

MORTAZA PIROUZ, PhD



Division of Geological and Planetary Sciences
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EDUCATION AND RESEARCH

Postdoctoral Fellow

- California Institute of Technology, Pasadena, USA
with Prof. Jean-Philippe Avouac Sep 2013 - Feb 2015 & Mar 2016 - present
- Cambridge University, Cambridge, UK
with Prof. Jean-Philippe Avouac Mar 2015 - Feb 2016

Graduate research

- PhD, Tectonics and surface processes, University of Geneva, Switzerland
with Dr. Guy Simpson Jun 2008 - Jan 2013
Defense: 18 Jan 2013
- Geomatics certificate, University of Geneva, Switzerland
With Dr. Hy Dao Mar 2012
- PhD candidate, Magmatism and tectonic, University of Tehran, Iran
with Dr. Jamshid Hassanzadeh Jun 2006 - May 2008

- MSc, Tectonics, Research Institute for Earth Sciences, Iran

Oct 2001 - May 2004

- BSc, Geology, Lahijan Azad University, Iran

Oct 1997 - May 2001

RESEARCH GRANTS

1. Early Postdoc Mobility

Sep 2013– Feb 2015

Swiss National Science Foundation, **Applicant**

Research institution: California Institute of Technology, Tectonics Observatory

TEACHING EXPERIMENT

1. California Institute of Technology, **Instructor**

- Outreach program, Intermediate and high school students

2013 - 2014

2. University of Geneva, **Assistant**

- 3D reservoir modeling
- GIS
- Geomatics certificate, Geology space

Jun 2008 - Dec 2012

Jun 2008 - Dec 2012

Mar 2012

3. University of Payam-e-Noor, Karaj, Iran, **Instructor**

Jan. 2004 - May 2008

- Structural Geology
- Surveying
- Geomatics
- Geology of Iran
- Photogeology
- Field Geology

4. University of Lahijan, Iran, **Instructor**

Oct 2001 – Dec 2003

- Fundamental Geology
- GIS
- Surveying

INDUSTRY EXPERIMENT

1. Geneva Petroleum Consultants International Jul 2011 - Sep 2013
 - Geophysicist, Interpret 2D/3D seismic data
 - 3D complex structural-geological modeling
 - Synthetic logs, borehole data and well logs

2. Geological Survey of Iran Jan 2002 – Jan 2007
 - Field geologist
 - Active tectonic surveying with dual frequency GPS

PROFESSIONAL WORKSHOPS

1. Fractured Reservoir Modeling, AAPG, Wyoming, USA
2. Digital Topography: Analysis, and Quantification of Changes, University of Bern
3. Preparation techniques and comparative anatomy, University of Jura
4. Disaster risk reduction, University of Lausanne
5. Heavy stable isotope geochemistry, terrestrial, and environmental applications
cosmochemical, University of Geneva
6. KOL-Wattenmeer field excursion, Organized by ETH-Z
7. Sequence stratigraphy in siliciclastic environments, University of Potsdam
8. Applied paleo-magnetostratigraphy in petroleum geology, University of Potsdam
9. The mainstay of treatment of non-spatial data in the earth sciences using Matlab, University of
Lausanne
10. Foreland basin systems, University of Perugia, IT
11. Isotope Geology, University of Verbania, IT
12. Applied exploration train program for professional engineers, ERCOSPLAN, IR

SELECTED GENERAL WORKSHOPS

1. A career in Switzerland - as a foreign PhD

2. Managing relationships falling on the doctoral process and successful preparing for a career academia or in the private sector
3. Project management for research
4. The successful start of a professional career
5. **Venture challenge**
6. Training in English for scientists, PhD in Science "natural and accurate"
7. Conference and seminar skills
8. The structure and logic of scientific writing and English titles and abstracts
9. Developing a Comprehensive Skills Profile as a Doctoral Student
10. The successful start of a professional career

LANGUAGES

- | | |
|--------------------------|--------|
| 1. English | fluent |
| 2. French | basic |
| 3. Persian | fluent |
| 4. Turkish & Azerbaijani | fluent |

SOFTWARE SKILLS

- | | |
|---|---------------------------------|
| 1. Programming | Matlab, R |
| 2. GIS | ArcMap |
| 3. 3D Modeling & Structural restoration | Petrel, Move, Rockware |
| 4. Seismic Interpretation | Kingdome Suite |
| 5. Remote Sensing | Idrisi, ER Mapper, ER Das, Envi |

PUBLICATION LIST

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Published peer-reviewed articles

1. **Pirouz, M.**, Simpson, G., Castelltort, S., Gorin, G., Bahroudi, A., 2016, Controls on the sequence stratigraphic architecture of the Neogene Zagros foreland basin: Geological Society of America Special Paper v. 525, in Tectonic Evolution, Collision, and Seismicity of Southwest Asia, Editors: Sorkhabi, R, doi: 10.1130/2016.2525(12).
2. **Pirouz, M.**, Simpson, G., Chiaradia, M., 2015, Constraint on foreland basin migration in the Zagros mountain belt using Sr isotope stratigraphy: Basin research, v. 27, no 6, p. 714-728, doi: 10.1111/bre.12097.
3. **Pirouz, M.**, Simpson, G., Bahroudi, A., and Azhdari, A., 2011, Neogene Sediments and Modern Depositional Environments of the Zagros Foreland Basin System: Geological Magazine, v. 148, no. 5-6, p. 838–853, doi: 10.1017/S0016756811000392.
4. Waldmann, N., Anselmetti, F.S., Ariztegui, D., Austin, J., **Pirouz, M.**, Moy, C.M., and Dunbar, R., 2011, Holocene mass wasting events in Lago Fagnano, Tierra del Fuego (54°S): implications for paleoseismicity of the Magallanes Fagnano transform fault: Basin Research, v. 23, no. 2, p. 171–190, doi: 10.1111/j.1365-2117.2010.00489.x.
5. **Pirouz, M.**, Bahroudi, A., Ghasemi, M.R., Saiedi, A., 2009, Structural Evolution of the Basement and Activity of Salt Structures in Firouzabad Area, Fars, Geosciences Scientific Quarterly Journal, No 68, ISSN 1023-7429.
6. Ghazipour, N., Uromeihy, A., Entezam, I., Ansari, F., and **Pirouz, M.**, 2008, The use of Cone Fall Theory for Evaluation of Rock-Fall Hazard along the Chaloos-Road (Pol-e-Zanguleh Marzan-Abad), Geosciences Scientific Quarterly Journal, No 66, ISSN 1023-7429.
7. **Pirouz, M.**, Ghasemi, M.R., Bahroudi, A., Saiedi, A., The Effect of Basal Cohesion Coefficient in Structural Style Mangharak Fault Zone with Use Analogue Modeling Method, Geosciences Scientific Quarterly Journal, 2007, No 61, ISSN 1023-7429.

Submitted manuscripts or in preparation

1. **Pirouz, M.**, Avouac, J.P., Gualandi, A., Hassanzadeh, J., Sternai P., Flexure bending of the Zagros foreland basin, **Submitted** to Geophysical Journal International in Oct. 2016.
2. **Pirouz, M.**, Sedimentology and revised stratigraphy classification of the Neogene foreland deposits in the Zagros, **Submitted** to Asian Earth Science in Nov. 2016.
3. Time reconstruction of the Neo-Tethys closure using magnetostratigraphy, in **Preparation**.
4. Deformation migration across the eastern Zagros orogen using magnetostratigraphy, in **Preparation**.
5. (U-Th)/He Low-Temperature thermochronology along the Zagros mountain belt, in **Preparation**.

PhD Dissertation

1. **Pirouz, M.**, 2013, The geometry and sedimentary record of tectonics in the Neogene Zagros foreland basin, Terre & Environnement 117, University of Geneva, Sc. 4568.

Geological maps published by Geological Survey of Iran

1. **Maimeh**, Sanandaj-Sirjan Metamorphic Belt, Central Iran 2005 - 2006

Sheet No: 6256
Scale: 1/100.000
Karimi, H.R., Zamani, M., **Pirouz. M.**, Hosseini, M.
2. **Javaherdeh** Alborz Mountains, Northern Iran 2002 - 2003

Sheet No: 6063
Scale: 1/100.000
Azhdari. A., Karimi, H.R., **Pirouz. M.**

Book

1. English for geology students, 2006, ISBN: 9789647252614, Published in Farsi.

Conference Proceeding

1. **Pirouz, M.**, 2005, Structural pattern for normal faulting of west central Iran, Mineral Deposit Research, Meeting the Global Challenge, Springer Berlin Heidelberg, Vol. 2, p. 1487–1488.
2. Monsef, R., **Pirouz, M.**, Emami, M. H., 2005, Origin and Concentration Mechanism of Ti Bearing Heavy Mineral Deposits and Rare Earth Elements in Caspian Sea Littoral Sands, Mineral Deposit Research, Meeting the Global Challenge, Springer Berlin Heidelberg, Vol. 3, p. 202–203.

Talks and Poster presentations

1. Flexural bending of the Mesopotamian foreland basin, AGU, 2016.
2. Flexural bending of the Zagros Foreland basin, UCLA, 2016.
3. The role of the Hormuz salt in the flexure of the Arabian continental lithosphere, Darius Symposium, 2014, France.
4. Orogen-parallel variation in flexure of the Arabian plate beneath the Zagros Mountains, AGU fall meeting, 2014, USA.
5. Constraining the upper plate surface deformation across coupled subduction-collision systems, AGU fall meeting, 2014, USA.
6. Geometry and sedimentary records of tectonics in the Neogene Zagros foreland basin, SwissSed meeting, 2013, Switzerland.
7. Neogene Zagros foreland basin, Tectonic Observatory Brownbag Seminar, Oct.2012, California Institute of Technology, USA.
8. Neogene sediments and modern depositional environments of the Zagros Foreland Basin System, Swiss Geoscience meeting, 2011, Switzerland.
9. Sequence stratigraphic investigation of the Neogene Zagros foreland basin, Earth Surface Processes & Paleobiosphere day, Geneva, 2011, Switzerland.

10. Neogene Zagros foreland basin system, European Geosciences Union (EGU), 2010, Vienna, Austria
11. Structural evolution of the basement and activity of salt structures in Fars zone in Zagros, International Geological Congress (IGC), 2008, Oslo, Norway.
12. 3D models of basement structures evolution and salt structures activity in Firouzabad area, Zagros, from Permian to Miocene", International Union Geodesy and Geophysics, 2007, Perugia, Italy.
13. Structural evolution of the basement and salt structures activity by using of 3D models in Firouzabad area, Zagros, European Geosciences Union (EGU), 2007, Vienna, Austria.
14. The hazard zonation of rockfall along Chalus road in north of Iran, European Geosciences Union (EGU), 2007, Vienna, Austria.
15. The Effect of Cohesion Coefficient in Structural Style Mangharak Fault Zone in Zagros Belt, European Geosciences Union (EGU), 2006, Vienna, Austria.
16. Structural Pattern for Normal Faulting of West Central Iran, European Geosciences Union (EGU), 2006, Vienna, Austria.
17. Relationship between Normal Faults and Salt Diapers in North of Central Iran-Semnan, IESCA, 2005, Izmir, Turkey.
18. Origin and Concentration Mechanism of Ti Bearing Heavy Mineral Deposits and Rare Earth Elements in South Caspian Sea Littoral Sands, 2005 Littleton, United States.
19. Introduction of Listric Normal Faulting in Central Iran, 32nd International Geological Congress, 2004, Florence, Italy.
20. Study Titanium-Zirconium Bearing Heavy Mineral Deposits and Rare Earth Elements in South Caspian Sea, 32nd International Geological Congress, 2004, Florence, Italy.