

# CORINNE ELISABETH LAYLAND-BACHMANN

Lawrence Berkeley National Laboratory  
1 Cyclotron Road  
Berkeley, CA 94720  
Phone: +1 510 486 6743

cebachmann@lbl.gov

Nationality: Swiss

---

## DEGREES

- |          |   |
|----------|---|
| 08. 2011 | Ph.D<br>Thesis Title: <i>New approaches towards understanding and forecasting induced seismicity.</i> (Advisors: S. Wiemer and J. Woessner)                   |
| 04. 2007 | M.Sc.<br>Thesis Title: <i>Probabilistic Magnitude of Completeness of the Northern Californian seismic Network.</i> (Advisors: D. Schorlemmer and E. Kissling) |

## EDUCATION

- |             |   |
|-------------|---|
| 2007 - 2011 | Doctoral Student at Swiss Seismological Service, ETH Zurich                 |
| 2001 - 2007 | Undergraduate Student at the Department of Earth Science, ETH Zurich        |
| 2004 - 2005 | Erasmus Studies at Universiteit Utrecht, Netherlands                        |
| 2003 - 2007 | Diplom (equivalent to M.Sc) in Geophysics at ETH Zurich, Switzerland        |
| 2001 - 2003 | Vordiplom (equivalent to B.Sc) in Earth Sciences at ETH Zurich, Switzerland |

## PROFESSIONAL EXPERIENCE

- |                      |  |
|----------------------|--|
| 07.2012 –<br>current | Postdoctoral researcher at the Lawrence Berkeley National Lab<br>Projects: NRAP and Geothermal Energy  |
| 2011 – 05.2012       | Postdoctoral researcher at the Swiss Seismological Service.<br>Project: GEISER ( <a href="http://www.geiser-fp7.eu">http://www.geiser-fp7.eu</a> ) |
| 05 – 09. 2007        | Scientific assistant at the Swiss Seismological Service.<br>Focus: Induced seismicity in Basel, Switzerland. Report to Geothermal Explorers Ltd.   |

## PROFESSIONAL ASSOCIATIONS

- |          |   |
|----------|---|
| Member   | AGU, SSA, ETH Alumni Bay Area                       |
| Reviewer | BSSA, PAAG, JGGC                                    |
| Councils | Women Scientist and Engineer Council (WSEC) at LBNL |
| Convener | AGU 2012  |

## TEACHING EXPERIENCE

2006-2010      Assistant in the Geophysical Field Course of the Institute of Geophysics,  
ETH Zurich

## COMPUTER SKILLS

*Programming / Software:* Matlab (advanced), Bash (basic), R (basic), Python (very basic), C++ (basic), Generic Mapping Tools (GMT), Adobe Illustrator (basic)

*Operating systems:* Unix/Linux (advanced), Mac OS X (advanced), Microsoft Windows (basic)

## TOOLS

Short-term seismic forecasting tool (STSF) – a NRAP ROM tool to assess ongoing induced seismicity

## LANGUAGES

German (native), English (fluent), French (basic), Spanish (basic)

## PUBLICATIONS AND REPORTS

Jane C. S. Long, Laura C. Feinstein, **Corinne E. Bachmann**, Jens T. Birkholzer, Mary Kay Camarillo, Jeremy K. Domen, William Foxall, James E. Houseworth, Ling Jin, Preston D. Jordan, Nathaniel J. Lindsey, Randy L. Maddalena, Thomas E. McKone, Dev E. Millstein, Matthew T. Reagan, Whitney L. Sandelin, William T. Stringfellow, Charuleka Varadharajan, Heather Cooley, Kristina Donnelly, Matthew G. Heberger<sup>3</sup> Jake Hays, Seth B.C. Shonkoff, Adam Brandt, Jacob G. Englander, Amro Hamdoun, Sascha C.T. Nicklisch, Robert J. Harrison, Zachary S. Wettstein, Jenner Banbury, Brian L. Cypher, Scott E. Phillips, *An Independent Scientific Assessment of Well Stimulation in California Volume II Potential Environmental Impacts of Hydraulic Fracturing and Acid Stimulations*, CCST Report, 2015

Hutchings, Lawrence, Jean Savy, **Corinne Bachmann**, Oliver Heidbach, Mamun Miah, Nate Lindsey, Ankit Singh, and Roselyne Laboso (2015) *Examination of a Site-specific, Physics-based Seismic Hazard Analysis, Applied to Surrounding Communities of The Geysers Geothermal Development Area*. Proceedings, Geothermal Resources Council, Reno, Nevada.

B. Mena, S. Wiemer and **C. E. Bachmann**, *Building robust models to forecast the induced seismicity related to geothermal reservoir enhancement*, BSSA, Vol. 103, No. 1, pp. 383–393, 2013, doi: 10.1785/0120120102, 2013

**C. E. Bachmann**, S. Wiemer, B. Goertz-Allmann, and J. Woessner, *Influence of pore-pressure on the event-size distribution of induced earthquakes*, GRL VOL. 39, L09302, doi:10.1029/2012GL051480, 2012

**C. E. Bachmann**, S. Wiemer, J. Woessner, and S. Hainzl, *Statistical analysis of the induced*

*Basel 2006 earthquake sequence: Introducing a probability-based monitoring approach for Enhanced Geothermal Systems*, Geophys. Journ. Int., doi: 10.1111/j.1365-246X.2011.05068.x, 2011.

Kraft, T., Mai, P.M., Wiemer, S., Deichmann, N., Ripperger, J., Kästli, P., **Bachmann, C.**, Fäh, D., Wössner, J., and D. Giardini (2009). Enhanced Geothermal Systems in urban areas – lessons learned from the 2006 Basel ML 3.4 earthquake, *EOS*, 90/32, pp. 273-274.

Husen, S., **Bachmann, C.** and Giardini, D., 2007. *Locally triggered seismicity in the central Swiss Alps following the large rainfall event of August 2005*, Geophys. J. Int., 171, 1126–1134. DOI: 10.1111/j.1365-246X.2007.03561.x

**Bachmann, C.**, Buholzer, D., Rupp, S. and Szönyi, M., 2007, *Studentlexikon Erdwissenschaften*, Vdf Hochschulverlag, ISBN: 3-7281-2958-5

## CONFERENCE CONTRIBUTIONS AND SEMINARS

Bachmann, C.E., W. Foxall, P Jeanne (2016), *Determining the impact of induced seismicity—a fully integrated modeling approach*, SSA Annual Meeting Abstracts (poster)

Bachmann, C.E., W. Foxall, P Jeanne (2015), *Determining the impact of induced seismicity—a fully integrated modeling approach*, AGU Fall Meeting Abstracts (poster)

Bachmann, C.E., N. Lindsey, W, Foxall, M Robertson (2014), *Discrimination and Assessment of Induced Seismicity in Active Tectonic Zones: A Case Study from Southern California*, AGU Fall Meeting Abstracts (poster)

Bachmann, C.E., S. Wiemer, B.P. Goertz-Allmann (2014), *Geomechanical Modeling of Frequency-magnitude distribution of induced seismicity*, Seismological Society of America, Annual Meeting, Anchorage, Alaska (invited, oral)

Bachmann, C.E., W. Foxall, T.M. Daley (2014), *Comparing induced seismicity on different scales*, Proceedings, Thirty-Ninth Workshop on Geothermal Reservoir Engineering, Stanford University, Stanford, California (oral)

Bachmann, C.E., W Foxall, TM Daley (2013), *Induced Seismicity of the Paradox Valley Brine Injection*, AGU Fall Meeting Abstracts 1, 2481 (poster)

Bachmann, C.E., S. Wiemer, B.P. Goertz-Allmann, B. Mena and J. Woessner i (2012), *How the use of statistical seismology benefits induced seismicity research*. AGU Meeting, San Francisco, December (poster)

Bachmann, C.E., *Induced Seismicity Research – What we can learn from statistical seismology*, USGS Earthquake Seminar Series, Palo Alto, 7. August 2013 (invited, oral)

Bachmann, C.E., S. Wiemer, B.P. Goertz-Allmann, B. Mena, J. Woessner and F. Catalli (2012), *Why geothermal energy research needs statistical seismology*, Thirty-Seventh Workshop on Geothermal Reservoir Engineering Stanford University, Stanford, California, January 30

- February 1, 2012 (oral)

Bachmann, C.E., S. Wiemer, B. Goertz-Allmann, J. Woessner & B. Mena (2011), *Why geothermal energy research needs statistical seismology*. Statsei 7, Santorini, April 2011 (oral)

Bachmann, C.E., S. Wiemer and J. Woessner (2010), *Three-dimensional fluid mapping and earthquake probabilities for induced seismicity sequences*. AGU Meeting, San Francisco, December. (oral)

Bachmann, C.E. , S. Wiemer and J. Woessner (2010), *The induced Basel 2006 earthquake sequence: Mapping seismicity parameters on small scales*. 32nd General Assembly of the European Seismological Commission, Montpellier, France, 6-10 Sep. 2010. (oral)

Bachmann, C.E., D. Schorlemmer, J. Woessner, E. Kissling (2009), D. Oppenheimer, *Probabilistic Magnitude of Completeness of the Northern Californian Seismic Networks Cluster Analysis*, Statsei6, Lake Tahoe, USA. (poster)

Bachmann, C.E., Wössner, J., and S. Wiemer (2009), *A New Probability-Based Monitoring System for Induced Seismicity: Insights from the 2006–2007 Basel Earthquake Sequence*. Seismological Society of America, Annual Meeting, Monterey, USA. (oral)

Bachmann, C.E. S. Wiemer, J. Woessner, (2008), *The induced Basel 2006 earthquake sequence: A new probability-based monitoring system*, 31st General Assembly of the European Seismological Commission - ESC2008 (Crete, Hersonissos 2008). (oral)

Bachmann C.E., S. Wiemer, J. Woessner (2008), *The induced Basel 2006 earthquake sequence: Statistical properties and a new probability-based warning system*, EGU General Assembly 2008, Vienna, Austria. (poster)