Nate James Lindsey

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EDUCATION

University of California, Berkeley (National Sci) **Fall 2015 -- Present**
Ph.D., Earth and Planetary Science *Berkeley, CA, USA*
Dissertation: Distributed geophysical sensing

University of Edinburgh (Fulbright Scholar) **2012**
M.Sc., Geophysics *Edinburgh, Scotland*
Dissertation: Ethiopian geothermal resources inferred from magnetotelluric (MT) and ambient seismic noise data.
Relevant coursework: Fluid Dynamics; Inverse Theory; Controlled-source Electromagnetics

University of Rochester **2010**
B.S., Alternative Energy & Sustainable Engineering (with Distinction) *Rochester, NY, USA*
Dissertation: Net-metering and a hybridized alternative energy system at Peace Primary School, Kampala, Uganda.
Minors: Geology; Optics

HONORS & AWARDS

NSF Graduate Research Fellowship	2015 – 2018
DOE Computational Science Graduate Fellowship Honorable Mention	2015
Best Geophysics Presentation Award – Geothermal Resources Council Annual Conference	2014
1st Place Int'l Geothermal Essay Contest – U Brit. Columbia, Pacific Centre for Geothermal	2012
Graduate Travel Award (for Ethiopian fieldtrip and conference) – U Edinburgh	2012
Best Poster Award – U Edinburgh Graduate Conference	2012
Fulbright US-UK Postgraduate Scholarship	2011 – 2012
Dean's Prize for Undergraduate Research – U Rochester	2011
Take Five Scholarship (for tuition-free 5th year of study in English Lit.) – U Rochester	2010 – 2011
Outstanding Commitment to Action Award – Clinton Global Initiative University	2009
Eagle Scout	2006

PROFESSIONAL & RESEARCH EXPERIENCE

Lawrence Berkeley Nat'l Lab, Earth Sciences Division **2012 – 2015**
Principal Research Associate
- Led field installation of distributed fiber optic sensing array in Fairbanks, AK and Richmond, CA. Successfully recorded novel distributed seismic, temperature, and strain data for near surface geophysical imaging.
- Led independent technical and scientific review of the induced seismic hazards from hydraulic fracturing and wastewater disposal practices in California for the Bureau of Land Management.
- Modeled 3D MT field data to characterize geothermal systems, including: (1) Raft River, ID, USA (DOE Enhanced Geothermal Site demonstration site); (2) Coso Geothermal Field, CA, USA; (3) Kilauea Volcano, HI, USA; (4) Mono Basin, CA, USA; (7) Taupo Volcanic Zone, New Zealand; (6 – 8) Krafla, Hengill, Krysuivk Geothermal Fields, Iceland; (9) Tatun Geothermal Field, Taiwan; (10) BacMan Geothermal Field, Phillipines; (11) Mahanadong Geothermal Field, Phillipines

Lamont-Doherty Earth Observatory, Columbia University **Feb. 2011 – Aug. 2011**
Researcher Processed 2010 Karonga, Malawi earthquake aftershock sequence.

University of Rochester, Department of Physics **Jan. 2010 – Aug. 2011**
NSF Research Experience for Undergraduates Intern (REU)
Calculated strain rate across segments of the East African Rift using seismic and geodetic data.

Summer of Applied Geophysics Experience (SAGE), Los Alamos Nat'l Lab **Summer 2010**
NSF REU Geophysics fieldwork and modeling experience in MT, passive/active seismic, magnetics, gravity, GPR.

Lawrence Berkeley Nat'l Lab, Earth Sciences Division, Geothermal Program **Summer 2009**
Summer Undergraduate Lab Intern (SULI)
Correlated microseismic strain in Salton Sea Geothermal Field to geology and heat flow models.
Evaluated East African geothermal energy potential.

University of Rochester, Department of Chemistry **Summer 2008**
NSF REU Conducted kinematic study of PbSe quantum dot nanomaterial to improve yield of solar PV technology.

LEADERSHIP & OUTREACH EXPERIENCE

Electromagnetic Reading Group, co-organizer –UC Berkeley, EPS 2014 – 2016
Engineers Without Borders (College chapter), Founding President – U Rochester 2010
National Commitment Leader for Urban Development – Clinton Global Initiative U 2009 - 2010

PUBLICATIONS

Refereed Works

Dou, S., Lindsey, N., Wagner, A.M., Daley, T.M., Freifeld, B., Robertson, M., Peterson, J., Ulrich, C., Martin, E.R. and Ajo-Franklin, J.B. "Distributed Acoustic Sensing for Seismic Monitoring of The Near Surface: A Traffic-Noise Interferometry Case Study." *Scientific Reports* 7 (2017).

Lindsey, N.J., Kaven, J.O., Davatzes, N. and Newman, G.A., 2016. Compartmentalization of the Coso East Flank geothermal field imaged by 3-D full-tensor MT inversion. *Geophysical Journal International*, p. 652–662.

Gasperikova, E., Rosenkjaer, G. K., Newman, G. A., Arnason, K., and Lindsey, N.J. (2015, in press). 3D MT inversion of Krafla and Hengill geothermal fields, Iceland (part 2): Resistivity characterization and interpretation. *Geothermics.*

Rosenkjaer, G. K., Gasperikova, E., Newman, G. A., Arnason, K., and Lindsey, N.J. (2015, in press). 3D MT inversion of Krafla and Hengill geothermal fields, Iceland (part 1): Comparison of inverse modeling techniques. *Geothermics.*

B. Foxall, N. Lindsey, C. Bachmann (2015). An Independent Review of Scientific and Technical Information on Advanced Well Stimulation Technologies in California, Volume II, Chapter 4: Potential Induced Seismicity Impacts. Report to California Commission on Science and Technology.

Lindsey, N. and G. Newman (2015, in press). Improved Workflow for 3D Inverse Modeling of Magnetotelluric Data: Examples from Five Geothermal Systems. *Geothermics*, (53) 527-532.

B. Foxall, N. Lindsey (2014). An Independent Review of Scientific and Technical Information on Advanced Well Stimulation Technologies in California, Chapter 5, Section 4: Potential Induced Seismicity Impacts. Report to Bureau of Land Management.

Lindsey, N. (2013). Three ideas for a Canadian geothermal energy roadmap. *Canadian Geothermal Research Council Review,* Vol. 4: pp. 10-11.

PROFESSIONAL AFFILIATIONS

American Geophysical Union, Member
Permafrost Young Researchers Network, Member
United States Permafrost Association, Member
Seismological Society of America, Member