Heather Bedle

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Education

PhD Earth and Planetary Sciences – Northwestern University Evanston, IL 2008
Dissertation: Studies on the S-velocity structure of the North American upper mantle
M.S. Geological Sciences - Northwestern University Evanston, IL 2005
B.S. Physics – Wake Forest University – Winston-Salem, NC 1999

Work History

Instructional Assistant Professor – University of Houston 2016-current

- Fall 2016: GEOL 6390 3D Seismic Exploration I
- Fall 2016: GEOL 6397 Reservoir Properties from Seismic Attributes
- Spring 2017: GEOL 6390 3D Seismic Exploration II
- Spring 2017: GEOL 4397 Interpretation of Geophysical Data

Senior Geophysicist – Chevron Energy Technology Company 2013-2016
Earth Science Division – Reservoir Properties from Seismic – Exploration

- Provide geophysical technical support to Chevron's global business units including:
  - Reservoir property prediction and evaluation
  - Global rock property database analysis for exploration prospects
  - Seismic processing analysis and interpretation
  - Seismic calibration, inversion and attribute analysis
  - DHI risking, including AVO modeling, fluid substitution, well log QC
- Instructor for in-house "Tying wells to seismic data" courses for EPOS and Petrel
- Coordinator for all of Chevron's Exploration amplitude plays risking and review.
- Lead investigator on a research initiative to improve source rock identification from seismic data

Earth Scientist – Chevron, Gulf of Mexico Business Unit 2008-2013
Petronius Field Asset Development (2011-2013)

- Worked as both a lead geologist and geophysicist while on this asset.
  - Daily activities included synthesizing geologic and engineering data (logs, seismic, production) to identify drilling opportunities and by-passed oil
  - Engaged with Reservoir Engineers to create earth models of the reservoirs for simulation, as well as investigate secondary EOR strategies
  - Met weekly with Drilling and Completions Engineers to discuss well plans and mitigations, as well as attended daily rig calls during drilling and the 4D acquisition
  - Communicated with partners for efficient well and seismic planning.
- Project Manager and lead geologist on two development sidetracks wells.
- Project Manager for 4D Seismic acquisition
  - Matured the 4D survey from concept through delivery of the final data
  - Communicated and coordinated effectively with multiple contractors and partners.
- Occasionally performed small geophysical projects for other GOM Deepwater Fields

Bay Marchand Field Asset Development (2008-2011)

- Lead geologist focusing on maturing gas, oil, and waterflood prospects. Experience with new drills and sidetracks. Drilled 11 wells, developed over 20 prospects. Experience with horizontal and dump floods.
- Daily activities included finding and developing prospects from concept through drilling by analyzing well production, seismic, and log data.
- Assisted Reservoir Engineers with reserve bookings, and Drilling and Completion Engineers with well planning.

Geology Intern – **Chevron –** Gulf of Mexico Business Unit, Asset Development Summer 2007

- Geophysicist on the Bay Marchand Asset Team, assisting in the geophysical analysis of several proposed target locations on the South Flank of Bay Marchand field

- Utilized several seismic surveys, seismic attributes, well log data, production data, along with new statistical software to aid in risking of prospects

Visiting Scientist – **Lawrence Livermore National Lab** Summer 2006

- Worked on waveform tomography of the upper mantle beneath Southern Europe, Northern Africa, and the Middle East in order to create a 3D seismic model to aid in nuclear test monitoring

Research and Teaching Assistant – Northwestern University 2003 – 2008

Research Assistant – S-wave tomography of the North American Mantle

Teaching Assistant for 100-level *Intro to Geology*, and *Planetary Science,* and 300-level *Physics of the Earth*

Systems Engineer - Northrup Grumman Corporation 2001-2003

- Modeled and simulated antenna function and characteristics to optimize radar detection performance for the Falcon Edge Electronic Warfare Suite
- Performed field and laboratory qualification tests for DIRCM (Directional infrared countermeasures) technology components

Raytheon Electronics Systems 1999-2001

Systems Engineer (2000-2001)

- Researched atmospheric physics data to improve radar missile discrimination for the Patriot Missile Defense system. Simulated missile trajectories and responses using Fortran and Matlab
- Analyzed results from field test installations ofd the ASR-11 Digital Airport Surveillance Radars, concentrating primarily on the weather tracking and discrimination component.

Electrical Engineer *(*1999-2000)

- Characterized and tested RF components, and aided in design of hybrid UHF-RF components for the upgrading of multiple phased-array early warning radar systems.

Select Publications

Chang, S., S. Van der Lee, M. Flanagan, **H. Bedle**, F. Marone, E. Matzel, M. Pasyanos, A. Rodgers, B. Romanowicz, C. Schmid, Joint inversion for three-dimensional S velocity mantle structure along the Tethyan margin, *J. Geophys. Res.*, v115, B8, 2010

Chang, S., S. van der Lee, E. Matzel, **H. Bedle**, Radial anisotropy along the Tethyan margin Geophysical Journal International, DOI: 10.1111/j.1365-246X.2010.04662.x, June 10 2010

Bedle, H., and S. van der Lee, *S* velocity variations beneath North America, *J. Geophys. Res.*, 114, B07308, doi:10.1029/2008JB005949 (2009)

Bedle. H., and S. van der Lee, Fossil flat-flab subduction beneath the Illinois basin, USA. *Tectonophysics*, v.424, 53-68, 2006.

Bedle, H., E. Matzel, and M. Flanagan. Partitioned Waveform Inversion Applied to Eurasia and Northern Africa. Lawrence Livermore National Laboratory (LLNL), Livermore, CA. Technical Report Number UCRL-TR-224057; DOE Contract Number: W-7405-ENG-48, 43p. 2006.