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EDUCATION

- 1999-2002 PhD student in the Engineering Geology Team, Geology Institute (*ETH- Swiss Federal Institute of Technology, Zurich*).
PhD in Natural Sciences (Naturwissenschaften) 2002.
- Nov. 1998 M.S. Engineer Geophysicist with Honors (Mention Bien), EPGS (*Ecole de Physique du Globe de Strasbourg, France*).
- June 1998 D.E.A. (M.S. Degree) in Physics and Chemistry of the Earth with Honors (Mention Bien), *University of Strasbourg I, France*. Option: *Geophysics*.
- 1995-1998 University Engineering School in Geophysics (EPGS)
- 1993-1995 Mathématiques Supérieures and Mathématiques Spéciales classes (College), Orléans, France.
- 1993 Scientific Baccalauréat C with honors (Mention Bien), L'Isle s/Sorgue, France.

RELEVANT WORK EXPERIENCE

- 11/2005 - Present Research Scientist at the Institut de Physique du Globe de Strasbourg (IPGS), France.
- 10/2004-11/2004 Postdoctoral Research Associate in the Geophysics Department at Stanford University. Advisor: Prof. Norm Sleep.
Project Title: "Model of fault-zone properties from postseismic to pre-failure conditions. Application to a full-cycle quasi-dynamic model of the Big Bend in the San Andreas Fault in Southern California"
Project funded by the Southern California Earthquake Center (SCEC).
- 08/2002-10/2004 Visiting scientist at the *U.S. Geological Survey* (1st year of post-doc funded by a Swiss National Fund fellowship). Advisor: Steve Hickman.
Study and modeling of the time-evolution of the rheological, hydraulic, cohesive, and frictional properties of fault zones during the interseismic period and how this influences the fault behavior. Application to the full-cycle modeling of the San Andreas Fault near Parkfield, CA.
- 1999-2002 PhD student, *Engineering Geology, Geology Institute, ETH Zurich*. Advisors: Prof. S. Loew and Dr. S.A. Miller
Research work: Generalization of a 3-D fluid-driven fault interaction model.
Teaching assistant for the course on 3D geometrical modeling for geologists (GOCAD)
Co-system administrator of the (SGI) UNIX system of the team.
- 07/1998-09/1998 Engineering researcher (M.S. Eng. work), *Laboratoire de Mesures en Forage (Aix-en-Provence, France)*
Improvement of the mineralogical inversion method obtained during the DEA training, computation of profiles of mineralogy, overpressures and permeability for several boreholes.
- 02/1998-06/1998 Diplôme d'Etudes Approfondies (M.S.) researcher, *Laboratoire de Mesures en Forage (Aix-en-Provence, France)*
Mineralogical inversion of downhole measurements of physical properties and characterization of fluids circulation in the Barbados accretionary prism.
- July-Aug 1997 Geophysics Industry Work Experience, *Bureau des Recherches Géologiques et Minières, Luminy - Association Française de génie ParaSismique (Marseille, France)*
Project: Seismic hazard map of the national territory (France)
I contributed to the first probabilistic computation of seismic hazard maps for France.
- Nov-April 1997-98 Geology Research Project, *Institut de Physique du Globe de Strasbourg - Marine Geophysics Laboratory (Strasbourg, France)*
Paleomagnetic study of basalts dragged along the Central Indian Ridge and the link with ridge segmentation.

HONORS and GRANTS

- Marie Curie Reintegration Grant (E.U.) awarded for the 2 year-project entitled: *Quantitative understanding of the interseismic evolution of fault properties: numerical modelling using lab-experiments (FAULTMOD)*, hosted by the IPGS, France, in collaboration with Chris Spiers, University of Utrecht, The Netherlands (2006-2008), 40,000 Euro per year.
- Qualified to apply for "Maitre de conference" French faculty positions in Solid Earth geosciences (sections 35 and 36) for the period 2004-2008.
- INSU grant (7,500 Euro) for the project "Inversion of high-resolution optical images to obtain a dense deformation field: methodological developments" in collaboration with colleagues from the IPGS and Andre Jalobeanu from the LSIT, Strasbourg (Image processing and computer sciences Lab), 2006-2007.
- Post-doc fellowship awarded by the Swiss National Fund, 08/2002-08/2003.
- ETH Medal awarded in 2003 for my PhD thesis. The medal is awarded to the top 5% of all PhD theses submitted each year to ETH (i.e., in all disciplines).
- Scholarship awarded by the Society of Petrophysicists and Well Log Analysts (SPWLA) for my MS. Eng. work, 1998.

SERVICES

- Reviewer for Geophysical Journal International
- Reviewer for Journal of Geophysical Research
- Reviewer for Geophysical Research Letters
- Reviewer for the National Science Foundation

RESEARCH INTERESTS

- Multidisciplinary, integrative modeling approaches to study geological processes and contribute to seismic hazard assessment (Bayesian generative models or inference, propagation of uncertainties, etc.)
 - The relevance of experimental deformation to study in situ interseismic processes, and the role of numerical modelling to bridge the scale-gap between the two.
 - Dense surface deformation fields as a constraint for models of fault-zone rheology
 - Small to micro-earthquakes, in particular repeating earthquakes: indicators of fault-zone rheology?
- Fault mechanics and the role of fluids in faulting
- Time-evolution of fault systems

PRIMARY FIELD EXPERIENCE

- Nov. 2003 Seismic profiling near the San Andreas fault at Parkfield, California.
- Sept 1997 Seismic profiling in the Ligurian Sea, *Observatoire d'Océanologie, Villefranche sur mer, France*;
Geophysical study of a salt dome in South Alsace (seismic, gravimetry, magnetism, electrical sounding), *Geophysics Institute, Strasbourg, France*.

LANGUAGES

I am fluent in English, and can (and have) easily taught colleagues and students in English, and written numerous papers and proposals in English; French is my native language; I also read, write, and speak German; I am a beginner in Romanian.

COMPUTER EXPERTISE

- Computer environments UNIX (use and system management of an SGI workstation network), MAC OSX.
- Programming experience Fortran (77, 90, 95), OpenMP, C, C++, Matlab, Octave, Gnuplot, LaTeX.

CONFERENCE AND WORKSHOP ABSTRACTS (last five years)

- Fitzenz, D.D.; Hickman, S.H., Jalobeanu, A., and C. Spiers, 2007; Probabilistic modeling of earthquake occurrence: first examples of data integration within a Bayesian framework, 5th International Workshop on Statistical Seismology: Physical and Stochastic Modelling of Earthquake Occurrence and Forecasting (EMFCSC, Erice, Sicily, 31 May - 6 June, 2007)
- Fitzenz, D.D.; Hickman, S.H., Jalobeanu, A., and C. Spiers, 2007; Probabilistic modeling of earthquake occurrence: first examples of data integration within a Bayesian framework, EarthScope Annual Meeting, Monterey, CA.
- Fitzenz, D.D.; Jalobeanu, A.; Hickman, S.H., 2006, Integrating Laboratory Compaction Data with Numerical Fault Models: a Bayesian Framework, *Gordon Res. Conference on Rock Deformation, BIG SKY, MT*.
- Fitzenz, D.D.; Jalobeanu, A.; Hickman, S.H., 2006, Integrating Laboratory Compaction Data with Numerical Fault Models: a Bayesian Framework, *EGU Annual Meeting, Vienna, Austria, EGU06-A-08026*.
- Fitzenz, D.D., Jalobeanu, A., and S.H. Hickman, 2004, Integrating Laboratory Compaction Data With Numerical Fault Models: a Bayesian Framework, *AGU Fall Meeting, San Francisco, CA*.
- Fitzenz, D.D., 2004, Integrating laboratory compaction data into forward fault models with checks with in situ measurements: a Bayesian framework, *Gordon Res. Conference on Fluid-Rock Interaction, Mount Holyoke, MA*.
- Fitzenz, D.D. and Harris, R., 2004, Studying earthquake-rupture scenarios using time-forward, physics-based fault interaction models coupled to dynamic-rupture models, *SSA meeting, Palm Springs, CA*.
- Fitzenz, D.D. and Miller, S.A., 2003, New Insights on Stress Rotations From a Forward Regional Model of the San Andreas Fault System Near its Big Bend in Southern California, *AGU Fall Meeting, San Francisco, CA, 2003AGUFM.T52A0250F*.
- Miller, S.A., Fitzenz, D.D. and Hillers, G., 2003, Numerical models of the earthquake process: Do they provide predictive power? *Invited abstract to EUG-EGS-AGU joint conference, April 6-11, Nice France, 2003*.
- Fitzenz, D.D., Pollitz, F., and Miller, S.A., 2002, First results of a physics-based, integrative model of the San Andreas fault system near the Big Bend including fluids, tectonics, and post-seismic relaxation, *AGU Fall Meeting*.
- Fitzenz, D.D., Miller, S.A., 2002, A forward regional model of the San Andreas fault system near Big Bend: results from a fluid-saturated fault interaction model, *SCEC meeting and Fault And Rock Mechanics workshop*.
- Fitzenz, D.D., Miller, S.A., 2001, First Results from a Forward, 3-Dimensional Regional Model of a Transpressional San Andreas Fault System, *AGU Fall Meeting, 2001AGUFM.S12F10F*.
- Fitzenz, D.D., Miller, S.A., 2001, The SAFOD project: an opportunity to combine field and laboratory data to constrain forward modeling parameters, *EarthScope Workshop*.
- Fitzenz, D.D., Miller, S.A., 2001, A 3-D fault interaction model to investigate the topographical process associated with active tectonics, *European Union of Geophysics*.

PUBLICATIONS

PEER-REVIEWED CONTRIBUTIONS

- Jalobeanu, A. and D. D. Fitzenz, 2007, Robust disparity maps with uncertainties for 3D surface reconstruction or ground motion inference, *PIA Photogrammetric Image Analysis (Munich Sept. 2007)*, in reviews.
- Fitzenz, D.D, Jalobeanu, A, and S.H. Hickman, 2007, Integrating laboratory creep compaction data with numerical fault models: a bayesian framework, *J. Geophys. Res.* 112, B08410, doi: 10.1029/2006jb004792.
- Fitzenz, D.D, Jalobeanu, A, and S.H. Hickman, and N. Sleep, 2005, Integrating laboratory compaction data with numerical fault models: a bayesian framework, *25th International Workshop on Bayesian Inference and Maximum Entropy Methods in Science and Engineering, San Jose, California, August 2005, Melville, N.Y. : American Institute of Physics*, pp. 483-490.
- Fitzenz, D.D. and S.A. Miller, 2004, New insights on stress rotations from a forward regional model of the San Andreas fault system near its Big Bend in southern California, *J. Geophys. Res.*, Vol. 109, No. B8, B08404 10.1029/2003JB002890
- Fitzenz, D.D. and S.A. Miller, 2003, Fault compaction and overpressured faults: Results from a 3D model of a ductile fault zone, *Geophys. J. Int.*, Vol. 155, pp. 111-125.
- Fitzenz, D.D., 2002, Generalization of a 3-dimensional fault interaction model including tectonics, fluids, and stress transfer, *PhD thesis, 121 pages, ETH Zurich*.
- Fitzenz, D.D. and S.A. Miller, 2001, A Forward Model for Earthquake Generation on Interacting Faults Including Tectonics, Fluids, and Stress Transfer, *J. Geophys. Res.*, Vol.106, B11, p.26,689.
- Dominique, P., A. Autran, J.-L. Bles, D.D. Fitzenz, F. Samarq, M. Terrier, M. Cushing, J.-C. Gariel, B. Mohammadioun, Ph. Combes, Ch. Durouchoux and X. Goula, 1998, Part two: Probabilistic approach: Seismic hazard map of the national territory (France), *Proc. 11th Europ. Conf. on Earthquake Engineering, CD, Paris Sept.98*.

TECHNICAL REPORTS

- Fitzenz, D.D., 1997, Contribution à l'évaluation probabiliste de l'aléa sismique à l'échelle du territoire national, *Note technique BGRM/SGN/UPE/RNG/NT97/014*, pp 26.
- Dominique, P., Fitzenz, D.D., Samarq, F., 1997, Evaluation probabiliste de l'aléa sismique à l'échelle du territoire national, *BRGM R39774*, pp 54.

MISC.

2003 Medic First Aid provider (First aid, CPR, AED)

2003 Mentor at Menlo-Atherton High-School, Menlo Park, CA.

References

Prof. Stephen A. Miller (PhD Advisor)
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 D-53115 Bonn, Germany
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 U.S. Geological Survey
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 345 Middlefield Road
 Menlo Park, CA 94025
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