

Dr. Jonathan SCHUITE

PhD in Earth Sciences, specialized in hydrology – hydrogeology
Freelance consultant (water – environment – climate)
Associate researcher at Mines Paris

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HIGHER EDUCATION

- 2013-2016 **PhD thesis in Geosciences**
Subject: *On the use of surface deformation and tiltmeters to characterize fractured reservoirs across scales.*
Advisors: Prof. Olivier Bour & Dr. Laurent Longuevergne
Defended on December 2nd, 2016
Location : UMR-CNRS 6118 Géosciences Rennes, *Université de Rennes 1 (France)*
- 2012-2013 **Master degree in Water Resources**
with major in Quantitative and Qualitative Hydrogeology
Université Montpellier 2 (France)
- 2011-2012 **First year of master in Hydrology and Hydrogeology**
Uppsala Universitet (Sweden)
Sponsored by the European student mobility program ERASMUS
- 2008-2011 **Bachelor degree in Earth and Environmental Sciences**
Ecole et Observatoire des Sciences de la Terre (EOST),
Université de Strasbourg (France)

WORKING EXPERIENCE

Since November 2019

Freelance consultant and research scientist in hydrology & geosciences, TerraScience (France)
Activities: Consulting, Technical studies, Research and Development, conferences, teaching.

January 2018 to July 2019

Postdoctoral researcher at MINES ParisTech,
Center for Geosciences, Fontainebleau (France).
Research project: *On the transformation of climatic signals by regional hydrosystems.*

----- *Traveling break in South America: exploration, road tripping, backpacking...* -----

December 2016 to May 2017

Research engineer at Géosciences Rennes,
Université de Rennes 1 (France).

From November 2013 to December 2016

PhD student at Géosciences Rennes
Université de Rennes 1 (France).

From February to May 2015

Teaching assistant at Université de Rennes 1 (France).
Leader of exercise sessions in hydrology and geomorphology.
Assisting teachers during field training in geophysics, geomorphology
and hydrology.
Level: first year of master.

From September to December 2014

Invited PhD student at the Geoscience Department of Virginia Tech,
(Blacksburg, VA, USA)
Activity: 3D finite element modeling of transient poro-elastic
deformation in and around a fault zone to assess information content
of surface tilt data, using the multi-physics software Abaqus/CAE.
Supervisor: Prof. Thomas J. Burbey

From January to July 2013

Research intern at HydroSciences Montpellier (France) and at Institut
PPRIME (Poitiers, France).
Subject: *Modeling transport properties of the New-Caledonian
fractured peridotites (SW Pacific).*

PUBLICATIONS

Flipo, N., N. Gallois, and **J. Schuite** (2023), Regional coupled surface-subsurface hydrological model fitting based on a spatially distributed minimalist reduction of frequency domain discharge data, *Geoscientific Model Development*, 16, 353-381, <https://doi.org/10.5194/gmd-16-353-2023> .

Lilli, M. A., D. Efstathiou, D. Moraetis, **J. Schuite**, S. D. Nerantzaki, N. P. Nikolaidis (2020), A multi-disciplinary approach to understand hydrologic and geochemical processes at Koiliaris Critical Zone Observatory, *Water*, 12 (9), 2474, doi: [10.3390/w12092474](https://doi.org/10.3390/w12092474).

Flipo N., Gallois N., Labarthe B., Baratelli F., Viennot P., **Schuite, J.**, et al. (2019), Pluri-annual water budget on the Seine basin: past, current and future trends, The Seine River Basin, In: *The Handbook of Environmental Chemistry*, Springer, Berlin, Heidelberg.

Schuite, J., N. Flipo, N. Massei, A. Rivière and F. Baratelli (2019), Improving the spectral analysis of hydrological signals to efficiently constrain watershed properties, *Water Resources Research*, 55 (5), 4043-4065, doi: [10.1029/2018WR024579](https://doi.org/10.1029/2018WR024579).

Schuite, J., L. Longuevergne, O. Bour, T. J. Burbey, F. Boudin, N. Lavenant and P. Davy (2017), Understanding the hydromechanical behavior of a fault zone from transient surface tilt and fluid pressure observations at hourly time scales, *Water Resources Research*, 53 (12), 10558-10582, doi:[10.1002/2017WR020588](https://doi.org/10.1002/2017WR020588).

Schuite, J., L. Longuevergne, O. Bour, N. Guihéneuf, M. W. Becker, M. Cole, T. J. Burbey, N. Lavenant and F. Boudin (2017), Combining periodic hydraulic tests and surface tilt measurements to explore in situ fracture hydromechanics, *Journal of Geophysical Research: Solid Earth*, 122, 6046-6066, doi:[10.1002/2017JB014045](https://doi.org/10.1002/2017JB014045).

Schuite, J., L. Longuevergne, O. Bour, F. Boudin, S. Durand and N. Lavenant (2015), Inferring field-scale properties of a fractured aquifer from ground surface deformation during a well test, *Geophysical Research Letters*, 42, 10696–10703, doi:[10.1002/2015GL066387](https://doi.org/10.1002/2015GL066387).

ADDITIONAL TRAINING

- July 2015 **CNRS scientific workshop (summer school of the French National Research Center)**
Subject: *Flow and transport in porous and fractured media: development, protection, management and sequestration of subsurface fluids.*
Lectures, seminars, posters sessions and field experiments (total: 2 weeks/91 hours).
Location: Institut d'Études Scientifiques de Cargèse, Corsica (France).
- March 2015 **Training at École Supérieure du Professorat et de l'Éducation (ESPE) de Bretagne**
Subject: *Teaching practices*
Total: 48 hours.
- March 2015 **"Prévention et Secours Civiques de niveau 1 (PSC1)",**
standing for "Prevention of hazards and First Aid training, level 1".
Total: 10 hours.
by La Croix-Rouge française (French Red Cross).

COMPUTING SKILLS

Office

- Microsoft Office: Word, Excel et PowerPoint (common use).
- Frequent user of the document preparation system LaTeX.
- Good knowledge of the vector graphics editor Inkscape.

Programming and scientific computing

- Advanced user of MATLAB® (very frequent usage for data visualization, analysis and processing, as well as scientific computation and graphics edition).
- Significant experience with programming languages such as C and FORTRAN 77/90.
- Experience with running shared memory supercomputing systems (via LINUX interface).

Modeling tools

- Experienced user of the multi-physics software Abaqus/CAE®.

- Familiar with COMSOL Multiphysics®, MODFLOW and associated packages (MODPATH, MT3DMS) via graphical interfaces PMWIN, Visual Modflow and GMS.
- Familiar with the river hydraulics simulator HEC-RAS.

LINGUISTIC SKILLS

French Mother tongue.

English Full working proficiency.

Dutch & Catalan

Able to follow and feed everyday-life conversations.

Swedish & Spanish

Basics.

VOLUNTEERING

Since 2022

Board member of EcoCycle, a non-profit community coffee house and third place Coly-Saint-Amand (France).

August 2010 (4 weeks)

Volunteer for a development mission in Togo, West Africa.

Activities: Teach free holiday classes to children aged 10 to 14 (French, Maths and Environmental Sciences), and conduct an AIDS information campaign in a rural area.

PERSONAL INTERESTS

Culture Cinema, music, teaching, politics, foreign languages, plays, etc.

Nature Astronomy, hiking and mountain biking.

Sport Tennis, biking.