Dr Naïm A. CELINI

27/04/1993 – French

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CURRENT POSITION

- **Research Assistant Professor (August 2025 –)**
  Applied Geodynamics Laboratory
  Bureau of Economic Geology – Jackson School of Geosciences
  The University of Texas at Austin

EXPERIENCE

- **Geological Engineer & Researcher** (March 2024 – July 2025)
  Akkodis / TotalEnergies

  - *Scientific co-supervision of the **Deep in Salt project** dedicated to hydrogen storage in salt caverns*
  - *Seismic and well interpretation*
  - *Numerical modelling*
  - *Supervision of Master students, PhD candidates and postdoctoral researchers*

- **Postdoctoral researcher** (03/2023 – 02/2024) – Deep in Salt project
  TotalEnergies / University of Pau / IFPEN

  - *Analogue modelling of intra-salt deformation*
  - *Seismic and well interpretation*
  - *Supervision of Master students*

- **Postdoctoral researcher** (12/2020 – 05/2022) – Inter Carnot Institutes project
  University Paul Sabatier Toulouse III / University of Pau / BRGM (French Geological Survey)

  - *Raman Spectroscopy of Carbonaceous Material*
  - *Tectono-thermal evolution of the SW Alps*
  - *Link between salt tectonics and peak temperatures distribution in the SW Alps*

EDUCATION

- **PhD** (03/2017 – 11/2020)
  University of Pau / TotalEnergies

  Dissertation: *The role of evaporites in the tectonic evolution of the Alpine front: focus on the Digne Nappe*
  Supervisors: Prof J.-P. Callot & Dr J.-C. Ringenbach
  Jury members: Prof J. A. Munoz (Univ. Barcelona) / Prof O. Lacombe (Sorbonne Univ.) / Prof F. Mouthereau (Univ. Paul Sabatier Toulouse III) / Prof M. Ford (Univ. Lorraine) / Prof P. Razin (ENSEGID – Bordeaux INP) / Prof R. Graham (Imperial College London)

- **Master's degree** (2014 - 2016) – Geology
  ENSEGID – Bordeaux INP (France)

- **Bachelor's degree** (2013 – 2014) – Engineering Sciences
  ENSEGID – Bordeaux INP (France)

- **Intensive Preparatory Courses to the Selective Entrance to French Engineer Schools** (2011 – 2013) – Biology, Chemistry, Physics and Earth Sciences
  Lycée Jean-Baptiste Say, Paris (France)

PUBLICATIONS LIST

In Preparation:

[03] Faure A., Allanic C., Gumiaux C., Callot J.-P., Jolivet L., **Celini N.**, Loget N., Bellahsen N., (In Prep.), *Western Alpine orogenic front geometry: new insights from the Digne Nappe area by a 3D geometrical modelling approach*.

[02] **Celini N.**, Pichat A., Schueller-Messier S., Mengus J-M., Gout C., Delahaye S., Callot J-P., (In Prep.), *Deformation of heterogeneous salt formations inside passive salt diapirs: insights from analogue models*.

[01] Lartigau M., Callot J-P., Kalifi A., **Celini N.**, Ringenbach J-C., (In prep.), *A compressional megaflap in a passive diapirism and gravity spreading setting: the Cotiella megaflap, South-Central Pyrenees*, **Journal of Structural Geology**.

Published:

[10] **Celini N.**, Kergaravat C., (**2025**), *Interplay between salt tectonics and a large igneous province in the Espírito Santo, offshore Brazil*, **Tectonics**., 44, e2025TC009068, doi: https://doi.org/10.1029/2025TC009068

[09] Pichat A., **Celini N.**, Schueller-Messier S., Mengus J-M., Gout C., Delahaye S., Callot J-P., (**2025**), *Intra-salt deformation of K-Mg salt layers in diapiric structures, an analogue modelling approach*. **Tectonophysics,** 898, 230635, doi: https://doi.org/10.1016/j.tecto.2025.230635.

[08] Pichat A., **Celini N.**, Kergaravat C., (**2024**), *Revised stratigraphy and depositional setting of the Zechstein Group in the Central North Sea (UK and Norway) – Interplay with the Southern*

Permian Basin and implications for the development of salt caverns, **Geosphere**, doi: http://doi.org/10.1130/GES02785.1.

[07] **Celini N.**, Pichat A., Ringenbach J-C., (**2024**), *Salt tectonics synchronous with salt deposition in the Santos Basin (Ariri formation, Brazil)*. **Earth and Planetary Science Letters**, 641, 118853, doi: https://doi.org/10.1016/j.epsl.2024.118853.

[06] **Celini N.**, Callot J-P., Lahfid A., Mouthereau F., (**2024**), *Impact of salt tectonics on temperature distribution revealed by RSCM thermometry in the SW Alps (France)*. **Tektonika**, 2.1, doi: https://doi.org/10.55575/tektonika2024.60.1.2

[05] **Celini N**., Pichat A., Mouthereau F., Ringenbach J-C., Callot J-P., (**2024**), *Along-strike variations of structural style in the external Western Alps (France): Review, insights from analogue models and the role of salt*. **Journal of Structural Geology**, 179, 105048, doi: https://doi.org/10.1016/j.jsg.2023.105048

[04] **Celini N**., Mouthereau F., Lahfid A., Gout C., Callot J-P., (**2023**), *Rift thermal inheritance in SW Alps (France): Insights from RSCM thermometry and 1D thermal numerical modelling*, **Solid Earth**, 14, 1-16, doi: https://doi.org/10.5194/se-14-1-2023

[03] **Celini N**., Callot J-P. , Pichat A., Legeay E., Graham R. & Ringenbach J-C., (**2022**), *Secondary minibasins in orogens: examples from the Sivas basin (Turkey) and the sub-Alpine fold-and-thrust belt (France)*, **Journal of Structural Geology**, doi: https://doi.org/10.1016/j.jsg.2022.104555

[02] **Celini N**., Callot J-P., Ringenbach J-C. & Graham R. (**2021**), *Anatomy and evolution of the Astoin diapiric complex, sub-Alpine fold-and-thrust belt (France)*, **BSGF-Earth Sciences Bulletin**, Vol. 200052, doi: https://doi.org/10.1051/bsgf/2021018.

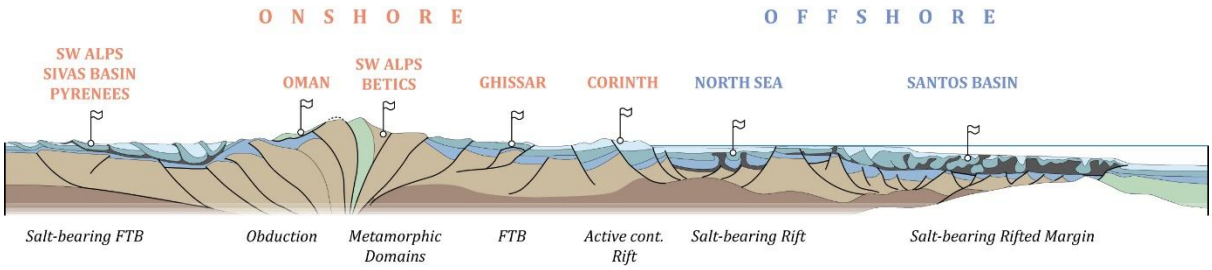
[01] **Celini N**., Callot J-P., Ringenbach J-C. & Graham R. (**2020**), *Jurassic salt tectonics in the SW sub-Alpine fold-and-thrust belt*, **Tectonics**, 39, doi: 10.29/2020TC006107.

Conference Proceedings:

[02] **Celini N.**, Pichat A., Haller N., Salcedo M., Ramos M., Schueller S., Mengus J.-M., Gout C., Theunissen T., Pichel L., Baina R., Le Garzic E., Huismans R., Gallin L., Callot J.-P., Delahaye S. (**2025**), *Investigation Intra-Salt Deformation for Underground Hydrogen Storage: From Sandbox Models to Numerical Simulations*. 86th EAGE Annual Conference & Exhibition.

[01] Graham R., Brooke-Barnett S., Csicsek A., Lonergan L., **Celini N.**, Callot J-P. & Ringenbach J-C. (**2019**), *Allochthonous salt in the Fold and Thrust Belt of Haute Provence, SW Alps*. 81st EAGE Conference & Exhibition, doi: 10.3997/2214-4609.201901289

FIELD EXPERIENCE



Synthetic cross-section gathering all the structural domains that I have studied either onshore in the field or offshore using subsurface data. I have published articles related to the SW Alps, the Sivas Basin, the North Sea and the Santos Basin.

SELECTED CONFERENCE PRESENTATIONS

Oral presentations (as 1st author only):

- Investigation Intra-Salt Deformation for Underground Hydrogen Storage: From Sandbox Models to Numerical Simulations (**Invited**)
  86th EAGE Annual Conference & Exhibition – Toulouse, France (2025)

- Salt tectonics synchronous with salt deposition in the Santos Basin
  Salt tectonics in the Energy Transition – London, United Kingdom (2024)

- Reproducing deformation of complex salt formations using analogue modelling
  Salt tectonics in the Energy Transition – London, United Kingdom (2024)

- Lithospheric thinning and thermal inheritance in the SW Alps (France)
  Réunion des Sciences de la Terre – Rennes, France (2023)

- Along-strike variations in salt-related structural style in the Western Alps (France): comparison with analogue modelling
  Réunion des Sciences de la Terre – Rennes, France (2023)

- Thermal evolution of the External Western Alps: evidence for rift-related thermal inheritance
  EGU-22-3510 – Vienna, Austria (2022)

- Along-strike variations of salt-related structural styles in the Western Alps
  EGU-22-7644 – Vienna, Austria (2022)

- Relation between rifting, salt tectonics and Alpine compression in the sub-Alpine fold-and-thrust belt (France)
  AAPG GTW – Salzburg, Austria (2021)

- From tectonics with salt to salt tectonics: the role of the Lias rifting in the early development of the Western Tethyan passive margin
  EGU19-13229 – Vienna, Austria (2019)

- The role of the Liassic salt tectonics in the early structuration of the sub-Alpine chains near Digne-les-Bains

Réunion des Sciences de la Terre – Lille, France (2018)

Poster (as 1st author only):

- Reproducing deformation of complex salt formations using analogue modelling
  Salt tectonics in the Energy Transition – London, United Kingdom (2024)

- From the Barre de Chine megaflap to the Vélodrome secondary minibasin: History of allochthonous salt sheets in the sub-Alpine fold-and-thrust belt
  AAPG GTW – Salzburg, Austria (2021)

- Liassic salt tectonics near Digne-les-Bains (SW French Alps)
  AAPG GTW – Granada, Spain (2018)

Session co-convener:

- Evaporitic basins and associated salt tectonics
  Réunion des Sciences de la Terre – Rennes, France (2023)

SEMINARS / INVITED TALKS

- Deciphering orogenic events from rifted margin inheritance in the Western Alps
  Lithosphere Deep Earth seminar – (December 2025)
  Jackson School of Geosciences, The University of Texas at Austin – Austin, TX, USA

- Salt in sedimentary basins and orogens: General understanding and its role for the energy transition
  University Mohamed VI Polytechnic – Benguerir, Morocco (October 2024)

- Intra-salt deformation: Role in the energy transition and new insights
  Sorbonne Université – Paris, France (March 2024)

- The role of evaporites in the Western Alps
  IFP School – Rueil-Malmaison, France (January 2023)

- Salt and Thermal inheritanceS in the external Western Alps
  University of Cergy (CYU) – Cergy, France (October 2022)

- Thermal record of the Western Alps: Deciphering inheritance from orogenic events
  University of Pau and Adour Countries (UPPA) – Pau, France (June 2022)

- A piece of salt in tectonics: re-thinking the geology of Digne-les-Bains
  Broad Audience Conference (French National Geology Days)
  Haute-Provence Geopark – Digne-les-Bains, France (May 2022)

OTHER SERVICES

Reviewer for:

Tectonics
Basin Research

BSGF – Earth Science Bulletin
Tectonophysics
Journal of Structural Geology
Geosciences

PhD co-supervision:

- Manel Ramos-Grau – University of Pau / University of Bergen / TotalEnergies – Numerical modeling of intra-salt deformation. Defense expected in **Spring 2027**.

Post-Doc co-supervision:

- Marco Salcedo – Univ. of Pau / TotalEnergies – Improving geophysical imaging of intra-salt features using numerical modeling and synthetic seismic (**2024-2026**).

MSc students' co-supervision:

- Baptiste Fatras – ENSEGID Bordeaux INP / TotalEnergies – Intra-salt deformation characterization in the Santos Basin (Brazil) (**2023**).

PhD Monitoring Committee:

- Marine Lartigau – University of Pau – Formation of megaflaps and associated deformation

- Aurélie Labeur – University of Pau – Paleopiezometry of sedimentary stylolites in fold-and-thrust belts: case of the Umbria-Marche Ridge, Apennines, Italy