

Erika GASPERIKOVA

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Education

Ph.D. Engineering Geoscience, University of California, Berkeley, 1999

M.S. Geophysics, University of Utah, Salt Lake City, 1996

RNDr. Applied Geophysics, Hydrology, and Engineering Geology, Comenius University, Bratislava, Czechoslovakia, 1990

Research Interest

Applied electric and electromagnetic methods, gravity, and joint seismic and EM interpretations

Professional Experience

04-02 – present. Lawrence Berkeley National Laboratory. Research Scientist: Work on detection and classification of buried metallic objects; investigation of geophysical techniques for monitoring carbon dioxide movement during sequestration; magnetotelluric (MT) and CSEM data processing and interpretation, applications of electrical methods to environmental problems, and implementation of an interactive textbook on the web “The Berkeley Course in Applied Geophysics”.

06-99 to 04-02. University of California at Berkeley. Visiting Postdoctoral Researcher and Associate Specialist: Work on numerical modeling of seismic and electromagnetic response of petroleum reservoirs; work on detection and classification of buried metallic objects; work on implementation of NFIP for mining industry; design and implementation of an interactive textbook on the web for “Introduction to Applied Geophysics” (<http://appliedgeophysics.lbl.gov>).

08-95 to 05-99. University of California at Berkeley. Research Assistant: Work on mapping of induced polarization using natural fields (NFIP).

06-98 to 08-98. Chevron. Summer Internship: Work on MT modeling for Gulf of Mexico prospects.

03-98 and 07-97. PBG – Geophysical Exploration Company, Poland. Training for MT field data acquisition, processing, modeling and inversion.

08-97. Fifth Geological Survey Division of CNPC, China. Training for MT data processing, modeling and inversion.

01-93 to 08-95. University of Utah Research Institute. Research assistant: Work on borehole to surface DC resistivity imaging project, and work on an application of TEM methods in studies of desert basin hydrology.

Selected Publications and Presentations

- (1) Gasperikova, E., G. Newman, D. Feucht, and K. Arnason, 2011, 3D MT characterization of two geothermal fields in Iceland, Geothermal Research Council Annual Meeting, San Diego, CA.
- (2) Gasperikova, E., V. Vytla, L. Kennedy, T. Jobe, and X. Zhu, 2011, Cued survey with a hand-held UXO discriminator at Camp Beale, CA: Partners in Environmental Technology Technical Symposium & Workshop, Washington D.C.
- (3) Kappler, K. N. and E. Gasperikova, 2011, A hybrid method for UXO vs. non-UXO discrimination: Journal of Environmental and Engineering Geophysics, 16, 177-189.
- (4) Kowalsky, M. B., E. Gasperikova, S. Finsterle, D. Watson, G. Baker, and S. S. Hubbard (2011), Coupled modeling of hydrogeochemical and electrical resistivity data for exploring the impact of recharge on subsurface contamination, Water Resour. Res., 47, W02509, doi:10.1029/2009WR008947.

- (5) Gasperikova, E., Kowalsky, M., Hubbard, S., Peterson, J., Baker, G., Modi, A., Smith, M., Watson, D., 2010, Long-term time-lapse surface and borehole resistivity monitoring of contaminant plume migration, Society of Exploration Geophysicists Annual Meeting Expanded Abstracts.
- (6) Gasperikova, E. and Chen, J., 2009, A resolution study of nonseismic geophysical monitoring tools for monitoring of CO₂ injection into Coal Beds: Carbon Dioxide Capture for Storage in Deep Geological Formations, Volume 3, L.I.Eide (Ed.), CPL Press
- (7) Gasperikova, E., Smith, J.T., Morrison, H.F., Becker, A., and Kappler, K., 2009, UXO detection and identification based on intrinsic target polarizabilities: Geophysics, 74, B1-B8.
- (8) Gasperikova, E., and Hoversten, M., 2008, Gravity monitoring of CO₂ movement during sequestration: Model Studies: Geophysics, 73, WA105-WA112.
- (9) Gasperikova, E., Zhang, Y., and Hubbard, S., 2008, Using self potential and multiphase flow modeling to optimize groundwater pumping, AGU, San Francisco.
- (10) Newman, G. A., Gasperikova, E., Hoversten, G. M., and Wannamaker, P. E., 2008, 3D Magnetotelluric characterization of the Coso Geothermal Field, Geothermics, 37, 369-399.
- (11) Gasperikova, E., Morrison, H.F., Smith, J.T., and Becker, A., 2007, Berkeley UXO Discriminator (BUD), SAGEEP Proceedings, 1049-1055.
- (12) Gasperikova E., and Beard L.P., 2007, Geophysics Applied to Detection and Discrimination of Unexploded Ordnance, Journal of Applied Geophysics, 61, 165-167.
- (13) Gasperikova E., and Hoversten G.M., 2006, A feasibility study of non-seismic geophysical methods for monitoring geologic CO₂ sequestration: The Leading Edge, 25, 1282-1288.
- (14) Gasperikova E., Hoversten G.M., and Benson S.M., 2006, Feasibility Study of Seismic Detection of Small Accumulations of Carbon Dioxide in the Subsurface, NETL, Washington D.C.
- (15) Hoversten G.M., Cassassuce F., Gasperikova E., Newman G.A., Chen J., Rubin Y., Hou Z., and Vasco D., 2006, Direct reservoir parameter estimation using joint inversion of marine seismic AVA and CSEM data: Geophysics, Vol. 71, p. C1-B13.
- (16) Gasperikova E., Cuevas N.H., and Morrison H.F., 2005, Natural field induced polarization for mapping of deep mineral deposits: A field example from Arizona: Geophysics, Vol. 70, p. B61-B66.
- (17) Hoversten, G.M. and Gasperikova, E., 2005, Non-seismic Geophysical Approaches to Monitoring, Chapter 23, in Carbon Dioxide Capture for Storage in Deep Geologic Formations - Results from the CO₂ Capture Project, Volume 2: Geologic Storage of Carbon Dioxide with Monitoring and Verification, D.C. Thomas ed., Elsevier Ltd., The Netherlands, pp.1071-1112.
- (18) Gasperikova, E., Becker, A., Morrison, H. F. and Smith, J. T., 2005, A multisensor system for the detection and characterization of UXO, SAGEEP Proceedings, 1236-1243.
- (19) Hoversten, G., Newman, G.A., Gasperikova, E., and Kauahikaua, J.P., 2002, Magnetotelluric investigations of the Kilauea volcano, Hawaii: AGU, San Francisco, December 6-10, F 1439.
- (20) Hoversten, G.M., Newman, G., Morrison, H.F., Gasperikova, E., and Berg, J., 2001. Reservoir characterization using crosswell electromagnetic inversion: A feasibility study for the Snorre Field, North Sea: Geophysics, 66, 1177-1189.
- (21) Gasperikova, E., and Morrison, H.F., 2001. Mapping of induced polarization using natural fields: Geophysics, 66, 137-147.
- (22) Smith, J.T., Hoversten, G.M., Gasperikova, E., Morrison, H.F., 1999. Sharp boundary inversion of 2-D magnetotelluric data: Geophysical Prospecting, Vol. 47, p. 469-486.

Awards, and Fellowships

2011, GRC Best Presentation Award

2007, R&D100 award for Berkeley UXO Discriminator (BUD) from R&D100 Magazine

2004, SERDP Project-of-the-year award for detection and discrimination of buried metallic objects

1999 and 1995, Jane Lewis Fellowships, University of California at Berkeley

Professional affiliations

Society of Exploration Geophysicists, Near-Surface Geophysics Section of the SEG, European Association of Exploration Geophysicists, American Geophysical Union, Environmental and Engineering Geophysical Society