

Romain Chassagne

Contact

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Positions held	- Digital Twins programme Lead - Coordination and mutualisation of the BRGM digital twin initiatives and contribution to the research strategy. <i>BRGM, France.</i>	since 2025
	- Principal investigator for Computational Geosciences - Data assimilation and forecasting <i>BRGM, France.</i>	since 2022
	- Deputy Director of the Edinburgh Time-Lapse Project consortium ¹ - Research and project management of the ETLP consortium <i>Institute of GeoEnergy and Engineering, Heriot-Watt University, UK.</i>	2020 - 2022
	- Research Assistant Professor - Geophysical data assimilation within Geophysical Monitoring Group <i>Institute of GeoEnergy and Engineering, Heriot-Watt University, UK.</i>	2017 - 2022
	- JSPS Visiting Professor - (Three months) Data Assimilation methods for a CO ₂ storage case study <i>Computer Science Department of Tsukuba University, Tsukuba, Japan.</i>	2019
	- Visiting Researcher - (One month) Uncertainty analysis with 4D seismic history matching <i>Mathematical department at NORCE, Bergen, Norway.</i>	2018
	- Research Associate - Seismic history matching for Geophysics Reservoir Characterisation group (ETLP) <i>Institute of Geoenergy and Engineering, Heriot-Watt University, UK.</i>	2014 - 2017
	- Research Engineer - Multiphase flow modelling within the Department of Applied Mathematics <i>IFP Energies Nouvelles, Rueil-Malmaison, France.</i>	2012 - 2013
	- Postdoc Research Associate - Multiphase multiscale flow modelling within the Department of Fluids Mechanics <i>Schlumberger Cambridge Research, Cambridge, UK.</i>	2010 - 2012

¹Edinburgh Time-Lapse Project is a 25-year old industry funded projects, in between 14 to 22 sponsors, among them: TotalEnergies, CGG, Shell, BP, Petrobras, Equinor, ExxonMobil, Chevron, ENI, Conoco Phillips, Galp, Petoro, Woodside Energy, JOGMEC, AkerBP, TullowOil

Education	HDR Computational Geosciences title: Practical Data Assimilation for the subsurface <i>University of Lorraine, Nancy, France.</i>	2025
	PhD in Computational Geosciences title: Numerical study of biogenic species into porous media variably saturated in inter-tidal area, Truc Vert beach applications <i>Bordeaux University, France.</i>	2010
	Master of Research in Applied Mathematics, <i>Bordeaux University, France.</i>	2006
	Bachelor in Applied Mathematics <i>Bordeaux University, France.</i>	2004
Grants, Awards	<i>PI: Principal Investigator; Co-I: Co-investigator</i>	
	- Horizon Europe 2020, WP co-leader (2025-2028) / Unified Novel Deep ExploRation for Critical Ore discoVERY (UNDERCOVER).	
	- ADEME-BRGM, PI (2024-2027) / AI-enabled for Characterisation of geothermal potential.	
	- PEPR sous-sol bien commun PC9, Task leader (2023-2030) / Characterisation of fluid circulation in the Rhine Graben.	
	- ANR (Agence Nationale de la Recherche), PI (2022-2026) / Integrative multiscale investigation of heat and lithium source and pathways in Deep Geothermal System in a rift context: Focus on the Upper Rhine Graben (GLITER).	
	- CSA GSEU, WP 3 BRGM leader (2022-2024), / EuroGeoSurveys.	
	- Horizon Europe, WP co-leader (2020-2024) / CO ₂ PilotSTRATEGY.	
	- Sasakawa Foundation, PI (2024) / Data assimilation for Geothermal and CO ₂ projects, travel grant.	
	- Sasakawa Foundation, PI (2023) / Digital twin development platform for geothermal, travel grant.	
	- Sasakawa Foundation, PI (2022) / Archaeological data integration and hypothesis testing of the conceptual foundation of the Anthropocene, travel grant.	
	- Industry, Edinburgh Time-Lapse Project (ETLP) Consortium, Co-I (2021-2024) / Geophysical characterisation, monitoring and forecasting.	

- French council and Poitiers Region, Co-I (2020-2023) / MEdical Data Intelligent Analysis, Interpretation, Reconstruction and Manipulation in 3D (MEDIA - IRM 3D0).
- Industry, TAQA, PI (2019-2024) / PhD Studenship.
- Japanese Society for Promotion of Science, Long term (3 months) fellowship, PI (2019) / Enhanced data assimilation methods for a CO₂ storage and case study.
- Industry, Edinburgh Time-Lapse Project (ETLP) Consortium, Co-I (2018-2021) / Geophysical characterisation, monitoring and forecasting.
- British council, GSIKE Joint Academic Development, PI (2018) / CO₂ seismic monitoring feasibility on a Qatar field case study.
- Industry, Statoil (now Equinor), Co-I (2016-2018) / in-house development of Well2seis.
- French council, LEFE, INSU, Co-I (2017) / Passive source for coastal topology determination.
- Sasakawa Foundation, PI (2016) / Travel Grant to develop a multi-stream optimisation platform
- Sasakawa Foundation, PI (2015) /Travel Grant to develop collaboration with Tsukuba University, Japan.
- Edinburgh Society for Industrial and Applied Mathematics (SIAM) Student Chapter, PI (2014) /Collaboration invitation.
- French research council, PhD scholarship (Agence National de la Recherche, ANR) (2008-2010) / Numerical study of biogenic species into porous media variably saturated in inter-tidal area, Truc vert beach applications.

Teaching

During my whole career I lectured in total 121 hours at undergraduate and graduate level.

Course Leader

2026

Introduction to Digital Twins, at the ESTP School (French international engineering school for sustainable construction) (20 hours/year), ESTP, Orléans, France.

Description: Fundamentals and history of modeling, machine learning, optimisation

and data assimilation towards digital twins technology.

Course Leader

2025

Introduction to Digital Twins, in the Master Geodata (15 hours/year), Orleans University, France.

Description: Fundamentals and history of modeling, machine learning, optimisation and data assimilation towards digital twins technology.

Course Leader

2021 - 2022

Geophysical forecasting, in the Master Subsurface Energy System (25 hours/year), Heriot-Watt University, Edinburgh, UK.

Description: Fundamentals of Geo-Energy systems monitoring, geothermal, CO₂ storage, as storage are reviewed in the perspective of 1) Characterisation and monitoring and 2) Inform and derisk.

Course Leader

2017

Data assimilation, a Real World Approach, Masters and PhD students, National Institute for Mathematical Sciences, Ghana, (15 hours).

Description: Introduce students to data assimilation problems, with time-lapse seismic data, simulation models along with optimisation methods.

Course Leader

2007

Differential equations and probability for undergraduate student in the BSc of Science and Technology, course and practise at Bordeaux University - Course Leader (30 hours).

Description: Give the students necessary tools for basic modelling and probability.

**Research
supervision**

Mentoring of postdocs:

+ Phil Cili (2022)

Machine learning for elastic-electrical cross-property modelling of sandstones.

+ Zhen (David) Yin (2016-2017)

well2seis technique for 4D seismic history matching

+ Gustavo Corte (2021-2022)

Bayesian inversion for seismic history matching

+ Bernardo Gato (with Tsukuba University, 2020-2021)

AI approach to uncertainty quantification in seismic interpretation.

As PhD first supervisor

- Paul Mitchell, part-time PhD (supervised from 2020 to 2022, now acting as an external supervisor, as I moved from Heriot-Watt to BRGM in 2022)
Fitness landscape analysis for data assimilation problems.
- Antony Hallam (**completed** in 2022)
An Assessment of the Assisted Seismic History Matching Workflow, practical innovations and solutions

- Cheng Gong (**completed** in 2018)
Seismic history matching using proxy models

As PhD second supervisor

- Fabrice Sawadogo (with Bordeaux University), in progress
AI enabled for Geothermal favorability zones.
- Sara Saori (with Tsukuba University), in progress
Multi-agents method for digital archeology.
- Ignacio Guridi (with Bordeaux University) (**completed** in 2023)
Contaminated Sites Remediation under Uncertainty : Adaptive Strategies for Project Optimization.
- Rasool Amiri (**completed** in 2025) (supervised from 2020 to 2022 because I moved from Heriot-Watt to BRGM in 2022)
Machine learning proxy models for 4D seismic history matching
- Samarth Bachkhethi (**completed** in 2023)
Joint inversion of 4D AVO and time-shifts for geomechanical evaluation.
- Saeed Izadian (**completed** in 2022)
interpretation and value of pre-stack time-shifts in a North Sea dataset.
- Gustavo Corte (**completed** in 2020)
Development of techniques for quantifying pressure and saturation changes from 4D seismic data applied to a North Sea field.
- Niki Obiwulu (**completed** in 2018)
Local waterflooding assessment using 4D seismic data and reservoir simulation.
- Zhen (David) Yin (**completed** in 2017)
Enhancement of dynamic reservoir interpretation using the well2seis technique.
- Dennis Obidegwu (**completed** in 2015)
Seismic history matching using binary images.

Supervision of MSc students:

2024: Yanis Haouchine,
 2023: Annaëlle Jacquin,
 2022: Taha Almahmoudi,
 2021: Aziza Elmanghush, Tanisha Sadeque Ziasa, Chinwe Chukwurah, Pierre Kostyrka
 (with Sorbonne University and IFREMER)
 2020: Pieterjan Clinckemalie, Kareem Basha

Master's project as a marker: 2018-2022 for Petroleum Engineering MSc

Bachelor's project supervision: 2021: Debajoy Mukherjee, 2020: Marie Fonda

Responsability and leadership

PhD examiner

- Nagoor Kani - Multi-fidelity deep residual recurrent neural networks for uncertainty quantification, *Heriot-Watt University*. 2018
- Valeriy Rukavishnikov - Updating the Simulation Model Using Dynamic Clusters Extracted From 4D Seismic Data, *Heriot-Watt University*. 2016
- Ilya Fursov - Quantitative application of 4D seismic data for updating thin-reservoir models, *Heriot-Watt University* 2015

PhD progress examiner

- Clement Thomas - Multimodal Data Assimilation of Medical Imaging for Mathematical Modeling of Cerebral Arterial Blood Flow in Ischemic Stroke, *university of Poitiers*. (2023, 2024, 2025)
- Francois Portaluri - Errors in Sim2Seis procedure for seismic history matching: Overburden modelling update and impact of Petro-Elastic model, *Heriot-Watt University*. (2022)
- Boshora Merghani - Application of machine learning tools to automated seismic history matching, *Heriot-Watt University*. (2021)
- Mohamed Hatab - Assessing interpretation error and uncertainty for 4D Seismic History Matching workflow, *Heriot-Watt University*. (2021)
- Goni Mustapha - Solubility of Light Ends in Heavy Condensates, *Heriot-Watt University*. (2021)
- Ambuj Tyagi - Petrophysical calibration under uncertainty for Buzard field, *Heriot-Watt University*. (2019)

Reviewer for Research councils or expertises

- Fonds de recherche du Québec (Research Grants evaluation for New Academics), Canada. 2025
- European project GEOTHERM-FORA project, report on "technological trend" in geothermal energy, expertise asked for "Utilisation of Machine Learning and Artificial Intelligence Tools in Geothermal exploration and operation", Europe. 2024
- Swiss Data Science Center (SDSC), Switzerland. 2022
- Japanese Society for Promotion of Science (JSPS), Japan. 2021
- Newton Fund, UK. 2020

Committees

- Organiser of Digital Twins for Predictive Geosciences, Theory and Applications (SHONAN Meeting, Japan). 2026
- Programme committee of NuTS (Numerics for Earth Sciences) (academia) since 2025

- Scientific advisory board member for ADAPT AI (startup)
- Scientific advisory board member for the Edinburgh Time-Lapse Project (academia). since 2022
- Deputy for the JP Geothermal EERA for the sub-programme 'Data management and computation'. since 2022
- Organiser of the Practical Data Assimilation and Uncertainty workshop (PAUQ, Orléans, France). 2024
- Program Committee Member of DTO, Special Session on Ontologies for Digital Twin. 2024
- Co-chair in the Strategic Advisory Board for the Edinburgh Time-Lapse Project. 2021-2022
- Chairman of the session Reservoir geophysics characterisation at European Association of Geoscientists and Engineer (EAGE) conference. 2021
- Technical Committee for EAGE Workshop on Well Injectivity. & Productivity in Carbonates (WIPIC), Doha, Qatar 2021
- Deputy project director for the Edinburgh Time-Lapse Project. 2020-2022
- Co-Chair (twice a year) at ETLP sponsors' meeting. 2014-2022
- Member of the well-being team at Institute of Geo-Energy and Engineering. 2019-2022
- Technical Committee for EAGE Workshop on Well Injectivity & Productivity in Carbonates (WIPIC), Doha, Qatar 2019
- Chairman for interviews for Lyell Center recruitment in Geophysics 2018
- Member of the committee EAGE Young professionals 2015 - 2018

Journals

Associate Editor in *Computers & Geosciences Journal* 2020 - currently

Reviewer (now occasional) in : *IEEE Transactions on Systems, Man and Cybernetics* — *Journal of Recent Advances in Electrical & Electronic Engineering* — *Computers & Geosciences Journal* — *Hydrogeology Journal* — *Computational Geosciences* — *Arabian Journal for Geosciences* — *EAGE and SPE EUROPEC Technical Programme* — *Journal of Natural Gas and Engineering*

Publications

* denotes a student (PhD or master) under my supervision

Book chapter

- SUBSURFACE DATA ASSIMILATION: THEORY AND APPLICATIONS

edited by Xiaodong Luo (NORCE), Olwijn Leeuwenburgh (TNO) and Alexandre Anoze Emerick (Petrobras). Contributing chapter: Uncertainty quantification in the data assimilation, in progress, is expected to be published in autumn 2025.

Peer-reviewed

1. CANTON M, ANSCHUTZ P, **CHASSAGNE R**, DEBORDE J, SAVOYE N. The Buffering Capacity Of A Small Estuary On Nutrient Fluxes Originating From Its Catchment (Leyre Estuary, SW France). *Estuarine. Coastal and Shelf Science*, 99, 171-181, 2012.
2. **CHASSAGNE R**, LECROART P, BEAUGENDRE H, ANSCHUTZ P. Silicic acid flux to the ocean from tidal permeable sediments: a modelling study. *Computers and Geosciences*, 43, 52-62, 2012.
3. **CHASSAGNE R**, HAMMOND P. Simulation of Drilling Fluid Filtrate Invasion Near an Observation Well. *Society of Petroleum Engineers Journal*, 154014-PA, 2012.
4. MITCHELL J, STANILAND J, **CHASSAGNE R**, FORDHAM E J. Quantitative in-situ enhanced oil recovery monitoring using nuclear magnetic resonance. *Transport in porous media*, 2012.
5. MITCHELL J, STANILAND J, **CHASSAGNE R**, MOGENSEN K, FRANK S. FORDHAM EJ. ?Mapping oil saturation distribution in a limestone plug with low-field magnetic resonance. *Journal of Petroleum Science and Engineering*, 108, 14-21, 2013.
6. YIN* Z, AYZENBERG M, MACBETH C, FENG T, **CHASSAGNE R**. Enhancement of dynamic reservoir interpretation by correlating multiple 4D seismic monitors to well behavior. *Journal of Interpretation*, 3(2), SP35-SP52, 2015.
7. ARANHA C, TANABE R, **CHASSAGNE R**, FUKUNAGA A. Optimization of Oil Reservoir Models Using Tuned Evolutionary Algorithms and Adaptive Differential Evolution. *Institute of Electrical and Electronics Engineers Congress on Evolutionary Computation*, peer reviewed paper, 2015.
8. YIN* Z, MACBETH C, **CHASSAGNE R**, VAZQUEZ O. Evaluation of inter-well connectivity using well fluctuations and 4D seismic data. *Journal of Petroleum Science and Engineering*, 2016.
9. **CHASSAGNE R**, OBIDEGWU* D, DAMBRINE J, MACBETH C. Binary 4D Seismic History Matching, a Metric Study. *Computers and Geosciences*, 96, 159-172, 2016.
10. OBIDEGWU* D, **CHASSAGNE R**, MACBETH C. Seismic Assisted History Matching Using Binary Maps. *Journal of Natural Gas Science and Engineering*, 2017.
11. ESSOUAYED E., VERARDO E, PRYET A., **CHASSAGNE R.**, ATTEIA O., An iterative strategy for contaminant source localisation using GLMA optimization and Data Worth on two synthetic 2D Aquifers, *Journal of Contaminant Hydrology*, 2019.
12. **CHASSAGNE R**, DAMBRINE J, OBIWULU* N, A New Geometrical Approach for Fast Prediction of Front Propagation. *Computers and Geosciences Journal*, 2020.
13. **CHASSAGNE R**, ARANHA C, A Pragmatic Investigation of the Objective Function for Subsurface Data Assimilation Problem. *Operations Research Perspectives Journal*, 2020.

14. HALLAM* A, MUKHERJEE* D, **CHASSAGNE R**, Multiple imputation via chained equations for elastic well-log imputation and prediction. *Applied Computing and Geosciences* 14, 100083, 2022
15. HALLAM* A, **CHASSAGNE R**, ARANHA C, HE Y, Comparison of seismic maps metrics as fitness input for assisted history matching. *Journal of Geophysics and Engineering* 19 (3), 457-474, 2022
16. HE* Y, ARANHA C, HALLAM* A, **CHASSAGNE R**, Optimization of Sub-surface Models with MultipleCriteria using Lexicase Selection. *Operations Research Perspectives* 9, 100237, 2022.
17. MITCHELL* P., OCHOA G, LAVINAS Y, **CHASSAGNE R**, Local Optima Networks for Assisted Seismic History Matching Problems. *Applications of Evolutionary Computation: 26th European Conference, EvoApplications 2023, Held as Part of EvoStar 2023, Brno, Czech Republic, Proceedings, April 12–14, 2023.*
18. GURIDI* I., **CHASSAGNE R**, PRYET A., ATTEIA O., Uncertainty Quantification of Contaminated Soil Volume with Deep Neural Networks and Predictive Models, *Environmental Modeling & Assessment* 2022.
19. MITCHELL* P., OCHOA G, **CHASSAGNE R**, Local Optima Networks of the Black Box Optimisation Benchmark Functions. *GECCO '23: Genetic and Evolutionary Computation Conference 2023.*
20. MITCHELL* P., **CHASSAGNE R**, Fitness Landscape Analysis for Seismic History Matching Problems of Subsurface Reservoirs, *Journal of Geophysics and Engineering*, 2023.
21. MAYEN, J., POLSENAERE, P., LAMAUD, É., ARNAUD, M., KOSTYRKA, P., BONNEFOND, J.-M., GEAIRON, P., GERNIGON, J., **R. CHASSAGNE**, LACQUE-LABARTHE, T., REGAUDIE DE GIOUX, A., and SOUCHU, P.: Atmospheric CO₂ exchanges measured by Eddy Covariance over a temperate salt marsh and influence of environmental controlling factors, *Biogeosciences* 21 (4), 993-1016, 2024.
22. ALMAR R., DISDIER E., BENSHILA R.AL, NAJAR M., **CHASSAGNE R.**, MUKHERJEE D., WILSON D.,: Predicting Beach Profiles with Machine Learning from Offshore Wave Reflection Spectra. *Environmental Modelling and Software Journal*, 2025.

Extended abstract

1. EDWARDS J, FORDHAM E, STANILAND J, **CHASSAGNE R**, MITCHELL J, CHERUKUPALLI P, WILSON O, FABER R, BOUWMEESTER R. Quantitative Remaining Oil Interpretation Using Magnetic Resonance : From the Laboratory to the Pilot. (Proceeding) *SPE EOR Conference in Muscat*, April 2012.
2. **CHASSAGNE R**, HAMMOND P. Simulation of Drilling Fluid Filtrate Invasion Near an Observation Well. *Society of Petroleum Engineers Journal*, 154014-MS 2012.
3. OBIDEGWU* DC, **CHASSAGNE R**, MACBETH C. Using 4D Seismic Sur-

- veys and History Matching to Estimate Critical and Maximum Gas Saturation. International Petroleum Technology Conference, 18027-MS, 2014.
4. OBIDEGWU* D, **CHASSAGNE R**, MACBETH C. Seismic Assisted History Matching Using Binary Image Matching. Society of Petroleum Engineers EUROPEC, Madrid. SPE-174310-MS, 2015.
 5. YIN* Z, MACBETH C, **CHASSAGNE R**. Joint Interpretation of Interwell Connectivity by Integrating 4D Seismic with Injection and Production Fluctuations. Society of Petroleum Engineers EUROPEC, Madrid. SPE-174365-MS, 2015.
 6. OBIWULU* N, MACBETH C, **CHASSAGNE R**, Monitoring of Water Injector Performance Using 4D Seismic Data. N101 06, European Association of Geoscientists and Engineers, Madrid, 2015.
 7. OBIWULU* N, MACBETH C, **CHASSAGNE R**, Comparative analysis of Binary and Conventional Seismic Assisted History Matching. LHR2 14, European Association of Geoscientists and Engineers, Vienna, 2016.
 8. FENG T., YIN* Z., AYZENBERG M, MACBETH C, **CHASSAGNE R**. Well2seis correlation for enhancing 4D seismic interpretation and model updating. Workshop on 4D seismic and history matching, IRIS, Stavanger April 28, 2016.
 9. MACBETH C., GENG* C., **CHASSAGNE R**. A fast-track simulator to seismic proxy for quantitative 4D seismic analysis. SEG Conference 2016, Dallas, US, 2016.
 10. **CHASSAGNE R**, ARANHA C. and MACBETH C. An analysis of the Seismic History Matching Objective Function. Conference Paper to the Third Integrated Reservoir Modeling Conference in Kuala Lumpur, Malaysia, 2016.
 11. MACBETH C, GENG* C. and **CHASSAGNE R**. A practical fast-track solution for seismic history matching. Conference Paper to the Third Integrated Reservoir Modeling Conference in Kuala Lumpur, Malaysia, 2016.
 12. GENG* C., MACBETH C, and **CHASSAGNE R**. Seismic History Matching Using a Fast-Track Simulator to Seismic Proxy. Accepted to SPE EUROPEC conference 2017, Paris.
 13. ZHANG* Q., **CHASSAGNE R**. and MACBETH C., European Conference on the Mathematics of Oil Recovery, Seismic History Matching Uncertainty With Weighted Objective Functions, 2018.
 14. ZHANG* Q., **CHASSAGNE R**. and MACBETH C., SPE-EAGE conference, Combining seismic and well production in a single objective function, London 2019.
 15. MITCHELL* P., **CHASSAGNE R**., EAGE conference, 4D Assisted Seismic History Matching using a Differential Evolution Algorithm at the Harding South Field, 2019.
 16. BRUYELLE J., GUERILLOT D., **CHASSAGNE R**., A Synthetic Study of a CO₂ Storage Seismic Monitoring Based on a Qatar Field, 81st EAGE Conference and Exhibition 2019.
 17. MITCHELL* P, **CHASSAGNE R**, Quantitative Seismic History Matching on Harding South Field, Seismic 2019, Aberdeen.
 18. HALLAM* A., MACBETH C., **CHASSAGNE R**., AMINI H., 4D seismic study of the Volve Field - an open subsurface-dataset. First Break, invited paper for special topic on reservoir monitoring, 2020.

19. HALLAM* A., MACBETH C., AMINI H., **CHASSAGNE R.**, Analysis of the 4D Signal at the Volve Field NCS-An Open Subsurface Dataset. 82nd EAGE Annual Conference and Exhibition 2020.
20. P. POLSENAERE, E. LAMAUD, J.M. BONNEFOND, J. GERNIGON, J. DEBORDE, P. GEAIRON, P. KOSTYRKA* , J. MAYEN, M. ARNAUD, **R. CHASSAGNE**, T. LACQUE-LABARTH, Greenhouse Gas Dynamics in the Coastal Ocean - Emerging Trends and Future Directions. ASLO 2021 Aquatic Sciences Meeting, 22–27 June 2021, Virtual Meeting. Aquatic Sciences for a Sustainable Future: Nurturing Cooperation.
21. CORTE* G, **CHASSAGNE R.**, MACBETH C., Seismic History Matching in the Pressure and Saturation Domain for Reservoir Connectivity Assessment. 2nd EAGE Annual Conference & Exhibition 2021 (1), 1-5
22. KOLAJOOBI* R.A., MACBETH C., LANDA J., **CHASSAGNE R.**, Efficient Dimensionality Reduction and Localized Sensitivity Analysis for 4D Seismic History Matching Parameterization. 83rd EAGE Annual Conference & Exhibition 2022 (1), 1-5.
23. KOLAJOOBI* R.A. , MACBETH C., LANDA J., **CHASSAGNE R.**, Enhancing 4D Seismic History Matching and Reservoir Monitoring by Local Exploration of the Uncertainty Space of Seismic Data, First EAGE/SBGf Workshop on Reservoir Monitoring and its Role in the Energy Transition, Nov 2022, Volume 2022, p.1 - 5. DOI: <https://doi.org/10.3997/2214-4609.202287012>
24. MITCHELL* P., **CHASSAGNE R.**. Characterising the Optimisation Search-Space of Assisted Seismic History Matching Problems 84th EAGE Annual Conference & Exhibition 2023 (1), 1-5
25. Macedo Serrano* E., Dezayes C., **CHASSAGNE R.**, RM Prol Ledesma. GIS-Based Analysis for Exploring Geothermal Favorability in the Petite Terre Island, Mayotte. Second EAGE Workshop on Geothermal Energy in Latin America, Nov 2023, Volume 2023, p.1 - 5 DOI: <https://doi.org/10.3997/2214-4609.202385014>
26. ARMANDINES LES LANDES A., JACQUIN A., **CHASSAGNE R.**, DEZAYES C., GUILLON T. 3D Hydrothermal model at the Upper Rhine Graben scale considering faults. EGU General Assembly 2024.
27. SATAKE S., BOGDANOVA A., ARANHA C., MAGILL C.R., **CHASSAGNE R.**. Use of Agent-Based Modelling to evaluate social food sharing behaviours in early hominins. 6th International Workshop on Agent-Based Modelling of Human Behaviour (ABMHuB'24).
28. T. LOHIER, A. ARMANDINE LES LANDES, **R. CHASSAGNE**. Orison : An Integrated Environment for Subsurface Data Assimilation, a Geothermal Case Study. Fifth EAGE Digitalization Conference & Exhibition, May 2025.
29. J. ROHMER, C. ALLANIC, A. BITRI, F. DUBOIS, S. GRATALOUP, T. JACOB, A. STOPIN, R. COUEFFE, A. FAURE, A. PEYREFITTE, A. PORTAL, A. RAINGEARD, P. WAWRZYNIAK, **R. CHASSAGNE**, N. COPPO, M. DARNET, P. CALCAGNO. Uncertainties in joint analysis of geological and multi-source geophysical data: lessons from a blind interpretation exercise. EGU General Assembly, May 2025.
30. A. BORDENAVE, I. GRAVAUD, S. BEN RHOUMA , S. BOUQUET, **R. CHASSAGNE**, A. B. CHRIST, A. ESTUBLIER, A. FORNEL, N. GONTHIER , Y. LE GALLO, T. LE GUENAN, F. MATHURIN, L. MATTIONI, C. MAYS, M. S. POUMADERE, E. ROBINS. PilotSTRATEGY project: Example of integrated CO₂ storage site characterisation on French offshore territory. 86th EAGE Annual Conference & Exhibition, 2025.

31. P. MITCHELL, **R. CHASSAGNE**. Insights on 4D Seismic History Matching for a Producing Field by Fitness Landscape Analysis. 86th EAGE Annual Conference & Exhibition, 2025.
32. C. MARAGNA, J. ROHMER, **R. CHASSAGNE**. Advanced Gaussian processes for the surrogate modelling of energy systems. 38th International Conference on Efficiency, Cost, Optimization, Simulation and Environmental Impact of Energy Systems – ECOS, 2025, Paris, France

Invited Talks & Panels

1. November 2024 - Presentation of computational needs to the master students year 1 and 2, at the applied mathematics department of Poitiers University.
2. June 2023 - Speaker at the SIAM Geosciences, Digital twins for the subsurface, how far can we go? Mini-symposium on Data Science Applications to Inverse and Optimization Problems in Geosciences, Bergen, Norway.
3. January 2022 - Guest lecture to Society of Exploration Geophysicists University of Delhi Student Chapter, Sustainable Geosciences and GeoEnergy, inform and react, University of Delhi, India.
4. June 2021 - Keynote speaker and chair of the Workshop on Uncertainty Formulation for Subsurface Problems, co-organised with Shinshu University and Tsukuba University.
5. January 2021 - Guest Lecture for Geowebinar organised by the Italian Geological Society, Dynamic Reservoir Characterisation for subsurface problems.
6. October 2020 - Guest lecture for Workshop on ensemble-based 4D seismic History-Matching at the National IOR Centre of Norway, The main locks within 4D seismic history matching.
7. June 2020 - Webinar at Institut de Physique du Globe de Paris (IPGP), Surveillance and Risks Analysis, Under the Hood of Predictions.
8. September 2019 - Guest lecture at Workshop at the International Associated Laboratory Frontiers in Massive Optimization and Computational Intelligence (LIA-MODO) in Shinshu University, Japan - A multi-sources multi-scale optimization problem.
9. August 2019 - Guest lecture at the Computer Science department of Tsukuba University (Japan) - An Introduction of Data Assimilation Techniques for the Subsurface
10. February 2019 - Guest lecture at I2CNER (CO₂ session) workshop at Kyushu University, Reservoir Characterisation and seismic monitoring techniques, a CO₂ perspective., Fukuoka, Japan.
11. March 2019 - Seminar at the Department of Computer Science, Centre for Mathematical and Computational Biology. Surrey University, UK, on Optimisation methods for subsurface problems.
12. December 2018 - Guest lecture on history matching at China Petroleum University, Seismic History Matching, Qingdao, China.
13. October 2018 - Invited for a seminar to Texas A&M University at Qatar, Seismic History Matching, Why it is still unsolved, Doha, Qatar.
14. May 2018 - Guest lecture Edinburgh society for industrial and applied mathematics (SIAM) student Chapter, Mathematics and Data - Behind The Scene of Data Integration. Edinburgh, UK.

15. April 2018 - invited for a seminar at Middlesex University London in the Artificial Intelligence Research Group, "How to Characterize the Embedded Uncertainty within processed data, A real-world example.
16. February 2018 - Seminar at the Department of Mathematics at Bergen University in Norway, Data Assimilation Problem, A Practical Example.
17. October 2017 - Guest lecture at Tokyo University (Japan) - Insights on Data Integration
18. September 2017 - Keynote speaker at Tsukuba University (Japan) - Science for global Innovation Forum - Challenges in Oil and Gas, a data integration problem
19. September 2017 - Keynote speaker at Tomsk University (Russia) - Workshop on Prediction of Complex Reservoir Systems under Uncertainty: Multi-scale and Multi-physics Challenges. Under the hood of the Seismic Assimilation: Toward a Practical Seismic History Matching
20. July 2017 - Seminar at Poitiers University (France) - Data Assimilation Challenges, a Practical Example with Seismic History Matching.
21. June 2017 - Seminar at the French Institute of Petroleum, IFPEN (France) - Data Screening Before History Matching
22. June 2017 - Speaker at 79th EAGE Conference and Exhibition 2017 (France) - Workshops, Constraining the history match using 4D seismic data: how far can we go?
23. February 2016 - Seminar at Geosciences Research Center, TOTAL Aberdeen, UK - Beyond Binary Seismic History Matching.
24. Sponsors meetings, twice a year since 2013.
25. September 2015 - Guest lecture at Tokyo University (Japan) - A glimpse of Petroleum Engineering.
26. June 2012 - seminar at the French Institute of Petroleum, IFPEN (France) - Invaded zone behaviours around an observation well
27. April 2011 - Seminar at Schlumberger clamart technology center (France - Relation between hysteresis and capillary diffusion.
28. February 2010 - Seminar at Paris VI University (France) - Silicic acid, Organic matter and Oxygen evolution into porous media submitted to a tidal forcing and residence time estimation.
29. January 2010 - Seminar at Utrecht University (Netherland) - Silicic acid, Organic matter and Oxygen evolution into porous media submitted to a tidal forcing and residence time estimation.
30. December 2007 - Seminar at institut de Mécanique des fluides et des solides de Strasbourg (France - Mathematical modeling of runoff in porous media variably saturated?

Reports

1. Exploration of potential deep geothermal resources in Petite Terre (Mayotte)- Final report. C Dezayes, A Stopin, P Wawrzyniak, F Gal, T Farlotti, A Armandine Les Landes, P Calcagno, H Traineau, L Hirsinger, E Macedo Serrano, R Chassagne. <https://inis.iaea.org/records/mch0g-hff80>