This Month's Presentation

Dr. Javier Tellez

Colorado Mesa University

will present a talk entitled:

Making Sense of Big Geoscience Data: An Introduction to Artificial Intelligence in Geosciences

The speaker will present in person although we will also have Zoom available.

Guests Are Always Welcome

Meeting Time and Location

January 21, 2026

Joint meeting with the CMU Geology Students

6:30 p.m.

Saccomanno Lecture Hall (Room 141) in the Wubben Science Building at Colorado Mesa University

Zoom Details

Andres Aslan is inviting you to a scheduled Zoom meeting.

Topic: GJGS Jan 21 meeting

Time: Jan 21, 2026 06:00 PM Mountain Time

Join Zoom Meeting

https://coloradomesa.zoom.us/j/85987509942

Meeting ID: 859 8750 9942

Zoom meeting opens at 6:00 pm to allow time to connect.

Important Announcements

Dues are due. If you have not yet paid your $25 dues for 2026, please do so now. You may pay in person to our treasurer, Brann Johnson, at the meeting, by check to the GJGS Foundation mailed to our P.O. Box (Box 4045, Grand Junction, CO 81502) or by credit card at our website, GJGS.org. If paying by credit card, consider adding a couple of dollars to make up for the service charge PayPal charges us for handling the transaction. Most of our dues money goes toward scholarships, so you are contributing to a good cause.

Abstract

Making Sense of Big Geoscience Data: An Introduction to Artificial Intelligence in Geosciences
Dr. Javier Tellez

Artificial intelligence is increasingly used in geoscience to analyze large and complex datasets that include well logs, seismic volumes, core descriptions, and geological images. As data volume and variety continue to grow, artificial intelligence methods provide new ways to recognize patterns, integrate multiple data types, and support geological interpretation. At the same time many geoscientists remain unsure about what artificial intelligence actually is, how it relates to traditional analysis methods, and when it is appropriate to use.

This talk introduces fundamental artificial intelligence concepts relevant to geoscience applications with an emphasis on how computers can assist with organizing, interpreting, and learning from geological data. The talk explains the role of machine learning within artificial intelligence and discusses common approaches used in geoscience such as pattern recognition, classification, clustering, and image analysis. Examples include electrofacies classification, lithofacies prediction, seismic attribute analysis, and image-based interpretation of thin sections and core photographs.

Rather than focusing on algorithms or programming, the presentation emphasizes geological reasoning data preparation validation and interpretation of results. The goal is to clarify how artificial intelligence can support geological insight rather than replace it. The talk concludes with guidance on available tools pathways for students and practical steps for getting started in artificial intelligence-related research.

Bio

Dr. Javier Tellez

Dr. Javier Tellez is an Assistant Professor of Geosciences at Colorado Mesa University, where he teaches undergraduate courses and mentors students in research related to subsurface interpretation. He earned his Bachelor of Science in Geology from the Universidad Nacional de Colombia and completed his Master of Science and Doctorate in Geosciences at the University of Oklahoma. He gained industry experience as a reservoir geologist with Occidental Oil and Gas Corporation prior to completing his graduate training, focusing on integrated subsurface analysis using well logs, seismic data, and core information.

His research focuses on the application of artificial intelligence and data driven methods to geoscience problems such as seismic interpretation, electrofacies classification, and lithofacies prediction. Dr. Tellez emphasizes the role of artificial intelligence as a tool to support geological reasoning and interpretation. Through teaching and research, he integrates computational methods with traditional geoscience approaches to prepare students for modern geoscience workflows.