

Overview

Structural geology is a fundamental subject focused on interpretation of three-dimensional rock unit by measuring current rock geometries to uncover recorded deformation history in rocks. Knowledge of this subject has roots in earliest discoveries in geology. This workshop aims to enable participants to enhance their subject knowledge and adapt to the emerging technologies and recent advances in structural geology. During the workshop, fundamental orthographic techniques will be integrated with digital data and computer modelling to advance 3D data interpretation. Furthermore, a new approach to balanced cross section will be discussed to evaluate the consistency of cross section restoration using thermochronological data. This workshop is based largely on practical exercises, which will range from simple data analysis to sophisticated digital data processing and interpretation techniques. Relevant course material and lecture notes will be provided.

Organized By
National Centre of Excellence in Geology
University of Peshawar, KP, Pakistan

Sponsored By
Higher Education Commission of Pakistan, through project “Hydrocarbon Potential of the Northern Pakistan Fold-Thrust Belt”, under Pak-US Science & Technology Cooperation Program, Phase VII

Venue
R.A.K. Tahirkheli Auditorium
National Centre of Excellence in Geology, University of Peshawar
Timing: 0900-1700 Hrs
Lunch and Prayer Break: 1300-1400Hrs

- Learning Goals**
- This 3-day workshop aims to refresh basics of orthographic projection and become familiar with advance techniques in structural geology. Following topics will be covered during the workshop:
- Introduction to field data collection
 - Stereo-net: data plotting and analysis
 - Introduction to topographic maps
 - Inferring out-crop patterns from topographic maps and related prediction problems
 - Three-point method
 - Strike and dip data collection from maps
 - Stress and strain analysis
 - Mohr stress circle with fracture envelop
 - Fault displacement vectors. Cross-section construction
 - Digital field-based mapping with mobile device (Fieldmove Clino)
 - Introduction and working with MOVE software
 - Thermochronology applications in structural geology
 - Balanced cross sections and their validation.

Resource Persons

Dr. Shah Faisal
National Centre of Excellence in Geology
University of Peshawar

Dr. Delores M. Robinson
Department of Geological Sciences
University of Alabama, USA

Mr. Ahsan Naseer
National Centre of Excellence in Geology
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- Course Outcomes**
- On successful completion of this course, students will be able to:
- Practice skills in structural geology, including geometric analyses and orthographic projection
 - Effectively utilize modern techniques in structural geology
 - Portray 3D structures in 2D
 - Develop understanding in thermo-chronology and its application to balanced cross-section
 - Work in a team efficiently and valued in all aspects of learning.

Target Group

This course is designed for students with basic understanding and knowledge in structural geology. The number of participants is limited to 40. The workshop encourages gender equality to give equal opportunities to women. Priority will be given to graduates/final semester students with a background in structural geology. However, undergrad students can be considered on availability of space.
(Registration Fee: PKR 500/-)

Focal Persons

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