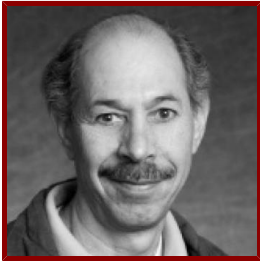


Stanford



Atilla Aydin

Professor (Research) of Geological and Environmental Sciences, Emeritus
Geological Sciences

Bio

ACADEMIC APPOINTMENTS

- Emeritus Faculty, Acad Council, Geological Sciences

HONORS AND AWARDS

- Fellow, Geological Society of America (2000)

PROFESSIONAL EDUCATION

- Ph.D., Stanford University , Geology (1978)
- M.S., Stanford University , Geology (1974)
- B.S., Technical University of Istanbul , Geological Engineering (1968)

LINKS

- Structural Geology and Geomechanics: <http://pangea.stanford.edu/research/geomech/index.html>

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

Research

I am interested in the formation, geometric patterns, and fluid flow properties of fractures and faults in a broad range of scales. My students and I are involved in projects that require both a strong field component and modeling. The field component is similar to a detective's work, which aims to establish temporal and spatial relationships among various elements of a structure. The modeling component is like the moral of the story, enabling one to see through the rationale and use it for guidance in the future.

Professional Activities

Fellow, Geological Society of America; Member, American Geophysical Union and American Association of Petroleum Geologists

PROJECTS

- Rock Fracture Knowledgebase - Stanford University

Publications

PUBLICATIONS

- **Rock Fracture Knowledgebase**

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- **The dynamics and interaction of compaction bands in Valley of Fire State Park, Nevada (USA): Implications for their growth, evolution, and geostatistical property** *TECTONOPHYSICS*
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- **Permeability of a fault zone crosscutting a sequence of sandstones and shales and its influence on hydraulic head distribution in the Chatsworth Formation, California, USA** *HYDROGEOLOGY JOURNAL*
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- **The strength anisotropy of localized compaction: A model for the role of the nature and orientation of cross-beds on the orientation and distribution of compaction bands in 3-D** *JOURNAL OF GEOPHYSICAL RESEARCH-SOLID EARTH*
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- **Permeability characterization of natural compaction bands using core flooding experiments and 3D image-based analysis: Comparing and contrasting the results from two different methods** *American Association of Petroleum Geologists Bulletin*
Deng, S., Zuo, L., Aydin, A., Dvorkin, J., Mukerji, T.
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- **Failure modes of shales and their implications for natural and man-made fracture assemblages** *AAPG BULLETIN*
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- **The relationship between normal and strike-slip faults in Valley of Fire State Park, Nevada, and its implications for stress rotation and partitioning of deformation in the east-central Basin and Range** *JOURNAL OF STRUCTURAL GEOLOGY*
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