

**JEANNE VIDAL**  
PhD in Geology  
Post-doctoral position  
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Date of birth : April, 16<sup>th</sup> of 1991  
Nationality : French

University of Chile - FCFM - Dept. of Geology  
Andean Geothermal Center of Excellence (CEGA)  
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### Scientific interest

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The research of Dr Jeanne Vidal focuses on natural fracture systems with various approaches. She worked with well-logging data especially acoustic image logs in deep boreholes and developed skills in XRD, SEM and SWIR methodologies to study clay minerals in hydrothermal systems. The primary application field is for geothermal reservoir development in crystalline rocks.

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### Background

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**2014 – 2017: Doctorat defended the 21<sup>st</sup> September 2017**

Hydrothermal alteration associated to zones of fractures at the interface between sedimentary cover and granitic basement in the Upper Rhine Graben. Application to geothermal wells at Rittershoffen (France)  
*University of Strasbourg (France)*

**2012 – 2014: Master ST (Earth Science) with distinction**

Specific formation to a wide range of courses in both geology and geophysics  
*University of Strasbourg (France)*

**2011 – 2012: EOST (School and Observatory of Earth Sciences)**

A leading engineering school in geophysics applied to exploration and production of natural resources  
*University of Strasbourg (France)*

**2009 - 2011: Licence STUE (Earth Science and Environmental Sciences)**

Basic knowledge in physics, mathematics, geology, hydrogeology, geophysics, geoscience and computer science.  
*University of Strasbourg (France)*

**June 2009: French Baccalaureate speciality science with distinction**

*Marie Curie High school – Strasbourg (France)*

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### Work experiences

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**February 2017 - November 2018: Junior geologist**

Work package leader in the H2020 project MEET, scientific monitoring of the deep geothermal well GIL-01 (Illkirch, France), collaboration with the PhD student C. Glaas, H2020 project DESTRESS  
*ES-Géothermie – Schiltigheim (France)*

**October 2014 - October 2017: Doctoral research fellow**

*ADEME (French Agency for Environment and Energy)*

**February – September 2014: Master's internship supervised by Albert Genter**

Evaluation of Thermal-Chemical-Hydraulic stimulation in the geothermal well GRT-1 (Rittershoffen, France) by comparing pre- and post-stimulation acoustic borehole images  
*ES-Géothermie – Haguenau (France)*

**July – August 2013: Assistant in charge of implementation of a database for geothermal wells at Rittershoffen supervised by Albert Genter**

*GEIE Exploitation minière de la chaleur – Soultz-sous-Forêts (France)*

**July – August 2012: Geophysical Applied Research Internship supervised by Gerardo Cifuentes-Nava**

Near surface geophysics and geomagnetism: utilisation of GPR, ERT 2D-3D and magnetic methods applied to archeology and paleoseismicity with data processing  
*Institut of Geophysics UNAM – Mexico, District Federal (Mexico)*

**July 2011 and 2010: Assistant in charge of microseismic data processing supervised by Nicolas Cuenot and Albert Genter**

Data processing of microseismic data in the geothermal site, study of the focal mechanisms and 3D events mapping and location of seismically active features

### Peer-reviewed publications

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- Vidal J.**, Hehn R., Glaas C., Genter A. (submitted). How can temperature logs guide us to identify permeable fractures and define a conceptual model of fluid circulation? An example with deep geothermal wells in the Upper Rhine Graben, *Geofluids, Special Issue on Geofluids and Energy for the XXI Century*
- Glaas C., Genter A., Girard J.F., **Vidal J.** (2018). How do the geological and geophysical signatures of permeable fractures in granitic basement evolve after long periods of natural circulation? Insights from the Rittershoffen geothermal wells (France), *Geothermal Energy Journal*, 6(14), doi.org/10.1186/s40517-018-0100-9
- Vidal J.** and Genter A. (2018). Overview of naturally permeable fractured reservoirs in the central and southern Upper Rhine Graben: insights from geothermal wells. *Geothermics*, 74, 57-73, doi: 10.1016/j.geothermics.2018.02.003
- Vidal J.**, Patrier P., Genter A., Beaufort D., Dezayes Ch., Glass C., Lerouge C., Sanjuan B. (2018). Clay minerals related to the circulation of geothermal fluids in boreholes at Rittershoffen (Alsace, France), *Journal of Volcanology and Geothermal Research*, 349, 192-204, doi: 10.1016/j.jvolgeores.2017.10.019
- Vidal J.**, Genter A., Chopin F. (2017). Permeable fracture zones in the hard rocks of the geothermal reservoir at Rittershoffen, France, *Journal of Geophysical Research: Solid Earth*, 122, 4864-4887, doi: 10.1002/2017JB014331
- Baujard C., Genter A., Dalmais E., Maurer V., Hehn R., Rosillette R., **Vidal J.**, Schmittbuhl J. (2017). Hydrothermal Characterization of wells GRT-1 and GRT-2 in Rittershoffen, France: Implications on the Understanding of Natural Flow Systems in the Rhine Graben, *Geothermics*, 65, 255-268, doi: 10.1016/j.geothermics.2016.11.001
- Vidal J.**, Genter A., Schmittbuhl J. (2016). Pre- and post-stimulation characterization of geothermal well GRT-1, Rittershoffen, France: insights from acoustic image logs of hard fractured rock, *Geophys. J. Int.*, 206(2), 845-860, doi: 10.1093/gji/ggw181
- Vidal J.**, Genter A., Schmittbuhl J. (2015). How permeable fractures in the Triassic sediments of Northern Alsace characterize the top of hydrothermal convective cells? Evidences from Soultz geothermal boreholes (France), *Geothermal Energy Journal, Special Issue: Characterization of Deep Geothermal Systems*, 3(8), doi:10.1186/s40517-015-0026-4

### Extended abstracts

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- Vidal J.**, Glaas C., Hébert B., Patrier P., Beaufort D., Genter A. (2018). Use of SWIR spectroscopy for the exploration of permeable fracture zones in geothermal wells at Rittershoffen (Alsace, France), *Geothermal Ressource Congress Transactions*, 14-17th October 2018, Reno, Nevada, USA
- Vidal J.**, Genter A., Glaas C., Hehn R., Cuenot N., Baujard C. (2018). Temperature signature of permeable fracture zones in geothermal wells of Soultz-sous-Forêts in the Upper Rhine Graben *Geothermal Ressource Congress Transactions*, 14-17th October 2018, Reno, Nevada, USA
- Sosio G., Mandiuc A., Campana A., Hehn R., **Vidal J.**, Baujard C. (2018) Integration of Wellbore Logs in a Multi-disciplinary Geothermal Site Model: the Case of Rittershoffen, France, *EAGE/IGA/DGMK Joint Workshop on Deep Geothermal Energy*, 8-9 November 2018, Strasbourg, France
- Glaas C., **Vidal J.**, Hébert B., Patrier P., Beaufort D., Genter A. (2018) Infra-Red spectroscopy: a promising method for geothermal exploration of permeable fracture zones in crystalline reservoirs, *European Geothermal Workshop*, October 10 – 11 2018, EOST - University of Strasbourg, France
- Glaas C., **Vidal J.**, Hébert B., Patrier P., Beaufort D., Genter A. (2018) Use of SWIR spectroscopy for the exploration of permeable fracture zones in geothermal wells exploiting a deep-seated granite reservoir, 9th Mid European Clay Conferences, September 17 – 21, Zagreb, Croatia
- Baujard C., Genter A., Cuenot N., Mouchot J., Maurer V., Hehn R., Ravier G., Seibel O., **Vidal J.** (2018) Experience learnt from a successful soft stimulation and operational feedback after 2 years of geothermal power and heat production in Rittershoffen and Soultz-sous-Forêts plants (Alsace, France), *Geothermal Ressource Congress Transactions*, 14-17th October 2018, Reno, Nevada, USA
- Genter A., **Vidal J.**, Baujard C., Cuenot N., Dalmais E., Glaas C., Hehn R., Maurer V., Mouchot J., Richard A. (2018) Recent geothermal exploration and exploitation of hidden basement in the Upper

Rhine Graben for producing heat or electricity, International Workshop on Hot Dry Rock Resource Exploration and Enhanced Geothermal System Engineering, 18-19th September 2018, Changchun, Jilin University, China

- Genter A., Baujard C., Cuenot N., Hehn R., Maurer V., Mouchot J., Seibel O., **Vidal J.**, (2018). Exploiting fractured granites for producing heat or electricity: dream or reality? *80th EAGE Conference & Exhibition 2018*, Copenhagen, Denmark, 11-14 June 2018.
- Vidal J.**, Patrier P., Genter A., Beaufort D. (2017). Occurrences of clay minerals in permeable fracture zones in the granitic basement of geothermal wells at Rittershoffen, France, 42nd Workshop on Geothermal Reservoir Engineering, February 13 - 15 2018, Stanford University, California, USA
- Vidal J.**, Genter A., Chopin F., Dalmais E. (2016). Natural fractures and permeability at the geothermal site Rittershoffen, France, *European Geothermal Congress*, September 19 - 26 2016, Strasbourg, France
- Vidal J.**, Genter A., Chopin F., Dalmais E. (2016). Natural fractures and permeability at the geothermal site Rittershoffen, France, *European Geothermal Congress*, September 19 - 26 2016, Strasbourg, France
- Hehn R., Genter A., Baujard C., **Vidal J.** (2016). Stress field rotation in the EGS well GRT-1 (Rittershoffen, France), *European Geothermal Congress*, September 19 - 26 2016, Strasbourg, France
- Genter A., Baujard C., Cuenot N., Dezayes Ch., Kohl Th., Masson F., Sanjuan B., Scheiber J., Schill E., Schmittbuhl J., **Vidal J.** (2016). Geology, Geophysics and Geochemistry in the Upper Rhine Graben: the frame for geothermal energy use, *European Geothermal Congress*, September 19 - 26 2016, Strasbourg, France
- Vidal J.**, Ulrich, R., Whitechurch H., Genter A., Schmittbuhl J., Dalmais E., Girard-Berthet V. (2016) Hydrothermal alteration of the hidden granite in the geothermal context of the Upper Rhine Graben, *41st Workshop on Geothermal Reservoir Engineering*, February 22 - 24 2016, Stanford University, California, USA
- Genter A., *Vidal J.*, Baujard C., Dalmais E., Schmittbuhl J. (2015). Permeability in deep-seated granitic rocks: lessons learnt from deep geothermal boreholes in the Upper Rhine Graben, *Vingtièmes journées techniques du Comité Français d'Hydrogéologie de l'Association Internationale des Hydrogéologues - Aquifères de socle : le point sur les concepts et les applications opérationnelles*, June 2015, La Roche-sur-Yon, France
- Vidal J.**, Genter A., Schmittbuhl J., Whitechurch H., Baujard C., Dalmais E. (2015). Evolution of concepts for the geothermal projects in the Upper Rhine Graben, *European Geothermal Workshop*, October 19 – 20 2015, EOST - University of Strasbourg, France
- Girard-Berthet V., **Vidal J.**, Whitechurch H., Ulrich M., Genter A., Schmittbuhl J. (2015). Hydrothermal alteration of Soultz-sous-Forêts granite near the granite-sediment interface in geothermal context, *European Geothermal Workshop*, October 19 – 20 2015, EOST - University of Strasbourg, France
- Dalmais E., Genter A., **Vidal J.**, Baujard C., Vuataz F.-D. (2015) Permeability assessment based on drilling data in EGS projects: Case study of Muschelkalk fracture in GRT-1 well for ECOGI Project (Rittershoffen, Alsace, France), *European Geothermal Workshop*, October 19 – 20 2015, EOST - University of Strasbourg, France
- Vidal J.**, Genter A., Düringer Ph., Schmittbuhl J. (2015). Natural permeability in fractured Triassic sediments of the Upper Rhine Graben from deep geothermal boreholes, *World Geothermal Congress*, April 19 – 24 2015, Melbourne, Australia
- Vidal J.**, Genter A., Schmittbuhl J. (2014). Evaluation of THC stimulations from acoustic image logs in the geothermal Rittershoffen well GRT--1 (France), *European Geothermal Workshop*, October 15 – 16 2014, KIT, Karlsruhe, Germany
- Vidal J.**, Genter A., Düringer Ph., Manatschal G., Schmittbuhl J. (2013). Evidence of permeable fractures in the Triassic sediments of Northern Alsace, *European Geothermal Workshop*, October 24 – 25, EOST - University of Strasbourg 2013, France
- Cuenot N., Scheiber J., Moeckes W., Guéry B., Bruzac S., Sontot O., Meneust P., Maquet J., Orsat J., **Vidal J.** (2013). Evolution of the natural radioactivity within the Soultz geothermal installation, *European Geothermal Conference*, June 3 – 7 2013, Pisa, Italy
- Cuenot N., Goerke X., Guery B., Bruzac S., Sontot O., Meneust P., Maquet J., **Vidal J.** (2011). Evolution of the natural radioactivity within the Soultz geothermal installation, *Soultz geothermal conference*, October 5 – 6 2011, Soultz-sous-Forêts, France

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## Abstracts

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- Sosio G., Mandiuc A., Campana A., Hehn R., **Vidal J.** (2018) Wellbore logs in Rittershoffen, Alsace: acquisition, analysis and integration for fractured reservoir characterization, *Society of Petrophysicists and Well Log Analysis - France Chapter, Technical session: Geothermics*, 27<sup>th</sup> November 2018, Paris, France
- Vidal J.**, Genter A., Düringer Ph., Schmittbuhl J. (2014). Natural fracture permeability in Triassic sediments of the Upper Rhine Graben from deep geothermal boreholes, *European Geosciences Union*, 27 April – 2 May 2014, Wien, Austria
- Cuenot N., Scheiber J., Moeckes W., Guéry B., Bruzac S., Sontot O., Meneust P., Maquet J., Orsat J., **Vidal J.** (2013). Radioprotection investigations during geothermal exploitation with Upper Rhine Valley fluids: power plant mapping and recommendations for future geothermal sites, *Third European Geothermal Review*, June 24 – 26 2013, Mainz, Germany
- Vidal J.**, Genter A., Schmittbuhl J., Baujard C. (2016). Hydraulic stimulation or low water injection in fractured reservoir of the geothermal well GRT-1 at Rittershoffen (France)?, American Geophysical Union Fall Meeting, December 12-16 2016, San Francisco, California, USA
- Vidal J.**, Whitechurch H., Genter A., Schmittbuhl J., Baujard C. (2015). Permeability in fractured rocks from deep geothermal boreholes in the Upper Rhine Graben, *European Geosciences Union*, April 12-17 2015, Wien, Austria
- Vidal J.**, Genter A., Düringer Ph., Aichholzer C., Schmittbuhl J. (2014). Permeable fractures in deep Triassic sediments of the Soultz geothermal wells (Alsace, France), *Deep Geothermal Days*, April 10 – 11 2014, Paris, France

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## Computing skills

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WellCAD software (ALT), MOVE software (Midland Valley), Petrel software (Schlumberger), X'pert HighScore (Malvern Panalytical), Adobe Illustrator, MS Office Suite