Alexandre Schubnel

Date and place of birth : 29th of May 1976, Colmar, France

Married, 2 children

▶ APPOINTEMENTS

- **Jan. 2019:** Director of the Laboratoire de Géologie of ENS PARIS
- **Oct. 2018:** Senior Researcher CNRS & Adjunct Professor ENS Paris
- **Sep. 2014 - 2018:** Associate Lecturer & CNRS researcher at ENS Paris
- **2006 - 2014:** Associate Researcher at CNRS
- **2003 - 2006:** NSERC post-doctoral fellow at the University of Toronto

▶ EDUCATION

- **2014 :** Habilitation à diriger des recherches (HDR) – ENS Paris
- **2003 :** PhD. Thesis in Geophysics - Institut de Physique du Globe de Paris
- **1999 :** Masters in Geophysics - Institut de Physique du Globe de Paris
- **1997 :** Bachelor of Sciences in Geology & Geophysics, University Paris VI

▶ RESEARCH INTERESTS

- Rock Physics and Rock Mechanics
- Seismology & Mineralogy
- Geo-resources, Energy & Sustainable Development

▶ FELLOWSHIPS AND AWARDS

2021 Invited Professor, Universita degli Studi di Torino
2015 ERC consolidator grant laureate
2014 Prix Gouilloud-Schlumberger – French Academy of Sciences
2014 Médaille de Bronze CNRS
2012 Invited Professor, Earthquake Research Institute, University of Tokyo
2003 Japanese Society for the Promotion of Sciences (JSPS) fellowship
1996 Fellow at Ecole Normale Supérieure de Paris

▶ TEACHING

2014 - : Adjunct prof. ENS:

- Introduction and Fundamentals of Rock physics and Rock Mechanics – undergraduate and master level
- Thermodynamics in Solid Earth Sciences – undergraduate level;
- ENS entrance written and oral exam
- Alpine field trip

2006-2014: Adjunct lecturer ENS; same duties

2005-2006: Adjunct professor, University of Toronto, Advanced rock physics and mechanics – graduate class

▶ 10 SELECTED PUBLICATIONS (75 in total, h-index 40, >4500 citations):

1. Acosta, M., Passelègue, F. X., Schubnel, A., & Violay, M. (2018). Dynamic weakening during earthquakes controlled by fluid thermodynamics. *Nature communications*, *9*(1), 3074.
2. Adelinet, M., Fortin, J., Guéguen, Y., Schubnel, A., & Geoffroy, L. (2010). Frequency and fluid effects on elastic properties of basalt: Experimental investigations. *Geophysical Research Letters*, *37*(2).

3. Brantut, N., Schubnel, A., David, E. C., Héripré, E., Gueguen, Y., & Dimanov, A. (2012). Dehydration-induced damage and deformation in gypsum and implications for subduction zone processes. *Journal of Geophysical Research: Solid Earth*, *117*(B3).
4. Ferrand, T. P., Hilairet, N., Incel, S., Deldicque, D., Labrousse, L., Gasc, J., ... & Schubnel, A. (2017). Dehydration-driven stress transfer triggers intermediate-depth earthquakes. *Nature Communications*, *8*.
5. Incel, S., Labrousse, L., Hilairet, N., John, T., Gasc, J., Shi, F., ... & Schubnel, A. (2019). Reaction-induced embrittlement of the lower continental crust. *Geology*, *47*(3), 235-238.
6. Moarefvand, A., Gasc, J., Fauconnier, J., Baïsset, M., Burdette, E., Labrousse, L., & Schubnel, A. (2021). A new generation Griggs apparatus with active acoustic monitoring. *Tectonophysics*, *816*, 229032.
7. Passelègue, F. X., Schubnel, A., Nielsen, S., Bhat, H. S., & Madariaga, R. (2013). From sub-Rayleigh to supershear ruptures during stick-slip experiments on crustal rocks. *Science*, *340*(6137), 1208-1211.
8. Schubnel, Alexandre, and Yves Guéguen. "Dispersion and anisotropy of elastic waves in cracked rocks." *Journal of Geophysical Research: Solid Earth* 108.B2 (2003).
9. Schubnel, A., Brunet, F., Hilairet, N., Gasc, J., Wang, Y., & Green, H. W. (2013). Deep-focus earthquake analogs recorded at high pressure and temperature in the laboratory. *Science*, *341*(6152), 1377-1380.
10. Wang, X. Q., Schubnel, A., Fortin, J., David, E. C., Guéguen, Y., & Ge, H. K. (2012). High Vp/Vs ratio: Saturated cracks or anisotropy effects?. *Geophysical Research Letters*, *39*(11).

▶ SELECTED INVITED PRESENTATIONS (Last 5 years)

2021 – Tianjin University (online); Tohoku University (online); Universita di Torino (online); Workshop on Earthquake Physics (Roma, keynote); Université de Bern (online), Université de Neuchâtel (online).
2020 – ETH Zürich, Switzerland (online); Workshop on Compaction and Cementation (China University of Petroleum, online, keynote).
2019 – Schatzlap conference on induced seismicity, Davos, Switzerland; Centro Internazionale di Cienca Mecanica, Udine, Italy (summer school); JpGU Science of Slow Earthquake session invited speaker; Mechanics of deep earthquakes workshop, invited speaker, Royal Astronomical Society, London UK.
2018 - Enrico Fermi school on Earthquakes Physics (Varenna It.), French Atomic Center of Energy; Freie Universitat Berlin (All.)
2017 - College de France ; ENS Physics colloquium ; AGU ; invited speaker.
2016 - Division seminar; California Institute of Technology ; Dept. Of Earth Sciences, University of Minnesota ; JpGU (invited speaker) ; International conference of Earth Deep Interior (ICEDI), Wuhan, keynote speaker ;

▶ INTERNATIONAL JOURNALS APPOINTMENTS

- ***Associate editor :*** Journal of Geophysical Research Solid Earth (*April 2014-December 2021*)
- ***Guest-editor*** **:** Special issue of Tectonophysics 2011
- ***Reviewer :*** Science, Nature Geoscience**,** Nature Communications, Scientific Reports, Science Advances, Geology, Geophysical Research Letters, Earth and Planetary Sciences Letters, Geophysical Journal International, Tectonophysics, International Journal of Rock Mechanics and Mining Sciences, Journal of the Acoustical Society of America, Pure and Applied Geophysics, Physics of the Earth and Planetary Interiors, Review of Scientific Instruments, …

▶ SELECTED GRANTS

- 2016-2022 : REALISM (PI), ERC consolidator (2.75k€)
- 2013-2016 : DELF (PI), Agence Nationale de la Recherche (350k€)
- 2012-2016 : Projet Fluides et Failles (co-PI), Total, (550k€)
- 2010-2012 : Deep Quakes (PI), Institut National des Sciences de l'Univers (50k€)
- 2006-2010 : Simulab (PI), 3F, Institut National des Sciences de l'Univers (50k€)