



Society of Petroleum Engineers
IIT Guwahati Student Chapter

Department of Chemical Engineering, IIT Guwahati
&
SPE IIT Guwahati Student Chapter



Workshop on Applied Statistical Modeling & Data Analytics for Petroleum Engineering & Related Applications



22-24 November, 2022



Computer Center
Dept. of Chemical Engg.

About the Workshop

This workshop will provide a hands-on introduction to statistical modeling and big data analytics for petroleum engineering and related applications. Topics to be covered include: (a) easy-to-understand descriptions of the commonly-used techniques, (b) case studies demonstrating the applicability, limitations and value-added proposition for these methods, and (c) hands-on problems sessions using open-source software. This class will arm engineers and scientists with advanced capabilities to extract new insights from subsurface and surface datasets representing oil/gas and other projects involving fluid flow. Some typical applications include: (a) learning hidden patterns and relationships in large multivariate datasets, (b) determining factors responsible for separating good performers from poor ones, (c) building fast surrogate models that can substitute physics-based models for repetitive calculations, and (d) assisting in predictive maintenance by identifying failure inducing conditions from historical records

Instructor

Dr. Srikanta Mishra

Honorary Faculty, Chemical Engineering,
IIT Guwahati
Technical Director, Geo-Energy Modeling
& Analytics, Battelle Memorial Institute



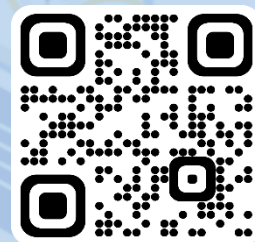
Dr. Srikanta Mishra is Technical Director for Geo-energy Modeling & Analytics at Battelle Memorial Institute, the world's largest not-for-profit private R&D organization. He is also the Technical Lead for US Department of Energy's SMART Initiative (Science-informed Machine Learning for Accelerating Real-time Decisions for Subsurface Applications). He is a recognized expert on integrating computational modeling and machine-learning assisted data-driven modeling for various subsurface energy resource projects (e.g., geological carbon sequestration, oil and gas development, hydrogen underground storage). He is the recipient of 2022 SPE International Award for Data Science and Engineering and the Society of Petroleum Engineers (SPE) 2021 International Award for Distinguished Membership. He was an SPE Distinguished Lecturer on Big Data Analytics during the 2018-19 season, visiting 16 countries to deliver 32 lectures. He is the author of ~200 refereed publications, conference papers and technical reports, and the book "Applied Statistical Modeling and Data Analytics for the Petroleum Geosciences" published by Elsevier. He is also a popular instructor of short courses on statistical modeling and data analytics for professional societies and client locations in the US, Canada, China, Spain, Japan, India, Finland, Belgium and Switzerland. He holds a PhD degree from Stanford University, an MS degree from The University of Texas at Austin, and a BTech degree from IIT(ISM) Dhanbad.

Who Should Attend

This course is designed for Post-Graduate and senior undergraduate students as well as participants from the industry, who are interested in becoming smart users of statistical modeling and data analytics.

Registration Fees

- **Students: UG, PG, PhD & Post-Docs:- INR 500.00**
- **Academicians: INR 1000.00**
- **Participants form Industries, R&D and others : INR 5000.00**
- Registration fee includes GST 18% and full access to workshop activities, tea/coffee during workshop.
- Registration fees are non-refundable.
- Participants need to fill the Registration Form on or before 15 Nov, 2022.
- Details of payment will be shared with the registered participants in due course.



[Register Here](#)

Schedule & Course Content

22 November

- # Foundational Concepts of Big Data
- # Basics Regression Analysis
- # Multivariate Data Analysis

23 November

- # Machine Learning Basics
- # Machine Learning for Regression and Classification

24 November

- # Group Project
- # Data Analytics Do's & Don'ts
- # Key Takeaways and Resources

Workshop Coordinators:

Prof. Anugrah Singh

Prof. Sumit Kumar

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Visit: <https://event.iitg.ac.in/asmda/> for more details