

- 1. Name:** Prof. Kalachand Sain
- 2. Position:** J.C. Bose National Fellow at CSIR-NGRI, Uppal Road, Hyderabad  
Advisor, DST Centre of Excellence for Climate Information – IIT Delhi  
Hon. Outstanding Prof. at Academy of Scientific & Innovative Research, Ghaziabad  
Former Director, Wadia Institute of Himalayan Geology-DST, Dehradun  
Former Head & Scientist G, Seismic Group at CSIR-NGRI, Hyderabad
- 3. Last Pay Drawn:** Level 15 (Rs. 2,24,100/-) (Retd. Director, WIHG-DST)
- 4. Mailing Address:**
- a. Official:** CSIR-National Geophysical Research Institute  
Uppal Road, Hyderabad – 500007; Telangana  
Mob No. +91 9084693939; 9440964038  
Email: [kalachandsain7@gmail.com](mailto:kalachandsain7@gmail.com)
- b. Residential:** Flat No. 501, Nagarika Apartment, Kakateyanagar  
Street No. 2, Habsiguda, Uppal Road  
Hyderabad – 500007, Telangana State
- 5. Date & Place of Birth:** 5<sup>th</sup> February, 1964, Burdwan (West Bengal)
- 6. Specialization:** Modelling, Processing and Interpretation of Geoscientific data, Seismic  
Traveltime and Full Waveform Tomography, Rock Physics modeling  
Artificial Intelligence/Machine Learning, Attribute Characterization



#### 7. Research Interests:

- Delineation and Appraisal of Marine Gas-hydrates: Future major energy resources
- Glaciers Dynamics and other Geological Hazards in the Himalaya
- Basin Evolution and Geotectonics over Indian Provinces and the Himalaya
- Imaging Sub-volcanic sediments (both onshore and offshore)
- AI/ML Approaches for Auto-delimitation of Subsurface features from Surface data

#### 8(a). Educational Qualifications:

| No.   | Degree/Certificate                                               | Year | University/Institute             | Subjects                        |
|-------|------------------------------------------------------------------|------|----------------------------------|---------------------------------|
| i.    | B.Sc.(Hons)                                                      | 1984 | Burdwan University, Burdwan      | Chemistry, Physics, Mathematics |
| ii.   | M.Sc. (Tech)                                                     | 1988 | IIT(ISM), Dhanbad                | Applied Geophysics              |
| iii.  | Ph.D.                                                            | 1995 | CSIR-NGRI (Osmania Univ.), Hyd.  | Controlled Source Seismology    |
| iv.   | Post-doctoral                                                    | 1997 | Cambridge University, UK         | Marine Seismics                 |
| v.    | Post-doctoral                                                    | 1999 | Rice University, USA             | Traveltime Tomography           |
| vi.   | Visiting Scientist                                               | 2001 | US Geological Survey, Menlo Park | Geodynamics, Seismotectonics    |
| vii.  | Post-doctoral                                                    | 2003 | Rice University, USA             | Waveform Tomography             |
| viii. | Qualified GATE (1989) and CSIR/UGC Joint JRF (1989) Examinations |      |                                  |                                 |

#### 8(b). Research Experience/Employment:

| No | From | To   | Name of Organization                               | Positions held              |
|----|------|------|----------------------------------------------------|-----------------------------|
| 1  | 2024 | Now  | CSIR-National Geophysical Res. Instt. Hyderabad    | JC Bose National Fellow     |
| 2  | 2019 | 2024 | Wadia Institute of Himalayan Geology-DST, Dehradun | Director (Scientist H)      |
| 3  | 2021 | 2024 | Wadia Institute of Himalayan Geology-DST, Dehradun | JC Bose National Fellow     |
| 4  | 2015 | 2019 | CSIR-National Geophysical Res. Instt. Hyderabad    | Chief Scientist (G)         |
| 5  | 2010 | 2015 | CSIR-National Geophysical Res. Instt. Hyderabad    | Sr. Principal Scientist (F) |
| 6  | 2006 | 2010 | CSIR-National Geophysical Res. Instt. Hyderabad    | Principal Scientist (EII)   |
| 7  | 2002 | 2006 | CSIR-National Geophysical Res. Instt. Hyderabad    | Scientist EI                |
| 8  | 1998 | 2002 | CSIR-National Geophysical Res. Instt. Hyderabad    | Scientist C                 |
| 9  | 1994 | 1998 | CSIR-National Geophysical Res. Instt. Hyderabad    | Scientist B                 |
| 10 | 1989 | 1994 | CSIR-National Geophysical Res. Instt. Hyderabad    | CSIR JRF & SRF              |
| 11 | 1988 | 1989 | IIT-Indian School of Mines, Dhanbad                | Field Officer               |

**8(c). Honorary Teaching Experience:**

| No | From | To   | Name of Organization                                  | Positions held             |
|----|------|------|-------------------------------------------------------|----------------------------|
| 1  | 2020 | Now  | CSIR-Acad. of Scientific & Innovative Res., Ghaziabad | Hon. Outstanding Professor |
| 2  | 2012 | 2019 | AcSIR, CSIR-Natl. Geophys. Res. Instt. Hyderabad      | Hon. Professor             |
| 3  | 2015 | 2016 | Al-Habeeb College of Eng. & Tech, Hyderabad           | Guest Lecturer             |
| 4  | 2013 | 2015 | Rajasthan Technical University, Kota                  | Guest Faculty              |
| 5  | 2006 | 2018 | University of Hyderabad, Hyderabad                    | Guest Faculty              |

**8(d). Administrative Experiences:**

| No. | Post                             | Organization / University                            | Duration |      | Experience (Yr. & Month) |
|-----|----------------------------------|------------------------------------------------------|----------|------|--------------------------|
|     |                                  |                                                      | From     | To   |                          |
| 1.  | <b>Head of Dept. / Institute</b> | Head, Seismic Group, CSIR-NGRI, Hyderabad            | 2006     | 2019 | 13 years                 |
|     |                                  | Director, WIHG-Dehradun (AI of DST, GoI)             | 2019     | 2024 | 5 yrs 7 months           |
|     |                                  | Director, BSIP-Lucknow (AI of DST, GoI) Addl. Charge | 2023     | 2023 | 1 month                  |
| 2.  | <b>Internal Committee</b>        | Chairman, Student Acad. Committee, AcSIR, CSIR-NGRI  | 2016     | 2018 | 2 years                  |
|     |                                  | Chairman, Purchase Committee, CSIR-NGRI, Hyderabad   | 2013     | 2018 | 5 years                  |
|     |                                  | Collegium Member, Assessment Committee, CSIR-NGRI    | 2011     | 2018 | 7 years                  |
|     |                                  | Member, Compassionate Committee, CSIR-NGRI, Hyd      | 2012     | 2018 | 6 years                  |
|     |                                  | Member, 'E-classroom Committee', CSIR-NGRI, Hyd      | 2012     | 2014 | 2 years                  |
|     |                                  | Member, Medical Committee, CSIR-NGRI, Hyderabad      | 2007     | 2010 | 3 years                  |

**8(e). Guidance/Co-Guidance of Graduate and PhD. Students, and Mentoring Postdoctoral Fellows:**

- I. **Ph.D. Scholars Supervised/Co-supervised:** 17 completed; 2 more have registered for PhD.
- II. **Postdoctoral Fellows Mentored:** 2
- III. **Master Dissertations Guided/Co-guided:** 70

**9. Scientific Credentials:****(a) Chairperson, National Committees**

- 1) Convener, INSA Fellowship Sectional Committee - IV (Earth & Atmospheric Sciences) (2024)
- 2) National Expert Committee for Climate Change Program (CCP) of DST, Delhi (2024-now)
- 3) Core Research Grant (CRG), Program Advisory Committee of SERB, Delhi (2022-2025)
- 4) Intensification of Research in High Priority Areas (IRHPA) Scheme of SERB, Delhi (2022-2024)
- 5) Impacting Research Innovation & Tech. (IMPRINT) Program of MHRD-DST, Delhi (2022-2024)
- 6) SERB International Research Experience (SIRE) Program of SERB, Delhi (2021-2024)
- 7) Promoting Opportunity of Women in Exploratory Research (POWER) of SERB, Delhi (2022-2024)

**(b) Core Member, National/State Committees**

- 1) Advisory Committee for Disaster Management in J&K Union Territory (2025-now)
- 2) Technology Evaluation Study, Development, Monitoring and Evaluation Office, NITI Aayog (2025-now)
- 3) Sikkim Commission on Glacial Hazards, Gangtok (2024-now)
- 4) International Cooperation Program Advisory Committee – Earth Ocean Atm. Sci, DST (2024-now)
- 5) Indian Academy of Science Fellowship Committee, Bangalore (2022-2024)
- 6) Indian National Science Academy Fellowship Committee, Delhi (2024-2026)
- 7) National Academy of Sciences, India Fellowship Committee, Allahabad (2022-2025)
- 8) Scientific & Useful Profound Research Advancement (SUPRA) Scheme, SERB, Delhi (2022-2025)
- 9) Visiting Advanced Joint Research (VAJRA) Faculty Scheme of SERB, Delhi (2022-2025)
- 10) Scheme for Transformational & Advanced Research in Science (STARS) of MoE, Delhi (2022-now)
- 11) Fund for Improvement of S&T (FIST) Infrastructure Program, DST, Delhi, Delhi ((2019-2022)
- 12) Sophisticated Analytical Instrument Facilities (SAIF) Scheme of DST (2022-2025)
- 13) Int. Sci. & Tech. Cooperation in Water, Ocean & Atm. Sciences, DST, Delhi (2021-2024)
- 14) Promotion of Blue Economy - Deep Sea Mining & Renewable Energy of MoES, Delhi (2022-2025)
- 15) Climate Change Program (CCP) of DST, Delhi (2021-2024)
- 16) UN Framework Convention of Climate Change (UNFCCC), Delhi for Adaptation (2021-2024)
- 17) Geosciences under Space Application Management System, PSA to Govt. of India (2021-2024)
- 18) National Review Committee – IODP India, MoES (2022-2025)

- 19) NICES-Program Management Council at Natl. Rem. Sensing Center, Hyderabad (2019-2022)
- 20) Indian National Gas Hydrates Program, DGH, NOIDA (2000-2020)

**(c) Member of Governing Body/Research Council/Board of Studies**

- 1) Governing Council of Indian Institute of Geomagnetism-DST, Mumbai (2023-2026)
- 2) Governing Body of National Centre for Earth System Sciences-MoES, Trivandrum (2022-2025)
- 3) Research Adv. Council of National Centre for Earth System Sciences-MoES, Trivandrum (2022-2025)
- 4) Mentor Cohort for Academic Framework at NSB Univ. of Excellence, Govt. of Sikkim (2021-2024)
- 5) Governing Body of Uttarakhand Space Application Center (USAC), Dehradun (2021-2024)
- 6) Scientific Advisory Committee at GB Pant Natl. Inst. of Himalayan Env. - MoEFCC, Almora (2020-2023)
- 7) Research Advisory Committee at Himalaya University, Dehradun (2020-2023)
- 8) Advisory Committee for Earth Sci. Dept. at Central Univ. of Jammu, Jammu (2020-2023)
- 9) Board of Research Studies (Science) at Assam University at Silchar, Central Univ. (2023-2026)
- 10) Council Member of Geol. Soc. of India, Bangalore (2019-2025)
- 11) Board of Studies for M.Sc. (Tech) in App. Geophys. at IIT-ISM, Dhanbad (2006-2008)
- 12) Board of Studies for M.Sc. in Dept. of Geology at Aligarh Muslim University, Aligarh (2023-2026)
- 13) Member for the preparation of 15-years Vision Document of DOD (now MoES), Delhi (2000)
- 14) Member to prepare 10th, 11th, 12th FYP of CSIR, Delhi on Hydrocarbons & Gas-hydrates (2000)
- 15) Research Advisory Committee of DOD (now MoES), Delhi (2002-2004)

**(d) Editorial Board Member**

- 1) Associate Editor of Journal of Applied Geophysics, Elsevier (2026 - 2029)
- 2) Subject (Earth Sciences) Editor of Proceedings of INSA (2024 - 2027)
- 3) Member of Internat. Jour. of Petroleum Technology (2025 - now)
- 4) Member of Jour. of Geological Society of India (2011 - 2025)
- 5) Subject (App. Geology & Env.) Editor of Indian J. of Pure & App. Physics (2022 - 2025)
- 6) Patron of Jour. of Himalayan Geology (2019 - 2024)
- 7) Member of International J. of Earth Science & Engineering (2008 - 2024)
- 8) Member of Open Access J. of Geophysics. & Remote Sensing (2013 - 2024)
- 9) Executive Editor of Jour. of Indian Geophysical Union (2014 - 2016)
- 10) Member of Episodes (2007 - 2011)
- 11) Member of Geohorizons (2007 - 2011)
- 12) Member of Open Access International J. of Geoscience Research (2013 - 2018)

**(e) Professional Scientific Bodies**

- 1) Secretary General of Federation of Indian Geosciences Association (2023-2026)
- 2) Congress Director of Federation of Indian Geosciences Association (2019-2023)
- 3) Vice President of Indian Geophysical Union (2020-2023)
- 4) Honorary Secretary of Indian Geophysical Union (2014-2020)
- 5) Vice President of Society of Petroleum Geophysicists, Hyderabad Chapter (2011-2014)
- 6) Active Member of American Association of Petroleum Geologists (2012-2020)
- 7) Active Member of Society of Exploration Geophysicists (2015-2020; 2025 - now)
- 8) Member of Asia Oceania Geosciences Society (2003-now)
- 9) Member of American Geophysical Union (2001-2004; 2013-2016)
- 10) Life Member of Indian Geophysical Union (1996 onward)
- 11) Life Member of Indian Science Cong. Ass. (1997 onward)
- 12) Life Member of Indian Geological Congress (2009 onward)

**(f) International/National Collaboration**

- 1) Indo-US (2022-): Dr. K. Sain, Dr. PC Kumar & Dr. H. Bedle, Univ. of Oklahoma (Online)
- 2) WIHG/CSIR-NGRI – IIT-Roorkee (2023-): Dr. K. Sain, Dr. B. Mukherjee & Prof. M.L. Sharma (Online)
- 3) WIHG/CSIR-NGRI – IIT-Roorkee (2022-): Dr. K. Sain & Prof. R. Sharma (Online)
- 4) WIHG/CSIR-NGRI – Dibrugarh Univ. (2022-): Dr. K. Sain, P.C. Kumar & Prof. T.K. Goswami (Online)

- 5) Indo-UK (2018 -2022): Dr. K. Sain & Prof. Tiago M. Alves, Cardiff University (Online)
- 6) Indo-Norway (2019-2025): Dr. K. Sain, Dr. PC Kumar & Dr. K.O. Omosanya, NTNU (Online)
- 7) Indo-Australia (2020-2024): Dr. K. Sain, PC Kumar, Prof. Y. Niyazi, Univ. of Western Australia (Online)
- 8) Indo-Switzerland (2020-2024) Dr. K. Sain, PC Kumar & Dr. O.E. Eruteya, Univ. of Geneva (Online)
- 9) Indo-UK (2021-2025): Dr. K. Sain, Dr. A. Kumar & Dr. M.J. Westoby, Univ. of Northumbria (Offline)
- 10) Indo-China (2020-2024): Dr. K. Sain, Dr. PC Kumar & Prof. Qiliang Sun, China Univ. of Geosci. (Online)
- 11) Indo-Canada (2021-2024): Dr. K. Sain, Dr. A. Kumar & Dr. D.H. Shugar, University of Calgary (Online)
- 12) Indo-Germany (2022-2024): Dr. K. Sain, Dr. R.K. Bhambri & Prof. M. Nüsser, Heidelberg Univ. (Offline)
- 13) Indo-Italy (2021-2024): Dr. K. Sain, Dr. P.K. Chauhan & Prof. M.A. Akiner, Akdeniz Univ. (Online)
- 14) CSIR-NGRI-ONGC (2013-2018): Dr. K. Sain & Mr. N. Chandrasekhar, ONGC, Mumbai (Offline)
- 15) Indo-China (2011-2025): Dr. K. Sain, M Ojha & Dr. Xiujuan Wang, Chinese Academy of Sci. (Offline)
- 16) Indo-Italy (2009): Dr. K. Sain & Dr. Umberta Tinivella, OGS, Trieste (Offline)
- 17) Indo-US (2007): Dr. K. Sain & Dr. Richard Coffin, Naval Research Laboratory (Online)
- 18) Indo-Russia (2005-2006): Dr. K. Sain & Dr. G.A. Cherkashov, IGMRO at St. Petersburg (Offline)
- 19) Indo-US (1999): Dr. K. Sain & Dr. Colin A. Zelt at Rice University, Houston (Offline)
- 20) Indo-US (2003): Dr. K. Sain & Dr. Colin A. Zelt at Rice University, Houston (Offline)
- 21) Indo-Canada (2003): Dr. K. Sain & Dr. Gerhard A. Pratt at Queen's University at Kingston (Offline)
- 22) Indo-US (2001): Dr. PR Reddy, Dr. K. Sain & Dr. Walter D. Mooney, USGS, Menlo Park (Offline)
- 23) Indo-UK (1998): Dr. K. Sain & Dr. Satish C. Singh, Cambridge University (Offline)

#### (g) Patents/Copyrights

- A patent on '**Borehole Acoustic Televiwer Probe**' (Design No. 6318405) by B. Mukherjee and K. Sain, **granted by the United Kingdom Intellectual Property Office** on October 18, 2023 [<https://www.registered-design.service.gov.uk/find/>]
- A patent on '**Borehole AI Televiwer Probe**' (Design No. 6323496) by B. Mukherjee and K. Sain, **granted by the United Kingdom Intellectual Property Office** on November 14, 2023 [<https://www.registered-design.service.gov.uk/find/>]
- A Copyright on '**Borehole Acoustic Televiwer Probe**' (Registration No. L-146503/2024) by B. Mukherjee and K. Sain, has been **granted by Copyright Office, Govt. of India** on April 9, 2024
- A Copyright on '**AI-based Lensless Camera Borehole Telemetry Probe**' (Registration No. L-147184/2024) by B. Mukherjee and K. Sain, has been **granted by Copyright Office, Govt. of India** on April 26, 2024
- A document on "**Semi-automated Lithological Edge Recognition Method from Geophysical Logs**" has been **filed by B. Mukherjee and K. Sain for US patent** at the United States Patent and Trademark Office (USPTO) on 08.09.2023 (Application Number 18/243,698)

(h) **Peer-reviewer:** J. Geol. Soc. India; Mar. & Petrol. Geol.; J. Nat. Gas Sci. & Eng.; Pure & App. Geophys.; J. Asian Earth Sci.; Geophys.; Mar. Geophys. Res.; J. Earth Sys. Sci.; Him. Geol.; Expl. Geophys.; Energy; Scientific Reports; Geofluids; Gondwana Res.; J. App. Geophys.; Mar. Georesources & Geotechnology.

#### (i) Established Centre of Excellence

- **Gas Hydrates Research Center at CSIR-NGRI, Hyderabad in 2010** with world-class capability for processing, modeling and interpretation of geophysical data, and laboratory facility for synthesis of gas-hydrates to study their dissociation/formation kinetics for developing methods to aid viable production and hydrate technology for desalination and gas-transportation technology,
- **AI Centre of Excellence at WIHG-DST, Dehradun in 2020** for analysis and advanced interpretation of Geosciences data in providing solution to industry-challenges, building institute-industry partnership, exploring geo-resources, and understanding geo-hazards of Himalaya and providing likely remediation

#### (j) Led/Participated Marine Cruises

- **Led Scientific Cruises** (i) off Goa and Cochin in 2007 **for heat-flow studies**, (ii) in KG and Mahanadi offshore basins in 2010 **for gas-hydrates investigation**, and (iii) off the Andaman island in 2017 **for comprehending seismotectonics and subduction zone phenomena**, respectively

- **Participated in the Indo-Russian Joint Expedition** in summer (2005) and in winter (2006) that led **identification of attenuation characteristics from known gas-hydrate deposits in Lake Baikal**, and the gained knowledge was later applied **for the investigation of gas-hydrates along the Indian margin**

**(k) Countries Visited for Scientific Talks**

UK, USA, Germany, Canada, Russia, Italy, Armenia, Thailand, Taiwan, South Korea, Norway, Singapore, Austria, France, Malaysia, New Zealand, Japan, Australia, China, Czech Republic, South Africa, Sri Lanka

**(l) Interviews/Conversations/Talks (Available at websites/YouTube/Print-media/Magazines: > 150)**

**(m) Themes of Talks:** Delivered lectures on diversified topics: climate change and its impact; geo-hazards due to landslides, land-subsidence, glaciers/snow avalanches, lake outbursts, flash floods, earthquakes, etc.; early warnings of geo-hazards; disaster risk reduction and how to live with them; seismotectonics, geotectonic and basin evolution; hydrocarbons in Himalayan fold belts; unconventional gas-hydrates; geothermal energy resources; imaging sub-volcanics; advancement of geophysical tools; application of AI/ML to Geosciences; Earthquakes precursors; semi-automatic delimitation of subsurface features from surface data; energy resources in India; 'ecology and economy of Himalaya'; concept and application of tools like seismic traveltime and full-waveform tomography, attribute characterization, rock physics modelling, special processing, and AI/ML.

**(n) Organizations/Institutes/Universities where Lectures delivered:** Central Univ. of Hyderabad, Hyderabad, Rajasthan Tech Univ.-Kota, CSIR-NGRI-Hyderabad, WIHG-Dehradun, Natl. Instt. of Disaster Management-Delhi, Osmania Univ.-Hyderabad, Instt. of Env. & Sust. Dev.-BHU-Varanasi, Andhra Univ.-Vizag, IIT-ISM-Dhanbad, BBAU-Lucknow, IIT-Kharagpur, Cochin Univ. Sci. & Tech.-Cochin, IISER-Kolkata, ISI-Kolkata, Presidency College Univ.-Kolkata, Dept. of Geophys.-BHU-Varanasi, Presidency University-Bangalore, Kurukshetra Univ.-Kurukshetra, IISER-Pune, IIT-Roorkee, CSIR-CBRI-Roorkee, CSIR-IIP-Dehradun, CSIR-CSIO-Chandigarh, BSIP-DST-Lucknow, Lucknow Univ.-Lucknow, Dept. of Geol.-BHU-Varanasi, KDMIPE-ONGC-Dehradun, Delhi Univ.-Delhi, Al-Habeeb College of Eng.-Hyderabad, JMI Univ.-Delhi, Kashmir Univ.-Srinagar, IIT-Guwahati, OIL-Dhuliajan, RGIPT-Amethi, NCPOR-Goa, IISER-Bhopal, SPSTI-Chandigarh, Punjab Univ.-Chandigarh, Univ. of Petrol. & Energy Studies-Dehradun, IIT-Kanpur, IIT-Mumbai, IIT-Patna, GEOPIC-ONGC-Dehradun, Graphic Era Univ.-Dehradun, UCOST-Dehradun, IIRS-Dehradun, USERC-Dehradun, Kumaun Univ.-Nainital, HNB Garwal Univ.-Srinagar, GSI-Dehradun, AMU-Aligarh, NEHU-Shillong, MoES-Delhi, IAS-Bangalore, INSA-Delhi, PSA-Delhi, IIPE-Vizag, DTI-Dehradun, ARI-DST-Pune, IIG-DST-Mumbai, CSIR-NEIST-Jorhat, CSIR-IICT-Hyderabad, ISR-Gandhinagar, CSIR-NIO-Goa, AAETI-Nimli, INCOIS-Hyderabad, GRIHA-Delhi, NIH-Roorkee, GBP-NIHE-Almorah, UCOST-Dehradun, IIC-Delhi, JNU-Delhi, SKUAST-Srinagar, Doon Univ.-Dehradun, SRM Instt. of Sci. & Tech.-Chennai, IIT-Gandhinagar, Central Univ. of HP-Dharmashala, NCESS-Trivandrum, Rabindranath Tagore Univ.-Bhopal, FRI-Dehradun, Wildlife Instt. of India-Dehradun, Central Univ. of Punjab-Bathinda, NISCAIR-DST-Delhi, Chaudhary Bansi Lal Univ.-Bhiwani, Univ. of Allahabad-Allahabad, KV ITBP-Dehradun, IMD-Delhi, Himalayiya Univ.-Dehradun, SNB Natl. Centre for Basic Sciences-Kolkata, GSI-Bangalore, NDRF Academy-Nagpur, ICAR-IISWC-Dehradun, Gurukula Kangri Univ.-Haridwar, CSIR-IHBT- Palampur, CSIR-CMFRI-Dhanbad, IASST-DST-Guwahati, AMC-MGMI-Kolkata, GSI-Hyderabad, MECL-Nagpur, CDRI-Delhi, CASCA-25-Delhi, Central Univ. of South Bihar-Gaya, IISER-Trivandrum, CII-Dehradun, CSE-Delhi, Off. of the Cantonment Board-Chakrata, DIT Univ.-Dehradun, Expl. Prod. Conclave-Delhi, LMRM-Dehradun, Uttaranchal Univ.-Dehradun, GeoSmart India-Hyderabad, IISF-Faridabad, Ladakh Univ. at Ley, ONGC Academy-Dehradun, SaGAA MoES-Delhi, SPG-Kochi, SPG-Jaipur, SPG-Hyderabad, FIGA-IIT-ISM, Dhanbad, FIGA-CSIR-NGRI, Hyderabad, FIGA-WIHG-DST-Dehradun, FIGA-INCOIS-Hyderabad, NGRSM (2019, 2020, 2021, 2022, 2023)-Dehradun, IGU-2019-CSIR-NGRI, IGU-2018-RNTU-Bhopal, IGU-2017-CSIR-NGRI, IGU-2016-IIT-ISM, IGU-2015-NCPOR, IGU-2014-Kurukshetra Univ., BIT-Mesra, IIT-Roorkee at NOIDA Campus, Sindhu Central Univ. at Ley.

**(o) Examiner ship:** 15 PhDs from CSIR-NGRI, IIT-Roorkee, BHU, IIT-ISM, IIT-Bombay, IIT-Kharagpur, IISER-Kolkata

**(p) International/National Conference/Workshops/ Short Courses organised/convened**

- Organised a Workshop on 'Himalayan Hazards & Way Forward' (Nov. 24, 2023) at WIHG, Dehradun
- Convened a Session on 'Joshimath Episode' (Nov. 29, 2023) during 6th World Congress on Disaster Management (WCDM) at Graphic Era Univ., Dehradun

- (iii) Co-chaired a Plenary Session on 'Resilience & Sustainable Development in Himalaya' (Nov. 30, 2023) during 6th WCDM at Graphic Era Univ., Dehradun
- (iv) Organised 42nd Annual Convention of Association of Exploration Geophysicists on 'Natural Hazards and Hydrocarbon Exploration' (Dec. 2-3, 2021) at WIHG, Dehradun
- (v) Organised/Convened 9th International Methane Hydrates R&D Workshop on 'When gas-hydrates would be produced?' (Nov. 9-12, 2014) in Hyderabad
- (vi) Convened/Organised an International Workshop on 'Exploration & Exploitation of Shale Gas' (Dec. 19-20, 2012) at CSIR-NGRI, Hyderabad.
- (vii) Convened/Organised an Indo-Russian Seminar on 'Exploration and Production of Gas Hydrates' (Feb. 4-5, 2007) at NIOT, Chennai.
- (viii) Taught a short course at 11th Biennial International Conference & Exposition of SPG India on 'Seismic Tomography' (Dec. 4-6, 2015) in Jaipur.
- (ix) Taught a short course at 12th Biennial International Conference & Exposition of SPG India on 'Seismic Modelling' (Feb. 11-12, 2017) in Jaipur.
- (x) Taught/Mentored a short course at the International Conference & Exposition at GEO India by APG on 'Non-seismic techniques in hydrocarbon exploration' (Oct. 12, 2022) in Jaipur.
- (xi) Organised/Convened Indo-Norwegian International Workshop on 'Assessment & Mitigation of Landslides' (Oct 28-29, 2020) at WIHG, Dehradun.
- (xii) Organised/Mentored a pre-Convention Workshop at 42nd AEG on 'AI for advanced 3D Seismic interpretation' (Dec 1, 2021) at WIHG, Dehradun.
- (xiii) Organised/Mentored a pre-Congress Workshop during 3rd Federation of Indian Geosciences Association (FIGA) on 'AI applications to Geosciences' (Nov 15, 2022) at WIHG, Dehradun.
- (xiv) Convened/Organised One-Day Indo-Norwegian Webinar on 'Himalayan Geo-hazards & Geo-resources' (June 1, 2022) at WIHG, Dehradun.
- (xv) Convened/Organised One-Day Indo-Russian Webinar on 'Forecasting seismic hazards' (June 30, 2022) at WIHG, Dehradun.
- (xvi) Mentored a Course on 'AI & ML in Earth System Sciences' (Oct. 16-17, 2023) at BHU, Varanasi.
- (xvii) Organised 7th (Sep. 12-14, 2023), 6th (June 7-9, 2022), 5th (July 22-23, 2021), 4th (June 23-24, 2020) and 3rd (June 6-8, 2019) National Geo-Research Scholars Meet at WIHG, Dehradun.
- (xviii) Organised 4<sup>th</sup> (Nov. 6-8, 2025 at INCOIS, Hyderabad), 3rd (Nov.16-18, 2022 at WIHG, Dehradun), 2nd (Oct. 13-16, 2019 at CSIR-NGRI, Hyderabad) and 1st (Nov. 8-10, 2016 at IIT-ISM, Dhanbad) Triennial Congress of FIGA.
- (xix) Organised 56th (Oct. 13-16, 2019 at CSIR-NGRI), 55th (Dec.5-7, 2018 at RNTU, Bhopal), 54th (Dec. 3-7, 2017 at CSIR-NGRI), 53rd (Nov.8-10, 2016 at IIT-ISM), 52nd (Nov. 3-5, 2015 at NCPOR), and 51st (Nov.19-21, 2014 at Kurukshetra University) Annual Convention of Indian Geophysical Union.
- (xx) Chaired 55 sessions; Delivered >150 invited/keynote/plenary talks (available at YouTube/Websites)

#### 10. Honours/Awards Fellowships:

| No  | Name of Award/Fellowships                  | Elected/Hon Fellow                                    | Awarded by                | Year |
|-----|--------------------------------------------|-------------------------------------------------------|---------------------------|------|
| 1   | Honorary Fellow                            | Academy for Sci., Tech. & Communn., Hyderabad         |                           | 2025 |
| 2   | Fellow of Indian Soc. Sci. Acad.           |                                                       | ISSA, Bangalore           | 2022 |
| 3   | J.C. Bose National Fellowship              |                                                       | ANRF-DST, New Delhi       | 2021 |
| 4   | Fellow of Indian Natl. Sci. Acad.          | Elected                                               | INSA, New Delhi           | 2021 |
| 5   | Fellow of Indian Acad. of Sci.             | Elected                                               | IAS, Bangalore            | 2021 |
| 6   | Fellow of Natl Acad. of Sci., India        | Elected                                               | NASI, Allahabad           | 2011 |
| 7   | Founder Fellow, TS Acad. of Sci.           | Elected                                               | TAS, Hyderabad            | 2016 |
| 8   | Fellow of AP Acad. of Sci.                 | Elected                                               | APAS, Hyderabad           | 2010 |
| 9   | Raman Fellow                               |                                                       | CSIR, New Delhi           | 2003 |
| 10  | BOYSCAST Fellow                            |                                                       | DST, New Delhi            | 1999 |
| 11  | Fellow of Indian Geophys. Union            |                                                       | IGU, Hyderabad            | 2002 |
| 12  | National Merit Scholarship                 |                                                       | Min. of Edu., Gol         | 1979 |
| 13. | Editor of Distinction Award                | Proceedings of INSA, Springer Nature                  |                           | 2026 |
| 14  | Dr. Hari Narain Lifetime Achievement Award |                                                       | Indian Geophy. Union, Hyd | 2025 |
| 15  | SGAT Award of Excellence                   | Society of Geoscientists & Allied Technologists, Bhub |                           | 2025 |

|    |                                                                            |                                                                                                                           |      |
|----|----------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|------|
| 16 | World's top 2% Scientists (based on Stanford University and Elsevier data) | topresearcherslist.com/Home/Search?AuthFull=Sain%2C+Kalachand                                                             | 2025 |
| 17 | Among Top Indian Earth Scientists                                          | <a href="https://research.com/scientists-rankings/earth-science/in">research.com/scientists-rankings/earth-science/in</a> | 2024 |
| 18 | World and National Rankings                                                | <a href="https://research.com/u/kalachand-sain">https://research.com/u/kalachand-sain</a>                                 | 2026 |
| 19 | Excellence in Research Award                                               | D'Dun Int. Sci. Tech. Fest.                                                                                               | 2023 |
| 20 | Natl. Award of Excel. in Geosci.                                           | MoES, Govt. of India                                                                                                      | 2021 |
| 21 | Ratan Shree Award                                                          | Uttarakhand State Govt.                                                                                                   | 2020 |
| 22 | Sriram Srinivasan Award                                                    | Ass. Expl. Geophys.                                                                                                       | 2018 |
| 23 | Distinguished Alumnus Award                                                | IIT-ISM, Dhanbad                                                                                                          | 2017 |
| 24 | Decennial Award                                                            | Indian Geophy. Union, Hyd                                                                                                 | 2016 |
| 25 | Krishnan Gold Medal                                                        | Indian Geophy. Union, Hyd                                                                                                 | 1996 |
| 26 | Gondwana Res. Best Paper Award                                             | Int. Asso. Gond. Res.                                                                                                     | 2012 |
| 27 | AP Scientist Award                                                         | AP Council of S&T                                                                                                         | 2011 |
| 28 | National Mineral Award                                                     | Min. of Mines, Gol                                                                                                        | 2005 |
| 29 | Swarnajayanti Project Award                                                | DST, Govt. of India                                                                                                       | 2001 |
| 30 | Young Scientist Award                                                      | CSIR, Govt. of India                                                                                                      | 1998 |
| 31 | Bureau Member of International Lithosphere Program                         | IUGG 2007 - 2015                                                                                                          | 2007 |
| 32 | Krishnanunni Memorial Lecture                                              | NIAS, Bangalore                                                                                                           | 2023 |
| 33 | Foundation Day lecture                                                     | Assam Univ. Silchar                                                                                                       | 2023 |
| 34 | V.V. Sastri Memorial Lecture                                               | Geol. Soc. of India                                                                                                       | 2022 |
| 35 | Foundation Day Lecture                                                     | GSI, Dehradun                                                                                                             | 2022 |
| 36 | Prof. K.N. Khatri Mem. Lecture                                             | IIT-Roorkee                                                                                                               | 2021 |
| 37 | National Science Day Lecture                                               | CSIR-CBRI, Roorkee                                                                                                        | 2020 |
| 38 | Prof. J. Singh Memorial Lecture                                            | IIT-ISM, Dhanbad                                                                                                          | 2019 |
| 39 | Dr. MN Bose Memorial Lecture                                               | BSIP-DST, Lucknow                                                                                                         | 2019 |
| 40 | CSIR Foundation Day Lecture                                                | CSIR-IIP, Dehradun                                                                                                        | 2019 |
| 41 | Prem Bahadur Memorial Lecture                                              | Indian Geol. Cong.                                                                                                        | 2009 |
| 42 | Corona Warrior Title                                                       | Uttarakhand State Govt.                                                                                                   | 2020 |

## 11. R&D Programs/ Projects:

### I. Principal Investigator (PI)

- Development and Deployment of Integrated Early Warning System of Glacial Avalanche at Dhauliganga basin with a fund of INR 10 Crores from **DST** (2023-2026) (**PI**)
- JC Bose National Fellowship plus INR 15 Lakhs grant per year (2021-2026) from **ANRF-DST** (**PI**)
- Monitoring Vasudhara Tal, Purvi Kamet Glacier in Dhauliganga valley, and received a Fund of INR 21 Lakhs from Uttarakhand State Disaster Management Authority (**USDMA**) (2021-2023) (**PI**)
- Monitoring Gongotri Glacier, and received a Fund of INR 184 Lakhs from **USDMA** (2021-2024) (**PI**)
- Acquisition, Processing and Interpretation of Seismic data for the Investigation of Gas-hydrates in the eastern Indian margin with a fund of INR 4886 Lakhs from **MoES** (2007-2019) (**PI**)
- Development of Methodologies for Quantitative Assessment of Gas-hydrates, and received a fund of INR 60 Lakhs from **OIDB** (2007-2012) (**PI**)
- Swarnajayanti Project Award with INR 36 Lakhs from **DST** for Delineation and Characterization of gas-hydrates (2002 - 2006) (**PI**)
- Understanding the Petroleum System of Gas hydrates in KG basin, and received INR 25 Lakhs from **DGH** (2014-2017) (**Co-PI**)

### II. Industry-standard data

- Procured INR 68 Crores-worth 3D Seismic data in Fore-deep and Foothills of the Himalaya from **DGH**, Noida for subsurface imaging with regard to hydrocarbon exploration (2020-2024) (**PI**)
- Procured INR 92 Crores-worth ocean bottom and multi-channel seismic data in KK offshore from **ONGC-Mumbai** for the development of Full Waveform Tomography and investigation of Sub-volcanic Mesozoic sediments (2015-2018) (**PI**)

### III. Project Leader/ Nodal Officer

- (xi) **Project Leader** of Institutional Main Lab Project (MLP) on "Gas Hydrates and Conventional Hydrocarbons" at **CSIR-NGRI** (2006-2019)
- (xii) **Nodal Officer** of GENIAS and **Project Leader** of SHORE & GEOSCAPE - important projects under the 12th FYP (2012-2017) at **CSIR-NGRI**.
- (xiii) **Led a Project** on "Characterization/Assessment of surface/subsurface Processes in Himalaya at WIHG-DST for Geo-hazard, Climate-tectonic interaction, Geo-resources, Geodynamics, and establishing link shallow subsurface features with surface observations (2020-2024)

### 12. Significant R&D Achievements:

**Contributed immensely** in Earth Sciences through specific data acquisition/procurement, advanced modelling, and developing novel tools for (i) delineation and characterization of marine gas-hydrates (99.9% methane) **for clean and sustainable energy resources**; (ii) advancing ML-based approaches for automatic delimitation of subsurface geologic features for **fast interpretation of 3D surface data in complex setup suited to quick decision by industry-professionals**; and (ii) **assessment of geological hazards** in the Himalaya, mainly related to glacial dynamics, **for disaster risk reduction**. **Engaged in providing solution to socially-relevant challenges and to meet the sustainable development goals (SDGs) for greener energy security and disaster-resilient future as well as building human resources and institutional capabilities** that are requisite in achieving the SDGs extensively. All these scientific **outcomes** are **globally acclaimed** with 260 scientific articles in peer-reviewed journals bearing 6979 citations and 151 i10-index, 12 edited/authored books, 4 patents/copyrights, and 29 book-chapters, and dissemination of new knowledge by more than 150 lectures and deliberations.

#### A. Energy Security:

- **Identified and characterized gas-hydrates** (future major potential energy resources) **reservoirs** in Krishna-Godavari (KG), Mahanadi and Andaman offshore basins, presence of **which were later validated** by drilling and coring of Indian National Gas Hydrates Program (NGHP)
- **Assessed and projected a great promise of gas-hydrates for the energy security of India**, and also **estimated critical parameters** (porosity, permeability, pore pressure, saturations) **that are pre-requisite for the development of geology-specific and economically-safe production technology**
- **Identified geo-thermal springs (GTS) with their estimated reservoir temperatures, depth and energy potential equivalent to 10,600 MW power in Kumaun-Garhwal Himalaya, which can be harnessed for space heating, balenotherapy and generation of green electricity**
- **Projected hydrocarbon and renewable energy Resources of India** as a measure of climate change mitigation and Energy Security **through an edited volume on "Emerging Energy Resources in India"**, published by Geological Society of India (in 2022).

#### B. Methodology Development:

- **Developed AI-centric novel approaches, first of its kind, for semi-automatic delineation of subsurface 3D geologic features:** fault system, gas plume, mass transport deposit, dykes & sills, magma ascent, carbonate reef, channel, fluid plumbing, basement faults, fluid migration, etc. **from high-resolution 3D surface seismic data covering diversified basins** of India, New Zealand, Norway, and Australia.
- **Developed 2D full waveform tomography** of wide-angle seismic data, **first time in India**, for subsurface imaging, **which could delineate fine-scale velocity-structures of sub-volcanic sediments** in Kerala-Konkan (KK) and gas-hydrates bearing sediments in KG offshore basins.

#### C. AI/ML to Geosciences data:

- Published **one authored book on 'Meta-attributes: Artificial Networking'** (2022) (AGU & Wiley) and **one edited volume on 'AI/ML in Earth System Sciences'** (2025) (Jour. of Earth System Science) with an authored book on '**Analysis & Interpretation of Borehole logs**' (2026) by Wiley in progress

- **Brought out numerous scientific articles showing extensive application of AI/ML to Geoscience data** in semi-automatic delimitation of subsurface geologic features from 3D surface data, and developing early warning systems for geological hazards, and likelihood prediction of light magnitudes earthquakes ahead of one week to one month without any specific location.

#### D. Subsurface Imaging:

- **Imaged gas seepage from source** (Ujhani-Tilhar formations) **to surface** through minute fractures within weaker deformed Tertiary strata in Indo-Gangetic foreland Gandok basin **by computing fluid-cube meta-attribute** (2023); and **decoded paleo-environment of Tipam (Miocene) and Barail (Oligocene) formations** by seismic Textures (2022), **tectono-depositional history** (2024), subsurface geomorphology and **basement flexures** (2024), **basement faults** (2025) in Upper Assam (Dibrugarh) hydrocarbon prospect.
- **Imaged large-scale velocity-structures of sub-volcanic sediments** (that may be oil bearing) in west-central onshore (Kutch, Saurashtra, Narmada lineament), eastern onshore (Bengal basin, Mahanadi delta), and western offshore (KK) of India **by travelttime tomography of wide-angle seismic data, probing of which have been rather difficult** by conventional geophysical tools.

#### E. Landslides and Land subsidence:

- **Mapped landslide risk zones** in Kumaun-Garhwal Himalaya that can be converted into land-use maps by the city planners/developers **for building green corridors or smart towns/villages**
- Pursued surface and subsurface geoscientific investigations to **establish the link between subsurface features with the surface observations, and the study revealed that underground hydrological imbalances led to 2023 land subsidence at Joshimath** of Uttarakhand (UK) Himalaya

#### F. Climate-induced Hazards – Glacier/Snow avalanches and Forest fires:

- **Explained scientific causes of climate-induced phenomena:** (i) **ice-rock mass avalanche** (2021) in Chamoli; (ii) **snow avalanches** (2022) in Kedarnath temple town and Hemkund Sahib shrine; (iii) **forest fires** (2023) in UK State; and (iv) **flash floods** (2022-2025) in Maldevta-Dehradun, Dharchula-Pithoragarh, Dharali and Arakot of Uttarkashi in UK; Mcleodgunj in HP; Amarnath holy cave in J&K; and Nepal Himalayas; and suggested for their mitigation by rope ways, proper drainage system and alert system. Also explained anomalous retreat of the Changmolung Glacier in Karakoram by geothermal activity.

#### G. Earthquake Hazards:

- **Explained recent (2021-2022) seismicity in Delhi-NCR** and adjoining areas by delineating subsurface structures, especially the faults using seismological and Magneto Telluric studies

#### H. Monitoring and Early Warnings of Geo-hazards:

- **Identified precursory events** on seismological data, **first time**, after the Chamoli ice-rock mass avalanche in 2021, **which led to developing an ice-avalanche Early Warning System** in the Dhauliganga-Rishiganga catchment **by coupling seismological data with the conventional hydro-meteorological data based on AI/ML algorithms**, sponsored by the Dept. of Sci. & Tech., New Delhi and the UK State Disaster Management Authority (UKSDMA)
- **Established a network of sensors for Long-term monitoring** (2019-) **of Gongotri glacier** and high probability of GLOF of **Bhilangana Lake** (2025) at the Bhagirathi basin, sponsored by the UKSDMA.
- **Establishing sensors** like rain-gauge, piezometer, extensometer, inclinometer, SAR, InSAR etc. **in the highly vulnerable zone** at Chakrata region of the UK Himalaya, **which can be coupled with the rainfall threshold for forewarning of landslides.**

#### I. Geodynamics & Seismotectonics:

- **Delineated high-resolution crustal structures of Indian provinces:** Southern Granulite Terrain, Dharwar Craton, Eastern Ghat mobile belts, Narmada-Son Lineament, Indo-Gangetic Plains, Kutch Peninsula, Hazara-Kashmir syntaxis, Kangra re-entrant, Kumaun-Garhwal Himalaya, Surin-Mastgarh

Anticline, and Andaman subduction zone, and provided implications on geodynamics, seismotectonics, and internal structures of the Earth.

#### J. Basin Evolution:

- **Delineated high-resolution shallow structures of Indian sedimentary basins:** Cuddapah, Tapti, Kutch, Saurashtra, Gandok, Bengal and Dibrugarh basins and Mahanadi delta from wide-angle seismic data, and inferred on basin evolution and hydrocarbon prospects.

#### K. Human Resources:

- **Developed trained manpower (16 PhDs, 70 Master dissertations, and 2 postdoctoral scholars) based on contemporary tools** like seismic tomography, full-waveform inversion, attribute characterization, AVO modeling, prestack depth migration, rock physics modeling and ML, covering wide-range of topics: climate change; glaciers and glacier-lakes dynamics; geo-hazards due to earthquakes, landslides, avalanches and flash floods; early warnings; seismotectonics, geodynamics, basin evolution; hydrocarbons in fold-thrust belts of Himalaya, non-conventional marine gas-hydrates and geothermal energy resources; and imaging sub-volcanic sediments.

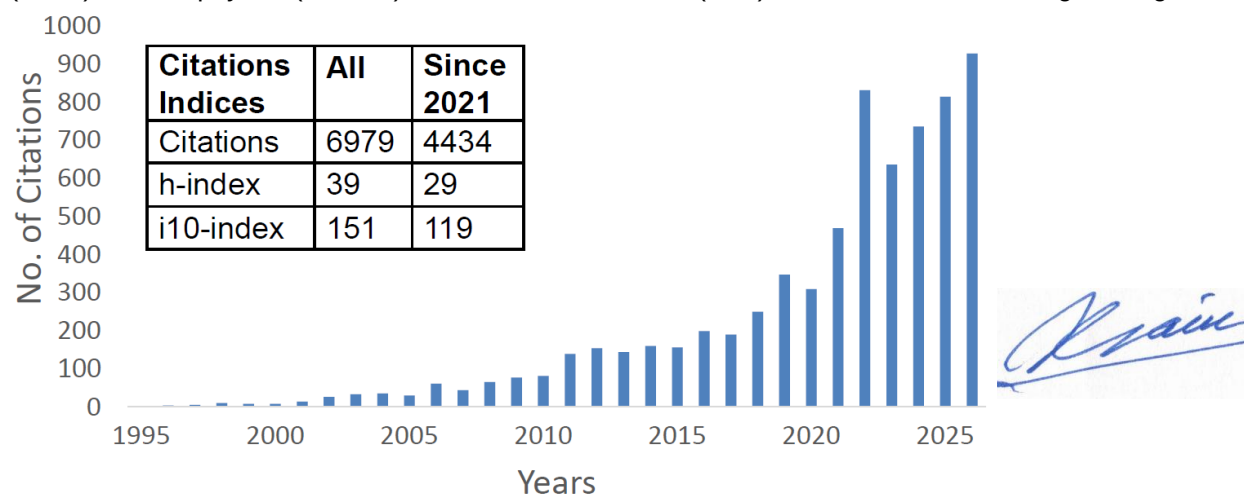
#### Ph.D. Students and Topics:

1. Maheswar Ojha from Osmania University, Hyderabad in 2009 on "Quantitative assessment of gas-hydrates from seismic data"
2. Ranjana Ghosh from Osmania University, Hyderabad in 2010 on "Evaluating resource potential of gas-hydrates using effective medium theory from geophysical data"
3. Anoop Kumar Singh from Osmania University, Hyderabad in 2011 on "Seismic quality factors for the investigation of gas-hydrates"
4. Mr. Nara Damodara from AcSIR at CSIR-NGRI, Hyderabad in 2017 on "Imaging West-Bengal onshore and Kerala - Konkan offshore basins from active-source seismic tomography"
5. Mr. Priyadarshi Chinmoy Kumar from AcSIR at CSIR-NGRI, Hyderabad in 2019 on A "novel approach for enhanced interpretation of 3D seismic data using meta-attributes: Examples from Taranaki basin off New Zealand"
6. Mr. Soumya Jana from IIT-ISM, Dhanbad in 2020 on "Stochastic modeling of gas-hydrate reservoirs"
7. Thandan Babu Naik from JNTU, Kakinada, Vizag in 2020 on "Subsurface image enhancement and feature extraction for oil/gas reserves using Eigen-based Kernels and principal component analysis"
8. Mr. Jitender Kumar from Andhra University, Visakhapatnam in 2020 on "Delineation of gas-hydrates using advanced seismic tools: example from offshore Mahanadi basin, India"
9. Mr. Rowtu Ramu from Osmania University, Hyderabad in 2021 on "Detection and quantification of gas-hydrates in Krishna-Godavari basin from seismic data"
10. Mr. Arun Kumar from Andhra University, Vishakhapatnam in 2021 on "Detection and assessment of gas hydrates in Mahanadi offshore, eastern margin of India"
11. Mrs. Anju Joshi from Osmania University, Hyderabad in 2022 on "Delineation and quantification of gas hydrates in Krishna Godavari basin using well log and seismic data"
12. Miss Laxmi Pandey from AcSIR at CSIR-NGRI, Hyderabad in 2022 on "Rock physics for Anisotropy of Gas hydrates reservoir in Krishna Godavari Basin".
13. Mr. Vivekanand Pandey from Osmania University, Hyderabad in 2022 on "Quantitative assessment of gas hydrates in the Krishna-Godavari basin, eastern Indian margin"
14. Mr. Suman Konar from Osmania University, Hyderabad in 2024 on "Characterisation of gas-hydrates reservoirs in Krishna-Godavari basin using seismic and well log data"
15. Mr. Madhab Biswas from AcSIR, WIHG-DST, Dehradun in 2024 on "A Seismic study of the Surin-Mastgarh Anticline, NW Himalaya: Implications on Geo-Tectonics and Geo-resources"
16. Mr. Satendra Singh from Osmania Univ., Hyderabad in 2026 on "Imaging KG offshore and Cuddapah onshore Basins from Seismic and Gravity Data and Their Geodynamic Implications."
17. Mr. Pawan Patidar from AcSIR, WIHG-DST, Dehradun in 2026 on "Assessing glacier hydrology and hazards in the Himalaya-Karakoram River basins"
18. Miss Shiva Kalyani Sravani has registered for Ph.D. in 2021 at AcSIR-Wadia Institute of Himalayan Geology, Dehradun on "Delimitation of subsurface geologic features from 3D seismics in KG basin"
19. Miss Meenakshi has registered for Ph.D. in 2023 at AcSIR-Wadia Institute of Himalayan Geology, Dehradun on the topic "Evolution of landforms and sediment delivery characteristics of Gangotri glacier under changing climatic conditions"

### 13. Publication at a Glance:

Total Publications – 393; Peer-reviewed articles – 281; **(Please see Annexure for Full List of Publication)**  
SCI Articles–260; Authored Books–5; Edited Volumes–7; Book Chapters–29; Non-SCI Articles–92

- |                                                        |                                                        |
|--------------------------------------------------------|--------------------------------------------------------|
| (i) Science (IF=47.73) – 1                             | (xxxviii) Mar. Geophys. Researches (IF=2.69) – 12      |
| (ii) Science of the Total Envmt. (IF=10.75) – 2        | (xxxix) Mar. Georesources & Geotech. (IF=2.67) – 1     |
| (iii) Renewable Energy (IF=8.63) – 1                   | (xl) Episodes (IF=2.49) – 2                            |
| (iv) Sustainable Energy Tech. Assmt. (IF=8.00) – 1     | (xli) Jour. of Geodynamics (IF=2.35) – 2               |
| (v) Geology (IF=6.32) – 1                              | (xlii) Pure & Applied Geophysics (IF=2.34) – 7         |
| (vi) Gondwana Research (IF=8.60) – 1                   | (xliii) Geological Journal (IF=2.13) – 3               |
| (vii) Jour. of Hydrology: Reg. Study (IF=5.44) – 1     | (xliv) Jour. of Applied Geophysics (IF=2.12) – 8       |
| (viii) Earth & Planetary Science Letter (IF=5.26) – 1  | (xlv) Computational Geosciences (IF=2.10) – 1          |
| (ix) Energy & Fuels (IF=5.3) – 1                       | (xlvi) Acta Geophysica (IF=2.00) – 1                   |
| (x) Env. Sci. & Pollution Res. (IF=5.19) – 1           | (xlvii) Jour. of Earth Sys. Sci. (IF=1.95) – 9         |
| (xi) Precambrian Research (IF=5.09) – 1                | (xlviii) Environmental Geotechnics (IF=1.93) – 1       |
| (xii) Scientific Reports (IF=4.98) – 4                 | (xlix) Petrol. & Petrochem. Eng. Jour. (IF=1.87) – 1   |
| (xiii) Jour. of Natural Gas Sci. & Eng. (IF=4.97) – 8  | (l) Arabian Jour. of Geosciences (IF=1.83) – 3         |
| (xiv) Jour. of Geocarto International (IF=4.90) – 1    | (li) Jour. of Seismic Exploration (IF=1.83) – 2        |
| (xv) Geological Society of America (IF=4.5) – 1        | (lii) Geophysics (IF=1.80) – 3                         |
| (xvi) Jour. of Petrol. Sci. & Engg. (IF=4.35) – 2      | (liii) Geochemical Transactions (IF=1.80) – 1          |
| (xvii) Mar. & Petrol. Geology (IF=4.35) – 15           | (liv) Advances in Geosciences (IF=1.70) – 1            |
| (xviii) Basin Research (IF=4.31) – 1                   | (lv) Geophysical Prospecting (IF=1.70) – 1             |
| (xix) Geothermics (IF=4.28) – 1                        | (lvi) Jour. of Acoustic Soc. of America (IF=1.57) – 1  |
| (xx) Physics & Chemistry of the Earth (IF=4.10) – 3    | (lvii) Jour. Geol. Soc. of India (IF=1.46) – 39        |
| (xxi) Sustainability (IF=3.89) – 1                     | (lviii) Acta Geodaetica et Geophysica (IF=1.40) – 1    |
| (xxii) Am. Assoc. of Petrol. Geol. Bull. (IF=3.86) – 1 | (lix) Carbonates & Evaporites (IF=1.30) – 3            |
| (xxiii) Jour. of Geophys. Research (SE) (IF=3.85) – 2  | (lx) Himalayan Geology (IF=1.29) – 9                   |
| (xxiv) Marine Geology (IF=3.55) – 2                    | (lxi) Current Science (IF=1.10) – 24                   |
| (xxv) Jour. of Asian Earth Sciences (IF=3.45) – 8      | (lxii) Exploration Geophysics (IF=0.94) – 3            |
| (xxvi) Geo-mech. phys. energy resources (IF=3.7) – 1   | (lxiii) Proceedings of INSA (IF=0.87) – 6              |
| (xxvii) Royal Soc. of Chem. Adv. (IF=3.25) – 1         | (lxiv) Chinese Journal of Geophysics (IF=0.85) – 1     |
| (xxviii) Frontiers in Earth Science (IF=3.23) – 1      | (lxv) Interpretation (IF=0.61) – 2                     |
| (xxix) Env. Monitoring & Assessment (IF=3.21) – 1      | (lxvi) Environmental Process (IF=0.57) – 1             |
| (xxx) Jour. of Hydrometeorology (IF=3.10) – 1          | (lxvii) Indian Jour. of Geo-Marine Sci. (IF=0.49) – 1  |
| (xxxi) Jour. of Structural Geology (IF=3.00) – 1       | (lxviii) Jour. of Indian Geophys. Union (IF=0.20) – 11 |
| (xxxii) Geophys. Jour. Internat. (IF=2.93) – 12        | (lix) Geosystems and Geoenvironment – 2                |
| (xxxiii) Hydrological Processes (IF=2.90) – 1          | (lxx) Int. Jour. of Earth Sci. & Engg. – 2             |
| (xxxiv) Earth Science Informatics (IF=2.80) – 2        | (lxxi) Results in Geophysical Sciences – 2             |
| (xxxv) Progress in Earth & Planet. Sci. (IF=2.80) – 1  | (lxxii) Artificial Intelligence in Geosciences – 3     |
| (xxxvi) Earth Surface Process Landforms (IF=2.70) – 1  | (lxxiii) Progress in Geophysics – 2                    |
| (xxxvii) Tectonophysics (IF=2.70) – 2                  | (lxxiv) Jour. of Earth Sci. & Engineering – 1          |



(Source: <http://scholar.google.co.in/citations?hl=en&user=9nhStVcAAAAJ>)

## Annexure

### Full List of Publication

#### (a) SCI Papers

- 1) P.C. Kumar, J. Kumar, E. Srivastava, G.F. Rizzo, M.G. Morticelli, A. Sulli & **K. Sain**, 2027. Stress-controlled fault reactivation potential in the Dibrugarh field, Upper Assam foreland basin, NE India. **Jour. of Structural Geology**, accepted.
- 2) B. Mukherjee, S. Kar, R. Banerjee & **K. Sain**, 2027. 3D U-Net driven automated facies classification from depth-migrated seismic volume, **Physics and Chemistry of the Earth**, 145, 104841:1-16.
- 3) B. Mukherjee, S. Kar & **K. Sain**, 2027. An attribute-guided 3D U-Net-based paradigm for joint fault and horizon prediction in seismic volume, **Physics and Chemistry of the Earth**, 145, 104800:1-15.
- 4) **K. Sain**, 2026. Causes and concerns regarding the 2026 Rasuwa Episode, **Current Science**, Guest Editorial, 131(7), 1-2, in press.
- 5) B. Sai Kiran, J.D. Lee & **K. Sain**, 2026. Is Amino Acid a Promoter or Inhibitor to Hydrate Kinetics? A Mini-Review, **Jour. Geol. Soc. of India**, 102(11), in press.
- 6) **K. Sain**, 2026. A review on Gas-hydrates: Energy perspectives of India, **Current Science**, 131(4), 339-354.
- 7) B. Mukherjee, S. Kar, R. Banerjee & **K. Sain**, 2026. 3D U-Net-assisted automated facies classification from seismic volume of Amguri Prospect, Upper Assam Shelf, NE India, **Geophys. Pros.**, 74(7): e70241:1-20.
- 8) J. Kumar & **K. Sain**, 2026. Unveiling the subsurface fault complexities using a convolutional network: a study from the Upper Assam foreland basin, NE India. **Computational Geoscience**, 30(82), 1-18.
- 9) B. Mukherjee, S. Kar, R. Banerjee & **K. Sain**, 2026 3D U-Net aided seismic data recovery from varying missing data levels, **Jour. of App. Geophys.**, 254, 106432:1-15.
- 10) **K. Sain**, 2026. Flash floods in Uttarakhand Himalaya: Reasons and remediation, **Jour. Indian Geophys. Union**, 30(1), 1-5.
- 11) **K. Sain**, 2026. From disasters to resilience, **Current Science**, Guest Editorial, 130(9), 777-778.
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