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Research Interests

- Exploration geophysics, geological and geophysical interpretation
- Structural and stratigraphic interpretation, seismic geomorphology
- 3D seismic and attribute workflows
- Machine Learning and its applications
- Sedimentary basin studies

Education

- 2014-19: PhD (App. Geophy.), AcSIR-National Geophysical Research Institute, Hyderabad
- 2010-13: M.Sc.(Tech) Geophysics, Department of Geophysics, Andhra University, Vizag
- 2006-09: B.Sc.(Phy), College of Basic Science and Humanities, OUAT, Bhubaneswar

Professional Experience

- 11/2020 – present: Scientist- “B”
- 02/2020-11/2020: Research Associate, WIHG Dehradun
- 08/2013-09/2014: Geophysicist, DEEP Industries Limited (E&P), Ahmedabad
- 05/2013-07/2013: Research Intern, GERMI, Gandhinagar, Gujarat, India
- 05/2012-06/2012: Industrial Trainee, ONGC (WOB), Mumbai, India

Awards and Fellowships

- 2012: ONGC Meritorious Fellowship, ONGC
- 2014: DST-INSPIRE Fellowship, Govt. of India
- 2019: Prof. R.C Misra Gold Medal Award, WIHG
- 2019: Dr. JG Negi Young Scientist Award, IGU
- 2020: “Best Paper Award”, KDMIPE-ONGC

National and International Collaborations

International Collaborators

- Dr. Tiago M Alves (3D Seismic Lab, Cardiff University, UK)
- Dr. Qiliang Sun (Emeritus Professor, China University of Geoscience, Wuhan)
- Dr. Kamaldeen O Omosanya (Oasisgeokonsult, Trondheim Norway)

- Dr. Ovie Emmanuel Eruteya (Department of Earth Sciences, University of Geneva)
- Dr. Nicholas Waldmann (University of Haifa, Israel)

Indian Collaborators

- Dr. Kalachand Sain (Director, WIHG, Dehradun)
- Dr. Animesh Mandal (Asst. Professor, IIT Kanpur)

Voluntary Editorial Services (as Reviewer)

- Journal of Applied Geophysics, Elsevier
- Journal of Marine and Petroleum Geology, Elsevier
- Exploration Geophysics, CSIRO
- Interpretation, SEG

Research Publications

Research Articles

- **Kumar, P.C.**, Alves, T. and Sain, K. 2021. Forced Folding in the Kora Volcanic Complex, New Zealand: A case study with relevance to the production of hydrocarbons and geothermal energy. *Geothermics*, 89(101965), 1-17
- **Kumar, P.C.** and Sain, K. 2020. A machine learning tool for interpretation of Mass Transport Deposits from seismic data. *Scientific Reports*, 10(1), 1-10.
- **Kumar, P.C.** and Sain, K. 2020. Interpretation of magma transport through saucer sills in shallow sedimentary strata using an automated machine learning approach. *Tectonophysics*, 789, 228541, 1-16.
- **Kumar, P.C.**, Omosanya, K. O., Eruteya, O.E. and Sain, K. 2020. Geomorphological characterization of basal flow markers during recurrent mass movement: A case study from free- and no-slip flow markers during recurrent mass movement from 3D seismic reflection data. *Basin Research* (In Review)
- **Kumar, P.C.**, Waldmann, N. and Sain, K. 2020. Structural illumination of a buried stratovolcano: a case study from offshore Taranaki Basin, New Zealand. *Physics of the Earth and Planetary Interiors* (In Review)
- **Kumar, P.C.**, Omosanya, K. O., Sain, K. 2019. Sill Cube: An automated approach for the interpretation of magmatic sill complexes on seismic reflection data. *Journal of Marine and Petroleum Geology*, 100, 60-84.
- **Kumar, P.C.**, Sain, K. and Mandal, A. 2019. Delineation of a buried volcanic system in Kora prospect off New Zealand using artificial neural networks and its implications. *Journal of Applied Geophysics*, 161, 56-75.
- **Kumar, P.C.**, Omosanya, K.O., Alves, T. and Sain, K. 2019. A neural network approach for elucidating fluid leakage along hard-linked normal faults. *Journal of Marine and Petroleum Geology*, 110, 518-538.
- Sain, K. and **Kumar, P.C.** 2019. Human and Machine: An amalgamation to aid seismic interpretation. *ONGC Bulletin*, 54 (2), 1-14. (conferred with Best Paper Award)
- **Kumar P.C.** and Sain, K. 2018. Attribute amalgamation-aiding interpretation of faults from seismic data: An example from Waitara 3D prospect in Taranaki basin off New Zealand. *Journal of Applied Geophysics*, 159, 52-68.

- **Kumar P.C.** and Mandal, A. 2017. Enhancement of fault interpretation using multi-attribute analysis and artificial neural network (ANN) approach: A case study from Taranaki Basin, New Zealand. *Exploration Geophysics*, 49(3), 409-424.
- Singh, D., **Kumar, P.C.** and Sain, K. 2016. Interpretation of gas chimney from seismic data using artificial neural network: A study from Maari 3D prospect in the Taranaki basin, New Zealand. *Journal of Natural Gas Science and Engineering*, 36, 339-357.

Conference Articles

- **Kumar P. C.** 2016. Application of geometric attributes for interpreting faults from seismic data: An example from Taranaki Basin, New Zealand. Paper presented at SEG Annual Convention, *Society of Exploration Geophysics*, 2077-2081.
- Singh, D., **Kumar, P.C.** and Sain, K. 2016. Interpretation of gas chimney in the Maari 3D field of southern Taranaki Basin, New Zealand. Paper presented at SEG Annual Convention, *Society of Exploration Geophysics*, 2082-2086.
- Srivastava, E., Mandal, A and **Kumar, P.C.** 2017. Seismic data conditioning and multi-attribute analysis for enhanced structural interpretation: A case study from offshore Nova Scotia, Scotian Basin. Paper presented at SEG Annual Convention, *Society of Exploration Geophysics*, 2225-2229.

Book Chapters

- Sain, K. and **Kumar P. C.** 2020. Seismic, Artificial Intelligence to Neural Intelligence for Advanced Interpretation, In Gupta H.K., Ed., 3rd Edition, *Encyclopedia of Solid Earth Geophysics*, Springer, The Netherlands.

Books-authored/Edited volume:

- Sain, K. and **Kumar P. C.** 2020. “**Meta-attributes in Seismic Interpretation: Theory and Practice**”, Eds., John Wiley & Sons, Accepted.