally Mohan

P11. GEOFUSIONNET: A CROSS DATA DEEP LEARNING FRAMEWORK FOR SEISMIC AND WELL-LOG FUSION FOR SUBSURFACE PROPERTY ESTIMATION

Rahul Sharma* , Priyanshu Sharma* , Aakash Nair* Shobit Mishra, Bharath Shekar

P12. SEISMIC IMPEDANCE INVERSION FOR RESERVOIR CHARACTERIZATION USING HARMONY SEARCH AND ARTIFICIAL GORILLA TROOPS OPTIMIZATION

Abhay Kumar, S. P. Maurya and Ajay P. Singh

P13. CHARACTERIZATION OF SEISMICITY AND STRESS REGIMES IN THE INDO-BURMESE ARC AND EASTERN HIMALAYA

R. Abhirami and P.S. Sunil

P14. REDUCING SITE-INDUCED BIAS IN EARTHQUAKE EARLY WARNING SYSTEMS: ADVANTAGES OF BOREHOLE SENSORS AND INTEGRAL-BASED PARAMETERS

Abhishek Tiwari, Mohit Agrawal, Mittal H

P15. A NOVEL FIELD AND PROCESSING TECHNIQUE FOR SEISMIC (MASW) SURVEY WITH MULTI-OFFSET SHOT (MOS)

Abul Aas, Sanjay Rana, Satish Kumar Sinha

P16. EXPLAINABLE AI AND MACHINE LEARNING BASED SEASONAL GROUNDWATER POTENTIAL ZONE MAPPING USING SPATIAL AND LONG TERM TEMPORAL DATA

Ankit Ashish*, Aayush and Saumen Maiti

P17. SEISMIC SITE CHARACTERIZATION OF THE JHARIA COALFIELD USING AMBIENT-NOISE HVSR INVERSION

Ankit Patel, Mohit Agrwal

P18. SHALLOW VADOSE ZONE HETEROGENEITY CONTROLS RECHARGE IN CRYSTALLINE AQUIFER: INSIGHTS FROM FIELD-LAB STUDIES, SOUTHERN INDIA

Enatula Appalanaidu*, Sahebrao Sonkamble

P19. SEISMIC SIGNAL-BASED DETECTION OF LANDSLIDES FOR REAL-TIME EARLY WARNING

Arushi, Sandeep

P20. SEISMIC IMAGING OF THE LONAR IMPACT CRATER EJECTA BLANKET VIA ACTIVE-SOURCE MASW

Ashish Kumar*, Rajendra Kumar Dash*, Dilnas Fathima*, Vivek Kumar*

P21. A GLOBAL SINGLE-FORCE CATALOG OF LARGE LANDSLIDES AND ROCK–ICE AVALANCHES

Athul Palliath*, Himangshu Paul

P22. HAMILTONIAN-DRIVEN RECURRENT QUTRIT DYNAMICS: A QUANTUM MACHINE LEARNING FRAMEWORK FOR SEISMIC WAVEFORM REPRESENTATION AND ANALYSIS

Bijayananda Dalai and Prakash Kumar

P23. FILTERING OF GRAVITY DATA USING EMPIRICAL MODE DECOMPOSITION AND DISCRETE WAVELET TRANSFORM

Chabungbam Yaiyaisana*, Dr. Mahak Singh Chauhan

P24. ILLUMINATING CRUSTAL DYNAMICS OF SOUTHEASTERN TIBETAN REGION BY ESTIMATING FREQUENCY-DEPENDENT BODY-WAVE ATTENUATION

Debajyoti Bera*, Rahul Biswas, and Niptika Jana

P25. CRUSTAL STRUCTURE AND SEISMOGENESIS OF THE LADAKH–KARAKORAM TRANS-HIMALAYA: INSIGHTS FROM RECEIVER FUNCTIONS AND LOCAL SEISMICITY

Dhanabir Wangjam*, Devajit Hazarika, Naresh Kumar

P26. ITERATIVE MIGRATION VELOCITY REFINEMENT THROUGH RESIDUAL MOVEOUT ANALYSIS FOR IMPROVED 2D SEISMIC IMAGING:
A CASE STUDY FROM POLAND.

Dikal Ram P*, Biswajit Mandal, Vivekanand Pandey, Prakash Kumar

P27. IMAGING SHALLOW SUBSURFACE BENEATH THE DECCAN TRAPS USING AMBIENT NOISE CROSS-CORRELATIONS

Dilnas Fathima, Vivek Kumar, Gokul K. Saha, Dipak K. Chaubey, Shyam S. Rai

P28. GNSS-DERIVED CRUSTAL STRAIN ESTIMATION IN PALGHAR, MAHARASHTRA

Gayathri Deepthi*, Anand S. P., and M. Ponraj

P29. MICROTREMOR-BASED SHALLOW SUBSURFACE SHEAR-WAVE VELOCITY STRUCTURE AND SEISMIC SITE CHARACTERIZATION OF PRAYAGRAJ CITY, INDIA

Girish Chandra Rahi*, Uma Shankar

P30. SHALLOW SEISMIC REFRACTION TOMOGRAPHY FOR GROUNDWATER INVESTIGATION AT SADHANA FOREST, TAMIL NADU, INDIA.

Gondu Lahari*, V. Vijaya Rao, Tanvi Arora, N. Prem Kumar, Mohammed Rafique Shamshoddin Attar, Ronak Dahiya Kolli Laxminarayana, P. Karuppannan, Biswajit Mandal, Prakash Kumar

P31. A SPATIALLY VARYING MAGNITUDE-THRESHOLD FRAMEWORK FOR PRE-INJECTION SEISMICITY RISK ASSESSMENT FOR CO_2 STORAGE IN THE DECCAN BASALT, INDIA

Hari Prasath S, Dip Das, Nimisha Vedanti

P32. EVALUATING BROADBAND SEISMIC STATION PERFORMANCE THROUGH AMBIENT NOISE ANALYSIS IN THE EASTERN CHHOTANAGPUR PLATEAU

Himanshu Gautam, Mohit Agrawal

P33. USE OF REAL-TIME SEISMIC AMPLITUDE MEASUREMENT FOR DETECTING FLOOD SIGNALS IN THE ITANAGAR CITY, ARUNACHAL PRADESH

Jeny Sam, Athul P, Himangshu Paul and Naba K. Bora

P34. CHARACTERIZATION OF S-WAVE ATTENUATION IN MYANMAR USING THE 2025 MW 7.7 EARTHQUAKE

Jirmili Ingtipi and Nitin Sharma

P35. A DEEP LEARNING NEURAL OPERATOR FOR SEISMIC WAVEFORM INVERSION

Joseph Lalngaihawma* and Ajay Malkoti

P36. MULTILAYER PERCEPTRON NEURAL NETWORK-BASED INVERSION OF ELECTRICAL RESISTIVITY TOMOGRAPHY DATA FOR GROUNDWATER CONTAMINATION SITE CHARACTERIZATION

Jyoti*, Payal Rani

P37. INTEGRATED BOREHOLE GEOPHYSICAL LOGGING FOR FRACTURE CHARACTERIZATION IN HARD-ROCK TERRAIN: A CASE STUDY FROM HYDERABAD, INDIA

K.N.S.S.S.Srinivas*, M. Srihari Rao, P. Pavan Kishore, S. Trupti, H.V.S.Satyanarayana

P38. EARTHQUAKE SOURCES PROCESS AND SEISMOTECTONICS

Keloth Sri Venkata Durga Kalyani, DubbaVijay Kumar, and G. Udayalaxmi

P39. RESISTIVITY CORRECTION FRAMEWORK FOR LITHOLOGICAL AND GROUNDWATER QUALITY EFFECTS IN AEM INTERPRETATION

Kattula Bhima Raju, Peela Madhu, Subash Chandra

P40. GEOPHYSICAL PROSPECTING FOR MINERALIZED POTENTIAL ZONES IN PEDDAVURA AND CHINTHAKUNTLA SCHIST BELTS IN NALGONDA DISRTICT, TELANGANA

Kota Ashwini, Dr G. Udaya Laxmi

P41. UNDERGROUND BURIED UTILITY DETECTION FROM B SCAN GROUND PENETRATING RADAR IMAGE USING DEEP LEARNING MODEL

Krishna Kumar Yadav, Ashvini Kumar Yadav, Satish Kumar Sinha and Alok Saini

P42. IMPROVED NODE AND BRANCH DETECTION ALGORITHM FOR 2D FRACTURE NETWORK CHARACTERIZATION.

Kuntal Saha*, Sudipta Sarkar, Sirshendu Kumar Biswas, Tridib Kumar Mondal

P43. ANISOTROPY OF MAGNETIC SUSCEPTIBILITY AND ROCK MAGNETIC RESULTS FROM LEH-LADAKH DYKES: PRELIMINARY INVESTIGATIONS

Manan Singh, Pratikshya Behera, Pradnya Mohite, B.V. Lakshmi, K. Deenadayalan, Garima Shukla, A.P. Dimri

P44. WHAT DYKE INDUCED GRABEN SAYS ABOUT THE SUBSURFACE DYNAMICS OF PLANETARY LITHOSPHERE: A COMPARATIVE STUDY OF LUNAR AND MARS

Chakraborty, Manojit*, Saha, Kuntal, Dey, Anubhab Ruj, Trishit, Mondal, Tridib Kumar

P45. CRUSTAL STRUCTURE AND TECTONIC EVOLUTION OF NORTHEAST INDIA REVEALED BY AMBIENT NOISE GROUP-VELOCITY TOMOGRAPHY

Mohit Agrawal

P46. PROCESSING AND MODELLING OF SATELLITE MAGNETIC DATA FOR DEVELOPING LITHOSPHERIC MAGNETIC ANOMALY MODEL OF THE INDIAN (LAMI) REGION

Monica Rawat and Anand. S.P.

P47. SOURCE LOCATION OF THE 2025 GOVINDGHAT LANDSLIDE AND BRIDGE COLLAPSE EVENT, UTTARAKHAND, INDIA USING SEISMIC MONITORING

Monika Bhatia*, Rajesh Rekapalli, Sandeep Gupta, Kethavarapu Raviteja, and Venkatesh Vempati

P48. INTEGRATED FIRST-BREAK TRAVEL-TIME TOMOGRAPHY AND ELASTIC FULL WAVEFORM INVERSION FOR HIGH-RESOLUTION SEISMIC IMAGING IN KACHCHH, WESTERN INDIA

Mukesh Rathore, Prakash Kumar, Biswajit Mandal, Mrinal K. Sen

P49. LITHOLOGICAL CONTROLS ON RADIOGENIC HEAT PRODUCTION AND SPECIFIC HEAT CAPACITY IN THE TATAPANI GEOTHERMAL PROVINCE, CENTRAL INDIA

Munazza Fatima*, Labani Ray, Nishu Chopra, Nidharshan B M, Pragyan Mohapatra, Sandeep Kumar Prajapati

P50. A PROBABILISTIC SEISMIC HAZARD ASSESSMENT FOR NORTHWEST HIMALAYA USING OPENQUAKE

Dr. Imtiyaz A. Parvez, Dr. S. Sangeetha, Nainshi Saini

P51. PREDICTION OF SEISMIC SOIL LIQUEFACTION USING SPT-BASED CASE HISTORIES AND MACHINE LEARNING TECHNIQUES

Naorem Denilson Singh* Upendra K. Singh

P52. EARTHQUAKE-DRIVEN STRESS REDISTRIBUTION AND FAULT REACTIVATION POTENTIAL IN THE KASHMIR VALLEY, NORTHWESTERN HIMALAYA

Naseer Ahmad Bhat and Bikram Singh Bali

P53. TRACING REE AND TRACE ELEMENT SIGNATURES IN MAJOR LITHOLOGIES OF THE TATAPANI GEOTHERMAL PROVINCE, CENTRAL INDIA

Nidharshan B M*, Labani Ray, Pragyan Mohapatra, Nishu Chopra

P54. MAGNETIC FABRIC AND SEDIMENTARY DEFORMATION ALONG THE DHUBRI FAULT, NORTHEAST INDIA: PRELIMINARY INVESTIGATIONS

P. Nidhin, Mujahed Baba, Pratikshya Behera, Manan Singh, B.V. Lakshmi, K. Deenadayalan, P. S. Sunil

P55. AMORTIZED UNCERTAINTY QUANTIFICATION IN TRANSIENT ELECTROMAGNETIC SOUNDING INVERSION USING DEEP LEARNING

Nimatullah, Kuldeep Sarkar, Pankaj K. Mishra and Anand Singh

P56. PHYSICS-GUIDED NEURAL NETWORK APPROACH FOR 2-D MAGNETIC SUSCEPTIBILITY IMAGING OF COMPLEX MULTI-SOURCE STRUCTURES

Nimatullah, Kuldeep Sarkar, Shreya Maurya, and Anand Singh

P57. INTEGRATED GRAVITY–MAGNETIC STUDY FOR DELINEATION OF SHALLOW CRUSTAL ARCHITECTURE ACROSS THE SONRAI–MADAWARA SECTOR, SOUTHERN BUNDELKHAND CRATON INDIA

Niranjan P Sankar, Ananya Parthapradip Mukherjee and Animesh Mandal

P58. CRUSTAL THERMAL STRUCTURE OF THE BUNDELKHAND CRATON, CENTRAL INDIA: CONSTRAINTS FROM SURFACE HEAT FLOW AND 2-D CONDUCTIVE THERMAL MODELLING

Nishu Chopra*, Rosemary Sunny, Labani Ray, S.P. Singh

P59. EMPIRICAL MODELING OF CUMULATIVE INTENSITY MEASURES FROM REGIONAL SEISMICITY IN THE UTTARAKHAND HIMALAYA

Nitin Sharma*, Mangalampally Ravi Kumar, Raman Vijaya Raghavan and Prakash Kumar

P60. CHARACTERIZING CRUSTAL ANISOTROPY ALONG THE KABAW FAULT USING LOCAL EARTHQUAKE SHEAR-WAVE SPLITTING ANALYSIS

Nitish Kumar Tiwari, Niptika Jana,*, and Arjun

P61. FINITE-DIFFERENCE MODELLING OF 2D ACOUSTIC WAVES: NUMERICAL DISPERSION IN HOMOGENEOUS MEDIA AND WAVEFIELD EFFECTS OF A FAULT ZONE

Naresh Pachipala*, Biswajit Mandal, Prakash Kumar

P62. MACHINE LEARNING APPLICATIONS FOR UNDERSTANDING THE COMPLEX ALLUVIAL AQUIFER SYSTEM OF THE GANGA-YAMUNA DOAB, MIDDLE GANGA BASIN, INDIA

Peela Madhu*, Payal Rani, Subash Chandra

P63. ASSESSMENT OF THERMOPHYSICAL PROPERTIES AND GEOTHERMAL RESERVOIR CHARACTERISTICS OF THE TATAPANI HOT SPRING REGION, CENTRAL INDIA.

Pragyan Mohapatra[1], Labani Ray, Nishu Chopra, Fatima Munazza, Nidharshan B M, Ankita Roy, Sasi Kumar Uddandam, Nagaraju Podugu

P64. UNCLOCKING CRITICAL MINERLS RESOURSES THROUGH ADVANVCES IN GEOPHYSICS

Gumpula Prasanna Rani, Dubba Vijay Kumar and G. Udhaya Laxmi

P65. SEISMIC NOISE SOURCE CHARACTERISATION FOR A LOCAL NODAL SENSOR DEPLOYMENT

PSHSN Dattatreya*, Pratul Rajan, Biswajit Mandal, Karuppannan P, Prakash Kumar

P66. MACHINE LEARNING-BASED DETECTION OF LANDSLIDE EVENTS USING SEISMIC WAVEFORMS

Rachna, Sandeep

06:00–06:30 PM | IGU Executive Council Meeting **Venue: Department of Earth Sciences**

07:00–08:30 PM | Cultural Programme (PCSA)

08:30 PM onwards | Dinner

DAY 2 - 3 NOVEMBER 2026 (TUESDAY)

09:00–10:30 AM | Technical Oral Presentation Session – IV Parallel Session-III

Session-IV: Site Response, Ground Motion, And Seismic Hazard Assessment Venue: PC Saxena Auditorium

(Chair: Prof. T N Singh | Co-chair: | Dr. G Udaya Laxmi)

1. Site characterization and seismic hazard analysis of cities in the Indo-Gangetic plain using microtremor and MASW measurements
   Uma Shankar
2. Characterization of Subsurface Soil Profile using GPR and Borehole Integration in Alluvial Terrain
   Satish Kumar Sinha, Krishna Kumar Yadav, Ashvini Kumar Yadav, and Alok Saini
3. The site-specific variation of H/V spectra with different geological conditions and vice versa -A case study over Delhi.
   H S Mandal and G Suresh*
4. Seismicity Characterization and Stochastic Ground-Motion Simulation of a Hypothetical MW 7.4 Earthquake in the Central Himalayan Seismic Gap
   Arpita Biswas, Nitin Sharma, Prakash Kumar*
5. Integrated assessment of Seismic Site Effects, Velocity-Depth profiles, and response spectrum in the Central Indo–Gangetic Plains.
   Prashant Vishwakarma, Nitin Sharma, and Prakash Kumar*
6. Integrated Analysis of Temporal and Spatial Seismic Variations in the Himalayas Using Gutenberg–Richter Parameters and a Clustering Approach
   *R. Annusha and N. Venkatanathan**
7. Investigating the Relationship Between Site-Specific κ_0 and HVSR-Based Site Response in the Garhwal Himalaya, Central Himalayan Seismic Gap
   Renu Yadav and Dinesh Kumar
8. Spatial and Temporal Variations in Site Response and Shallow Shear-Wave Velocity Structure in the Palghar Earthquake Swarm Region, Western India
   M. Srikanth,V. Pavan Kumar, K. Sivaram, M. Shekar, Prakash Kumar*
9. Soil Characterization of Landslide-prone regions in Uttarakhand, India, Using synthetic and field (MASW) Data
   *P. Sivasankar *, K. Swapna Sri, and K. Satish Kumar*

09:00-10:30 AM

Parallel Session-III: Planetary Crustal dynamics and Processes in Earth and Planetary ionosphere/magnetosphere Venue: SOM Auditorium

(Chair- Dr. T M Balakrishnan Nair, Co- Chair: Dr. Amar Kakad)

1. Geomagnetic Storm Phase Dependence of EMIC-associated Energetic Particle Precipitation: A Statistical Study During the Van Allen Probes Era
   S. Deepak, B. Remya, L. Capannolo, Amrutha, S. V. Singh*
2. Mirror-mode waves and associated energetics in Earth's magnetosheath region

Sachit Upadhyay, Amar Kakad, Shubhangi Lagad, Sahil Pandey, Dhirajkumar Shende

3. Observation of Global Pc5 Pulsations During Main Phase of 10 May 2024 Geomagnetic Storm
   Shreya Mishra, Jayashree Bulusu, Kazuhiro Yamamoto, Archana Radhakrishnan and A.P Dimri
4. From Sunspots to Geomagnetic Activity: Statistical and Machine Learning Analysis of Long-Term Space Weather Variability
   Shreyas Khobragade
5. Impact of the September 2017 CME on the Martian Plasma Environment
   Pranjali, V.S.P., Chinmaya Nayak, Suraj Gupta, Satyavir Singh, and A. P. Dimri*
6. Mine: A Machine Learning-Based Martian Ionospheric Electron Density(ne) Prediction Model
   Suraj Gupta, Chinmaya Nayak, Erdal Yiğit, David Andrews, Stephan Buchert, V. S. P. Pranjali, S. Tulasi Ram, Gopi K. Seemala, Satyavir Singh, A. P. Dimri
7. Gravity Constraints on Crustal Thinning and Structural Heterogeneity in the Humboldtianum and Mendel–Rydberg Lunar Impact Basins
   Rahul Biswas, U. Sreenandana, Arghya Kusham Dey, Prakash Kumar*

09:00-10:50 AM Parallel Session-IV: Young Researchers Program **Venue: Seminar Room 113, Department of Earth Sciences**

(Panellists: Prof. George Mathew, Prof. Hetu Sheth, Prof. B S Choudhary, Prof. S Dasgupta, Prof. Vikram Vishal, Prof. Satish Sinha)

1. Role of Nutrients Availability in Modulating Ocean Acidification Effects on Phytoplankton
   Aditi Sharma and V. V. S. S. Sarma*
2. Fractures within Mafic Dykes and Host Granites: Can they be Kinematically Related?
   Gourav Das, Anubhab Dey, Tridib Kumar Mondal*
3. How Missingness Mechanisms and Imputation Methods Shape Fairness, Explainability and Stability
   Himanshi Bansal , Dharam Prakash , Harsh Kasyap
4. Crustal Architecture and Lineament Mapping of the Northwestern Dharwar Craton from Airborne Magnetic Data: Tectonic Implications
   Krati Gupta and Anand SP
5. Elastic Full Waveform Inversion (EFWI) for high-resolution near-surface imaging
   Machitti Pavani, Mrinal K. Sen, Prakash Kumar, K. Satish Kumar
6. Identification of Fracture-Related Discontinuities Using Integrated Seismic Attribute Analysis in the Krishna-Godavari Basin, India
   Pelluri Latha Sri, Nittala Satyavani*
7. Enhancing subsurface imaging with nine-point finite difference operator using reverse-time migration: Application to offshore Nankai 2D seismic data
   Raju Babu Allu and Laxmidhar Behera*
8. Influence of Martian Crustal Magnetic Field on Solitary Wave Occurrence
   Sahil Pandey, Amar Kakad, and Bharati Kakad*
9. Mapping Rayleigh Wave Radiation Variability for the 29 July 2025 Mw 8.8 Kamchatka Earthquake using Ionospheric Observations
   Sunil Saini, Mala S. Bagiya, Rabin Das, A. P. Dimri*

10. Reconstruction of the past Geomagnetic Field Intensity through Archaeomagnetic records from the Indian Subcontinent
Pradnya Mohite, Juili Raut, Anish Varma, K. Deenadayalan, B.V. Lakshmi, Manish Rai and A. P. Dimri
11. Unveiling Tropical Cyclone–Induced Atmosphere–Ionosphere Coupling from Atmospheric Observations over the Indian Subcontinent
*Omkar M. Patil *, Navin Parihar, Rajesh Singh, A. P. Dimri*

10:30-10:45 AM | Tea Break

10:45-11:00 | IGU- Krishnan Medal –

Advancing Digital Rock Physics: Linking Segmentation to Elastic Moduli

- Dr. Shib Sankar Ganguli

Chair: Dr. Abhey Ram Bansal

11:00-12:10PM Session-V: Computational Geophysics, Inversion, and Optimization **Venue: PCSA Auditorium**

(Chair: Dr. Prakash Kumar | Co-chair: Prof. Hemant Kumar Singh)

1. Metaheuristic Optimization-Based 4D Seismic Inversion for CO2 Plume Delineation
Ajay Pratap Singh, S. P. Maurya, and M. K. Srivastava*
2. Reservoir Characterization of the Smeaheia CO_2 Storage Site, Northern North Sea, Using JAVA Optimization-Based Seismic Inversion
Hema,G*, S.P. Maurya
3. Hybrid Metaheuristic Optimization for Seismic Impedance Inversion Using Particle Swarm and Artificial Gorilla Troops Optimization
Brijesh Kumar, S. P. Maurya and Ajay P. Singh*
4. Seasonal Variations in Spectral Content of Seismic Ambient Noise in Uttarakhand Region
Uma Devi, E, Rajesh Rekapalli, Raviteja Kethavarapu, Venkatesh Vempati, G Suresh,Sandeep Gupta*
5. Intrinsic divergence of Taner & Koehler series used in travel time approximation: Remedies resorting to Padé approximation and asymptotic expansion
Praveen Kunagu and Santi Kumar Ghosh*
6. Unified anomaly expressions for vertical cum horizontal, and total field magnetic anomalies of 2.75 Dimensional fault structures confined by Non-planar fault planes.
M. Deepak, B. Ramamma, V. Chakravarthi*
7. Double Hybrid Optimization Based Seismic Inversion for CO_2 Monitoring: A Comparative Study of Genetic Algorithm and Simulated Annealing Methods at the Sleipner Field
S.P. Maurya*, Raghav Singh, and K.H. Singh

12:10-01:10 PM Session-VI: Seismic Imaging and Crustal Structure of the Indian Sheild and adjoining regions **Venue: SOM Auditorium**

(Chair: Dr. Laxmidhar Behera | Co-chair: Prof. Satish Maurya)

1. Evidence of Hales-discontinuity, crustal heterogeneity and anisotropy characterization towards Central and Western Dharwar Craton, Southern India
Laxmidhar Behera* and Deepak Kumar

2. Common Reflection Surface Stack Imaging of the Indian Shield: A Review of Deep Crustal Architecture from Archean to Mesozoic Terrains
   Biswajit Mandal, V. Vijaya Rao, P. Karuppannan, Kolli Laxminarayana, Prakash Kumar*
3. Thickness distribution across the Deccan Volcanic Provinice and its implications
   Shilpa Patil Pillai, Gauri Dole, Madhu Rajput, Devdutt Upasani, and Vivek S. Kale
4. Deep crustal 3D velocity structure beneath the 2001 Bhuj earthquake epicentral region of Kachchh, Western India: Insights from Local earthquake tomography
   Alle Shiva Kumar, Rema Vaishali, Ashok Maripireddi, Madhusudhana Rao Katlamudi, Udaya Laxmi Gakka*
5. Crustal structure variation across the Sri Lanka through teleseismic receiver function analysis
   Anu Priya Dahal* and Nagaraju Kanna
6. Compositional assessment and crustal heterogeneities deciphered along Hardi-Samatpur 3-C wide-angle seismic profile of South Rewa basin, Central India
   Sudeshna Moharana* and Laxmidhar Behera

01:10-02:00 PM | Lunch Break

Venue: PCSA Auditorium

02:00-03:50 PM **Special session: An Earth System Science approach to Geoscience Research**

(Chair: Dr. M Ravichandran Co-chair: Prof. M Radhakrishna)

02:00-02:30 PM | Keynote Talk:
Romancing the Earth's grandest creation
Prof. V K Gaur

02.30-02.50 PM | IGU-Decennial Award Talk
Reconstructing Terrestrial Water Storage Variability across India, from the Pre-GRACE Period to Today
Dr. V M Tiwari, Director, CSIR-NEIST

02:50-03:10 PM | IGU- Prof. KR Ramanathan Memorial Lecture -
The Himalayan Cryosphere in a Warm Climate: Risks to Mountain Communities and the Way Forward
Prof. Anil V Kulkarni, IISc Bangalore

03:10-03:30 PM Invited Talk:
What does the Physics Nobel 2026 have to do with the internal structure of the Earth?
Prof. Amol Dighe, TIFR, Mumbai

03:30-03:50 PM Invited Talk:
Waste to Wealth- Green Energy Transition: Recent Technology Developments in India
Dr. Ajit Sapre, Formerly at Reliance Industries Ltd, Mumbai

03:50-04:05 PM Tea Break

04:05–04:30 PM | Annual General Body Meeting (AGM) PCSA Auditorium

04:30–06:15 PM | Technical Poster Presentation Sessions – II | (P67-P133 Posters) Venue: PCSA Foyer Area

(Panelists: Dr. V V S S Sarma, Dr. Akhilesh Mishra, Dr. Biswajit Mandal, Dr. A Vasanthi, Dr. J N Tripathi, Dr. Rambabu Singh, Dr. Vivek Kumar, Dr. S P Anand, Dr. Sameer Ranjan, Dr. Bivin George, Dr. Nibedita Rakshit, Dr. Sanjay Bisht, Dr. Firoz Kadar Badesab)

P67. CRUSTAL SEISMIC STRUCTURE BENEATH CENTRAL TIBET FROM TELESEISMIC RECEIVER FUNCTION ANALYSIS

Raees C & Nagaraju Kanna

P68. DEEP LEARNING-BASED AUTOMATED CLASSIFICATION OF BENTHIC FORAMINIFERA FROM PETROGRAPHIC THIN SECTIONS

Rahul Singh, Sanjay Arjun Pandit, Kumar Hemant Singh, Ravi Kant, Soutik Bhakta

P69. SEISMIC IMAGING OF THE LITHOSPHERIC STRUCTURE BENEATH THE WESTERN HIMALAYA-HINDU KUSH-WESTERN TIBET COLLISION ZONE USING AMBIENT NOISE TOMOGRAPHY

Rajendra K. Dash, Vivek Kumar, Shyam S. Rai

P70. LAND GRAVITY ANOMALIES ACROSS THE GANGA PLAIN AND GEODETIC UPLIFT RATES OF THE HIMALAYAN FRONTAL THRUST IN THE DEHRADUN RE-ENTRANT: HEIGHT CORRECTIONS USING GLOBAL AND GRAVIMETRIC GEOIDS

Rajesh S* and Param K. Gautam

P71. GEOPHYSICAL INVESTIGATION FOR SEEPAGE ASSESSMENT IN AN EARTHEN DAM

Rakesh Nikam*, G.D.Naidu and Suneetha Naidu

P72. SEISMIC NOISE AND SITE CHARACTERISATION IN THE LADAKH-KARGIL REGION: IMPLICATIONS FOR EARTHQUAKE SOURCE QUANTIFICATION

Ransom Vasanth, Naresh Kumar, Devajit Hazarika

P73. AN ADAPTIVE MACHINE-LEARNING CONSENSUS FRAMEWORK FOR AUTOMATED WINDOW SELECTION IN MAGNETOTELLURIC DATA PROCESSING

Reegan Raj I*, Prasanta K. Patro

P74. CRUSTAL SEISMIC IMAGING ALONG JODIA-ANSADOR PROFILE OF SAURASHTRA BASIN USING WIDE-ANGLE SEISMIC DATA

Renuka Kolluru*, Laxmidhar Behera, Prakash Kumar

P75. IMAGING THE CRUST AND UPPERMOST MANTLE BENEATH NORTHEAST INDIA AND THE INDO-BURMA SUBDUCTION ZONE USING RAYLEIGH-WAVE TOMOGRAPHY

Ritwik Mandal and Satish Maurya

P76. AEROMAGNETIC EVIDENCE FOR FAULTS AND SHEAR ZONES IN THE PAMIDI-ANANTAPUR REGION, EASTERN DHARWAR CRATON, SOUTH INDIA

R.K. Kishore*, S. Parveen Begum, K. Satish Kumar, M. Prasanthi Lakshmi, H.V.S. Satyanarayana

P77. INTEGRATED GEOPHYSICAL CHARACTERIZATION OF THE KOPILI FAULT ZONE AND ADJOINING REGIONS, NORTH-EAST INDIA

Rohit K Jha, Awadhesh K Prasad, Laxminarayana, M., Anand.S.P.

P78. GAMMA RAY LOG-BASED ESTIMATION OF SUBSURFACE THERMAL CONDUCTIVITY: VALIDATION USING LABORATORY MEASUREMENTS FROM THE GODAVARI BASIN, INDIA.

Rosemary Sunny*, Nishu Chopra, Labani Ray, Ankit Singh, Manju S, B M Nidharshan

P79. APPRAISAL OF SHALLOW SUBSURFACE STRUCTURES USING MASW TECHNIQUE ACROSS KANDIVALASA RIVER-ANDHRA PRADESH

S. Trupti*, P. Pavan Kishore, K.N.S.S.S. Srinivas, G. Vasudevan, D. Mysaiah and H.V.S. Satyanarayana

P80. SPATIAL DISTRIBUTION IN THE SURFACE HEAT FLOW FROM THE CHOTANAGPUR GRANITE GNEISS COMPLEX, EASTERN INDIAN SHIELD: IMPLICATIONS FOR GEOTHERMAL ENERGY EXPLORATION IN SONATA GEOTHERMAL PROVINCE

Sandeep Kumar Prajapati*, Labani Ray, Nishu Chopra, Ayan Dutta, Eswara Rao Sidagam, Pragyan Mohapatra, Ankita Roy, Nagaraju Podugu

P81. STUDY THE LOCAL SITE EFFECT OF KASHMIR BASIN OF NW HIMALAYA USING FINITE DIFFERENCE METHOD

Sanjay Kumar, Prakash Kumar, J.P Narayan, Nayeem Ahmad Bhat

P82. INTERPRETATION OF AEROMAGNETIC ANOMALIES WITH STRONG REMANENCE USING THE NORMALIZED ANALYTIC SIGNAL APPROACH

V. Pradeep Kumar, D. Seshu*, H.V.S. Satyanarayana

P83. EMPIRICAL CHARACTERIZATION OF SEISMIC ENERGY ATTENUATION FROM LANDSLIDE SIGNALS AT MOUNT SPURR, ALASKA

Shelendra Jadon, Sandeep

P84. MULTI-GEOPHYSICAL ASSESSMENT FOR IDENTIFICATION OF POTENTIAL MANAGED AQUIFER RECHARGE SITES IN BASALTIC TERRAIN OF RAIGAD, MAHARASHTRA

Shreya Maurya*, Kuldeep Sarkar, Nimatullah, and Anand Singh

P85. LANDSLIDE MONITORING USING PASSIVE SEISMOLOGY AND SAR INTERFEROMETRY: A CASE STUDY FROM JOSHIMATH, CHAMOLI (UTTARAKHAND)

Shubham Mishra, Satish Maurya

P86. STRUCTURE INDUCED ANISOTROPY IN COAL FIELD: A STUDY FROM RANIGANJ, WEST BENGAL

Shubham Rai, Joseph Lalngaihawma, Ajay Malkoti, Pankaj Kumar, Nimisha Vedanti

P87. COSMIC RAY MUON TOMOGRAPHY FOR HIGH-RESOLUTION SUBSURFACE DENSITY IMAGING

Shubhashri S Shenoy, Prakash Kumar, Biswajit Mandal, Akimichi Taketa, Bijayananda Dalai

P88. MAGNETOTELLURIC IMAGING OF THE BASEMENT ARCHITECTURE AND SEDIMENTARY SUCCESSIONS IN THE CENTRAL VINDHYAN BASIN

S. Srinivasarao*, G. Pavankumar, M. Demudu Babu, M. Suresh, L. Adilakshmi, A. Manglik

P89. SEISIMAGE: A PYTHON BASED GUI PACKAGE FOR SEISMIC INVERSION

Sreeja Kalyankar*, Srishti Singh, Ajay Malkoti, Nimisha Vedanti

P90. SPATIAL ANALYSIS AND 2D FORWARD GRAVITY MODELLING OF THE EASTERN CONTINENTAL MARGIN OF INDIA: CONSTRAINTS ON DEEP CRUSTAL ARCHITECTURE

Sreelakshmi PK

P91. MAGNETIC FABRICS AS INDICATORS OF ACTIVE FAULTING

Sreyashi Bhowmick*, Priyeshu Srivastava, Mohit Shivane, Gaurav D. Chauhan, A.P. Dimri

P92. AN IMPROVED DETECTION ALGORITHM TO QUANTIFY FRACTURE NETWORK TOPOLOGY AND CONNECTIVITY FROM BOREHOLE CORE IMAGE

Sarkar, Sudipta*, Saha, Kuntal, Naskar, Ipshita, Acharya, Koohinoor, Mondal, Tridib Kumar, Misra, Surajit, Mondal, Sourav, C S, Vishnu

P93. INTEGRATED AIRBORNE GEOPHYSICS FOR SUBSURFACE STRUCTURES OVER A SCHIST MINERALIZATION BELT OF SOUTHERN INDIA

Sukant Oraon* , Akhil Mishra, Ved P. Maurya Subhash Chandra, Joy Choudhury

P94. QUANTUM WAVELET TRANSFORM MACHINE LEARNING SEISMIC IMAGING

Sunjay

P95. PSEUDO-ACOUSTIC FULL-WAVEFORM INVERSION FOR VTI MEDIA: SENSITIVITY, PARAMETERIZATION AND ANISOTROPIC VELOCITY RECONSTRUCTION

Swaraj Ray, Shobit Mishra, Bharat Shekar, Kajaljyoti Borah

P96. CONSTRAINING THE CRUSTAL STRUCTURE OF THE TROODOS OPHIOLITE USING TELESEISMIC RECEIVER FUNCTIONS

U Sreenandana, Muhammed Rishal, Mohammad Ismaiel

P97. INTEGRATED STRUCTURAL AND RESERVOIR CHARACTERIZATION OF THE PALEOCENE–EOCENE SUCCESSION IN THE UPPER ASSAM BASIN.

Kurakula Kalyani , Param K. Gautam and Kalachand Sain

P98. A HYBRID GMPE FRAMEWORK INTEGRATING PHYSICS-BASED MODELING, TRANSFORMER LEARNING, AND XGBOOST FOR THE UTTARAKHAND HIMALAYA

Vikas Singh*, Sandeep, A. Raju

P99. SEISMOTECTONICS OF NORTHEAST INDIA: CONSTRAINTS FROM RELOCATED SEISMICITY AND FOCAL MECHANISMS

Yashpal Singh Tomar, Ajay Pratap Singh, Sanjit Kumar Pal

MARINE GEOSCIENCES

P100. SEISMIC CHARACTERIZATION OF SEDIMENTARY SEQUENCES ALONG THE SOUTHWESTERN CONTINENTAL MARGIN OF INDIA USING MULTI-CHANNEL SEISMIC REFLECTION DATA

Adithya K*, Nisha Nair, John Kurian P

P101. DYNAMICS OF THE SUBDUCTION ZONE BASED ON THE FLEXURAL MODELLING

Aman Kumar Vishwakarma, M Radhakrishna, G Srinivasa Rao

P102. INSIGHTS INTO INTRAPLATE SEISMICITY IN THE CENTRAL INDIAN OCEAN BASIN USING OCEAN BOTTOM SEISMOMETER NETWORK

Athul Ramachandran, Lachit S. Ningthoujam, Sanjay S. Negi, Amit Kumar, Rinku Mahanta, Pasagadgu Sion Kumari, John Kurian P

P103. MULTI-PROXY CHARACTERIZATION OF POLYMETALLIC NODULES FROM THE CENTRAL INDIAN OCEAN BASIN.

Kamasani Shiva Kumar, Muralidhar Kocherla* and Prasad Yelicharla

P104. A MULTIPROXY INVESTIGATION OF GEOCHEMICAL CYCLING IN A SEDIMENT CORE INFLUENCED BY MASS TRANSPORT DEPOSITS: A CASE STUDY FROM KRISHNA-GODAVARI BASIN.

Maria Hilda João, Muralidhar Kocherla*, Durbar Ray and Bindiya Velip

P105. SPATIAL HETEROGENEITY OF POLYMETALLIC NODULE ABUNDANCE IN THE INDIAN OCEAN NODULE FIELD (IONF): AN EVALUATION OF GEOPHYSICAL, GEOLOGICAL, AND GEOTECHNICAL DRIVERS AND ITS RELATIONSHIP TO SEDIMENT BIOGEOCHEMICAL PROPERTIES.

Muralidhar Kocherla * Prasad Yelicharla, Kamasani Shiva Kumar, Durbar Ray, Dinesh Ram Ramadoss, Maria Hilda João, Bharath Subramanyam Ammanabrolu

P106. PORE PRESSURE AND FRACTURE PRESSURE ESTIMATION IN GAS HYDRATE-BEARING SEDIMENTS OF THE KRISHNA-GODAVARI BASIN

Pradeep Kumar Yadav, Uma Shankar

P107. SPATIAL HETEROGENEITY OF POLYMETALLIC NODULE ABUNDANCE IN THE INDIAN OCEAN NODULE FIELD (IONF): AN EVALUATION OF GEOPHYSICAL, GEOLOGICAL, AND GEOTECHNICAL DRIVERS AND ITS RELATIONSHIP TO SEDIMENT BIOGEOCHEMICAL PROPERTIES

Prasad Yelicharla, Muralidhar Kocherla, Kamasani Shiva Kumar, Durbar Ray, Dinesh Ram Ramadoss, Maria Hilda João, Bharath Subramanyam Ammanabrolu

P108. CHARACTERIZING THE STRESS FIELD OF THE CENTRAL INDIAN OCEAN DIFFUSE PLATE BOUNDARY USING FOCAL MECHANISM INVERSION

Rinku Mahanta*, Sanjay S Negi, Lachit S Ningthoujam, Amit Kumar, Athul Ramachandran, Sion Kumari, John Kurian P.

ATMOSPHERIC, PLANETARY & SPACE SCIENCES

P109. SCOTIA SEA, AFFECTING BOTH ANTARCTICA AND SOUTH AMERICA.

A.Akilan*, C. Varun, and H.V.S. Satyanarayana

P110. IONOSPHERIC VARIABILITY ASSOCIATED WITH EARTHQUAKES AND VOLCANOES: OBSERVATIONS OF COUPLED LITHOSPHERE–ATMOSPHERE–IONOSPHERE

Aastha Rawat, Anshul Singh, Qadeer Ahmed, Ankit Gupta, Puja Goel, A. K. Upadhayaya

P111. EVALUATION OF DIFFERENT SPECTRAL INDICES FOR ASSESSMENT OF ECOLOGICAL CONDITIONS IN HARIKE WETLAND (RAMSAR SITE)
USING REMOTE SENSING AND GEOSPATIAL TECHNIQUES

Alka Kumari, Mohit Arora, Harpreet Singh Sidhu*

P112. SPATIAL AND TEMPORAL PATTERNS OF DROUGHT OVER THE INDO-GANGETIC PLAIN: PROJECTIONS AND IMPLICATIONS UNDER CLIMATE CHANGE

Anika Pandey and R.K Mall

P113. PALEOENVIRONMENT AND HYDRODYNAMICS OF EARLY-MIDDLE HOLOCENE SPITI VALLEY USING PALEOLAKE SEDIMENTS

Anish Varma*, Pradnya Mohite, K. Deenadayalan, B.V. Lakshmi, A. Anoop and A. P. Dimri

P114. ASSESSMENT OF DIFFERENT SOIL DIELECTRIC MIXING MODELS SUITABLE FOR L BAND SOIL MOISTURE RETRIEVAL OVER WHEAT CROP

Anjali*, Prashant K Srivastava

P115. ANISOTROPY OF MAGNETIC SUSCEPTIBILITY CONSTRAINTS ON THE EVOLUTION OF THE KIOTO PALEOLAKE, SPITI VALLEY, NW HIMALAYA.

Ankita P. Sarangi, Neha Goswami, Pratikshya Behera, V. Priyanka, Manan Singh, B.V. Lakshmi, K. Deenadayalan, A.P. Dimri

P116. INSIGHTS INTO PAST CLIMATE CHANGE FROM BOREHOLE TEMPERATURE PROFILES IN THE CHHOTANAGPUR GRANITE GNEISS COMPLEX, INDIA

Ankita Roy*, Sandeep Kumar Prajapati, Labani Ray, Nishu Chopra

P117. BROADBAND GROUND MOTION MODELLING OF MARSQUAKES AT HESPERIA PLANUM USING HYBRID SIMULATION TECHNIQUES

Arghya Kusum Dey*, Rahul Biswas, Prakash Kumar

P118. MAGNETIC CHARACTERIZATION OF AIRBORNE POLLUTANTS DERIVED FROM URBAN ROAD DUST AND THEIR POTENTIAL HEALTH IMPLICATIONS

Durga Prasad Tripathi*, Arvind Kumar Nema, Rajesh Singh**, A. P. Dimri

P119. INVESTIGATING THE ANCIENT GEOMAGNETIC FIELD INTENSITY USING ARCHAEOLOGICAL ARTEFACTS FROM WESTERN INDIA

Juili Raut, Pradnya Mohite, K. Deenadayalan, B.V. Lakshmi, and A.P. Dimri

P120. PARTICLE-SIZE SPECIFIC MAGNETIC PROPERTIES OF A LARGE OXBOW LAKE SURFACE SEDIMENTS: EVIDENCE FOR HYDRODYNAMIC SORTING

Mohit Shivane*, Priyeshu Srivastava, A.P. Dimri

P121. STATISTICAL CHARACTERISTICS AND SPATIAL DISTRIBUTION OF ELECTROMAGNETIC ION CYCLOTRON (EMIC) WAVES IN THE EARTH'S MAGNETOSPHERE

Neetu Singh*, Bharati Kakad, Amar Kakad

P122. MINERAL MAGNETIC SIGNATURES OF SEDIMENT PROVENANCE: INSIGHTS FROM THE MANE PALEOLAKE, LOWER SPITI, NW HIMALAYA

Neha Goswami, Ankita.P.Sarangi, Pratikshya Behera, V.Priyanka, Manan Singh, B.V. Lakshmi, K. Deenadayalan, A.P. Dimri

P123. GEOMAGNETIC STORM-INDUCED VARIABILITY OF IONOSPHERIC TEC: A MULTI-STATION ASSESSMENT USING GNSS OBSERVATIONS AND ANN MODELING

Nitin Dubey, Gurpinder Singh, & Devbrat Pundhir

P124. TRACKING AEOLIAN SAND MIGRATION AND EMERGING DESERTIFICATION IN THE SEMI-ARID RAYALASEEMA LANDSCAPE OF INDIA: A MULTI-TEMPORAL REMOTE SENSING ASSESSMENT OF ANANTAPUR

Badapalli Pradeep Kumar*; Anusha Boya Nakkala, Sakram Gugulothu

P125. DIGITAL SOIL MAPPING OF SOIL ORGANIC CARBON STOCKS IN WEST BENGAL: IMPLICATIONS OF FUTURE CLIMATE CHANGE

Progya Mukherjee* and R.K Mall

P126. SPATIO-TEMPORAL CHARACTERISTICS OF MARINE HEATWAVES ALONG THE MALABAR COAST

Rama Pandey, B Mandal and R Bhatla

P127. LINKING GREEN SPACE CONNECTIVITY AND URBAN HEAT MITIGATION: A DECADAL ASSESSMENT OF BENGALURU

Rupam Singh*, R.K. Mall

P128. EXPLORING SIGNATURES OF VOLCANIC ACTIVITY ON VENUS THROUGH MULTI-MISSION OBSERVATIONS

Satyamesh H. Tiwari* & Mala S. Bagiya

P129. LITHOSPHERE-ATMOSPHERE-IONOSPHERE COUPLING FOLLOWING LARGE VOLCANIC ERUPTION: CASE STUDY OF 13 JULY 2003 SOUFRIÈRE HILLS ERUPTION

Satyamesh H. Tiwari*& Mala S. Bagiya

P130. SPATIO-TEMPORAL HETEROGENEITY OF LAND SURFACE TEMPERATURE AND SURFACE URBAN HEAT ISLAND CHARACTERISTICS IN LUCKNOW, INDIA

Shreya Rai*, R.K. Mall

P131. REMOTE SENSING-BASED QUANTIFICATION OF GLACIER DYNAMICS AND CLIMATE DRIVERS IN THE ZANSKAR VALLEY, LADAKH

Tania Basu, Manish Mehta

P132. THE EARLY HOLOCENE NORTH-EAST MONSOON VARIABILITY: A MULTI-PROXY RECONSTRUCTION USING LAKE SEDIMENTS

Vireswar Samanta*, Monalisa Mallick, Barnita Banerjee, E.V.S.S.K Babu, T. Vijaya Kumar

P133. ON THE RESPONSE OF THE MESOPAUSE REGION OVER AN INDIAN ANTARCTIC STATION BHARATI TO THE GEOMAGNETIC STORM OF 23–24 MARCH 2023

Vishal Virapouttirassamy, Navin Parihar, Anand Kumar Singh, Rahul Rawat, Shailendra Saini and Ashok Priyadarshan Dimri

DAY 3 — 4 NOVEMBER 2026 (WEDNESDAY)

09:00–09:20 AM | IGU-Anni Talwani Memorial Prize Talk- Dr. Naresh Kumar

(Chair: Prof. P Rajendra Prasad)

Technical Oral Presentation Sessions – VII | Parallel Session-IV

09:20–10:40 AM Session-VII: Earth Resource exploration, reservoir characterization and energy transition **Venue: PCSA Auditorium**

(Chair: Prof. P Rajendra Prasad Co-chair: Prof. S S Chinnasamy)

1. National Water Security through Watershed Characterization and Management: A Case Study of KJ Watershed, North India

   B. S. Chaudhary
2. Advancing Geophysical Practices for Safe and Sustainable Indian Coal Mining

   Sanjit Kumar Pal, R.M. Bhattacharjee, Rajwardhan Kumar, Amit Bera, Vivek Vikash, Umakant Das*
3. Upscaling Hydrochemical Heterogeneity for Regional Recharge Decision Support: An Integrated Machine Learning–MAR Framework for Fractured Crystalline Aquifers

   *Prashant Kumar, Sayandeep Banerjee, Arkoprovo Biswas**
4. Aeromagnetic characterisation of the Sarnu-Dandali and Mer-Mundwara Alkaline Complexes in Northwest India: implications for REE mineralisation

   D. Seshu*, V. Pradeep Kumar, H.V.S. Satyanarayana, Prakash Kumar
5. Geoelectrical Investigation of the Tattapani Hot Spring Region for Geothermal Energy Exploration, Central India

   Dewashish Kumar, Ved Prakash Maurya, Arun Kumar Ojha, K. Lohith Kumar and Labani Ray*

6. Integrated study to Capture the Cap rock Integrity and CO_2 Migration Pathways in CBM Reservoirs for CCUS Feasibility
   Debadrita Nag, Saurabh Datta Gupta
7. Characterization of Clastic Reservoir Rock Using 3D Tomographic Images: A Digital Rock Physics Framework
   Ayush Chandra, Piyush Sarkar, Kumar Hemant Singh*

09:20–10:40 AM Parallel Session-V: Marine systems, climate, and Paleoenvironment **Venue: SOM Auditorium**

(Chair: Prof. Santanu Banerjee Co-chair: Prof. Jahnavi Punekar)

1. Future directions of biogeochemistry research in the Indian Ocean
   VVSS Sarma (Invited Talk)
2. Magnetofossil Record of Paleoenvironmental Changes in the Arabian Sea since Late Eocene
   Firoz Badesab, Nitin Kadam, Virsen Gaikwad, Omkar Sagavekar
3. Sources of dissolved inorganic carbon to the western Bay of Bengal and their contribution to ocean acidification using isotopic composition of dissolved inorganic carbon
   R. Sreevidhya, V. V. S. S. Sarma, Aditi Sharma*
4. Diagenetic controls on magnetic mineral assemblages in the Bay of Bengal sediments
   *Nitin Kadam, *, Somraj Misra, Jahnavi Punekar*
5. Late Quaternary Tectonic and Climatic reconstruction from palaeolake sediments of Indus River valley, Ladakh, NW Himalaya
   Pratikshya Behera, Manan Singh, B. V. Lakshmi, K. Deenadayalan, A. P. Dimri
6. 2D Mapping of Permeability in Gas Hydrate-Bearing Sediments Using MLRT tool: A Case Study from the Krishna-Godavari Basin
   Seema Begum, Ranjana Ghosh, Maheswar Ojha*

10:40-11:00 AM Tea Break

Venue: PCSA Auditorium

11:00-12:00 PM Keynote Talks on Structure and Tectonics

(Chair: Prof. N V Chalapathi Rao)

1. The Ninetyeast Ridge: Three Decades of Indian Research on Crustal Structure and Tectonics
   K.S. Krishna
2. Messages from the Subducting Slab: What Andaman Mud Volcanoes Reveal about Forearc Processes
   Jyotiranjan S. Ray
3. Structural Controls on Mineral Endowment zone in East Dharwar Craton, India: Insights from an Integrated Analysis of Geological, Satellite, and Geophysical Data
   T.R.K. Chetty, B. Ravi Kumar, J.V. Rama Rao

12:00-01:00 PM Session-VIII: Marine geophysics, crustal architecture, and tectonic evolution **Venue: PCSA Auditorium**

(Chair: Prof. Malay Mukul, Co-chair: Prof. S Dutta)

1. Retrieval of Global Vertical Gravity Gradient (VGG) from Surface Water Ocean Topography (SWOT) data: New insights into the ocean floor tectonics
   *D.V.P. Krishna *, K.M. Sreejith, G.S. Rao, M. Radhakrishna*
2. Geophysical Investigation of the India-Elan Bank-East Antarctica Conjugate Margins: Crustal Architecture and Breakup Kinematics
   Janne X J, S. Lasitha*
3. Mantle Plume–Ridge Interaction and the Formation of Ridgeward-Dipping Reflectors at Slow-Spreading Ridges
   M. Ismaiel
4. Seismic Evidence for flexed Moho Beneath Semail Ophiolite, Oman Mountain
   Muhammed Rishal*, Mohammad Ismaiel
5. Probing Offshore Deep Earth Dynamics over Tristan da Cunha, South Atlantic Ocean, with Marine Magnetotellurics: Perspectives for India
   Singh, R.K., K. Baba, Y. Usui, M. Jegen, A. Morschhauser and W.H. Geissler*

12:00-01:00 PM Parallel Session-VI: Solid Earth Geophysics, Subsurface Imaging and Earth Observations **Venue: SOM Auditorium**

(Chair: Prof. D C Srivastava | Co-chair: Dr Devendra Kumar)

1. Understanding Crustal Structure Beneath Western Tibet from Ambient Noise Surface Wave Tomography
   Arjun, Niptika jana, Anubhabh Sen
2. Illuminating Lithospheric Anisotropy and Mantle Deformation Dynamics Beneath Northeast India using Receiver Function Harmonics
   Dhiraj Kumar Singh, Mohit Agrawal, Hitank Kasaundhan*
3. Moho depth retrieval using ambient noise autocorrelations
   Pratul Ranjan, Alan Augustine, Prakash Kumar*
4. Evaluation Of Highly Oblique Impact Crater Near Luobusa Ophiolite Using Numerical Models, Ultra High-Pressure Minerals and Tektites
   Mahesh Patil
5. Evolution of Airborne Geophysics at CSIR-NGRI: From Dakota to Drone
   *HVS Satyanarayana, R Raj Kumar, N Srikanth**

12:00-1:00 PM Parallel Session-VII: Seismological Observations, subsurface structures, and Natural Hazards

(Chair: H V S Satyanarayana | Co-chair: Prof. Supriyo Mitra)

1. Geophysical Insights for Dam Safety: The Need for an Integrated Approach
   HVS Satyanarayana*, D. Mysaiah , P. Pavan Kishore
2. Seismic Signature of the August 2026 Nepal–Tibet Glacier Collapse: Observations from the National Seismological Network
   Sanjay K Prajapati, Ajay P Singh, G Suresh and R K Singh*
3. Evaluating Point Source and Finite Fault Stochastic Simulations for the 2017 Mw 5.6 Guptkashi Earthquake.
   Tanishka Jadhav, Nitin Sharma, and Prakash Kumar*
4. Nepal Floods-2026: A Geoscientific Analysis

K. Seshadri and P. Chandrasekhar*

5. Upper lithosphere structure beneath the Northwest Himalaya, centralizing the Kashmir Basin
   Pousali Mukherjee, Raees C, Imtiyaz Ahmed Parvez
6. Earthquake Swarms in Peninsular India: Insights into Spatiotemporal Evolution and Triggering Mechanisms
   Naresh Bandari, G Suresh, D Srinivas, M Shekar, Vijayaraghavan R and Prakash Kumar*

01:00-02:00 PM **Lunch Break**

02:00-03:10 PM **Session-IX: Magnetotellurics, Geothermal systems, and thermal regime of the Lithosphere** **Venue: PCSA Auditorium**

(Chair: Dr. Labani Ray | Co-chair: Prof. Anand Singh)

1. Fluid-assisted earthquake swarms beneath the Deccan Volcanic Province: Constraints from a Magnetotelluric study
   N.N. Chakravarthi, G. Pavankumar, A. Manglik*
2. Crustal Structure and Tectonic Implications of the Saurashtra Region from MagnetotelluricStudies
   *Subba Rao P B V * and P V Vijaya Kumar*
3. Crustal geoelectric architecture and Geothermal fluid pathways in eastern Ladakh from magnetotelluric imaging
   Pavankumar,G, Ajay Manglik, Akashdeep Barman, M. Demudu Babu, K. Raj Sunil, N.N. Chakravarthi, and M. Suresh*
4. Radioelement Distribution and Radiogenic Heat Production in Major Rock Formations of the Uttarakhand Region, Western Himalaya, India
   Eswara Rao Sidagam, Labani Ray, Ayan Dutta, Nagaraju Podugu, Nishu Chopra, Nidharshan B M*
5. Crustal Heat Flow Partitioning and 2D Geothermal Modelling along a Profile in Southwestern Nigeria
   Samuel Sedara, Labani Ray, Eswara Rao Sidagam, Sasi Kumar Uddandam*
6. Anomalous radioelemental abundance and radiogenic heat production in the Hyderabad Granitic Complex, Eastern Dharwar Craton
   Sasi Kumar Uddandam, Labani Ray, Pragyan Mohapatra, Nishu Chopra, Eswara Rao Sidagam, Neeraj Benny*
7. What Dyke Geometry Reveals about Magma Overpressure and Source Depth: From Mode-I to Mixed Mode I-III Emplacement
   Tridib Kumar Mondal, Anubhab Dey, Sirshendu Kumar Biswas*

02:00-03:00 PM **Parallel Session-VI: Structural Geology, integrated geophysical studies and Tectonics** **Venue: SOM Auditorium**

(Chair: Dr. S Srinivas Co-chair: Prof. Prabhakar Naraga)

1. Enigmatic East Indian Shield: Explicit Gravity and Magnetic Signatures

Rama Rao. J.V and Ravi Kumar,B

2. Integrated Airborne Electromagnetic and Magnetic Imaging of Shallow Subsurface Architecture across the Tunnel Alignment, SLBC, Telangana
   Prasanthi Lakshmi, M, H.V. S. Satyanarayana, R.K. Kishore, Praveen Kunagu, D. Seshu, N. Srikanth, S. Parveen Begum, V. Pradeep Kumar and Prakash Kumar*
3. Integrated gravity–magnetic–thermal assessment of the southern Bundelkhand Craton–Central Indian Tectonic Zone transition, Central India
   Ananya Parthapradip Mukherjee and Animesh Mandal*
4. Crustal Architecture and Tectonic Evolution of the Dharwar Craton: Insights from Integrated Geophysical Data
   *Karishma Lagachu * and S. Lasitha*
5. Progressive fabric development in crustal scale shear zone: insights from integrated AMS, PGR, and SPO analyses
   Swagata Singha, Tridib Kumar Mondal, Susanta Kumar Samanta and Subhabrata Das*
6. Imaging Crustal Heterogeneity Across North-East India and the Indo-Burma Convergent Margin Using Ambient Noise Tomography
   Shantanu Pandey

03:00-04:00 | Break

04:00–05:00 PM | Valedictory / Concluding Session