

# Curriculum vitae – Isabelle Lecomte

## PERSONAL INFORMATION

Family name, First name: Lecomte, Isabelle  
 Date of birth: 04.01.1965  
 Sex: Female  
 Nationality: French  
 Researcher unique identifiers: [orcid.org/0000-0002-3316-535X](https://orcid.org/0000-0002-3316-535X)  
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## EDUCATION

1990 **PhD**: Geophysics; Disputation date: 18.12.1990  
 Université Louis Pasteur, Strasbourg 1, France  
 1988 **Civ. Eng.** Geophysics  
 Ecole de Physique du Globe de Strasbourg, France  
 1987 **MSc.** Geophysics  
 Université Louis Pasteur, Strasbourg 1, France

## CURRENT AND PREVIOUS POSITIONS

2016-present Associate Professor, Reservoir Geophysics  
 “Geodynamics and Basin Studies” (GBS) research group  
 Department of Earth Science (GEO), University of Bergen (UiB), Norway  
 2016-present Visiting Associate Professor, Seismic Modelling  
 NORSAR, Kjeller, Norway  
 2012-2017 Associate Professor (adjunct), Near-Surface Geophysics  
 Department of Geosciences, University of Oslo (UiO), Norway  
 1993-2016 Principal Research Geophysicist, Seismic Modelling  
 NORSAR, Kjeller, Norway

## FELLOWSHIPS, AWARDS AND PRIZES

2014 *Norwegian Geophysical Award*, Norwegian Petroleum Society  
 2001 *Loránd Eötvös (Best Paper) award*, Geophysical Prospecting, EAGE  
 1992 NTN Postdoctoral fellowship, NORSAR, Kjeller, Norway  
 1991 EU Postdoctoral fellowship, NORSAR, Kjeller, Norway  
 1988-1990 PhD grant, IFREMER, Brest/Strasbourg, France  
 1988 NATO Scientific Division, Young Researcher, Summer School, Les Houches, France

## PROJECT MANAGEMENT EXPERIENCE

2017-2019 UiB/GEO project leader for UiB participation in “Forecasting of architecture, seismic characteristics and flow behaviour in paleokarst reservoirs - FOPAK”, NFR Petromaks2 contract 267634/E30, led by NORCE/CIPR, Jan Tveranger project leader  
 2008-2010 Project leader of the NORSAR Innovation AS “Fast Elastic Inversion of Multi-offset Prestack Depth Migrated Seismic Data”, NFR Petromaks contract #187318/S30, in cooperation with the Norwegian Computing Center, O. Kolbjørnsen and colleagues, with ConocoPhillips and Statoil as industry partners  
 2007-2009 Project leader and grant owner of the NORSAR Strategic Institute Program “Flexible local seismic imaging in an integrated dynamic modelling framework”, NFR contract #181688/I30  
 2005-2012 Theme coordinator for “Geophysics for Geohazards” at the International Centre for Geohazards (ICG), NFR-funded Norwegian Research Centre of Excellence (SFF)

**SUPERVISION OF GRADUATE STUDENTS AND RESEARCH FELLOWS**

1999-present PhD/main supervisor (1 completed 2011-2014, UiO; 1 ongoing 2017-2021, UiB); PhD/co-supervisor/major cooperation (6 completed, 6 ongoing); MSc/Civ.Eng.: ~45, misc. universities; Postdocs (1 as main supervisor; cooperation with several over time).

**TEACHING ACTIVITIES (complete pedagogy training UiO-UiB)**

2017-present GEOV111, BSc, *geophysical methods*, responsible teacher, UiB, Norway.

2018-present AG-222: BSc, *Integrated Geological Methods: from outcrop to geomodel*, UNIS, Norway

2017+2019 Spain field course, *Reservoir Geophysics*, in coop. with UiB Prof. William Helland-Hansen.

2015+2017 Lecturer in AG-335/835, MSc/PhD, *arctic seismic exploration*, UNIS, Norway.

2012-2016 GEO4120, MSc, *Near-Surface Geophysics*, responsible teacher, UiO, Norway.

2015 GEO4260, MSc, *Reservoir Geophysics*, responsible teacher, UiO, Norway.

1995 GF281, MSc, *inverse metoder*, responsible teacher, UiO, Norway

Lecturer in **UiO**: GEO4170 (2012), GEO4171 (2013), GEO4360 (2012-2014), GEO4620 (2013), GEO4181 (2015-2016) and GEO4240 (2016-2017). **UiB**: PTEK100 (2016-2019), GEOV272 (2016-present).

2005-2009 SVALEX: lectures/demos in *near-surface geophysics*; exercises in *reservoir geophysics*

**ORGANISATION OF MEETINGS**

2019 Geofaredagen, *organizing committee*, *NFR-arrangement grant owner*, Bergen, 31/10-1/11.

2017 EAGE, *Scientific committee*, *23<sup>rd</sup> European Meeting of Environmental and Engineering Geophysics*, Malmö, September;  
EGU PICO session TS 8.2, "*Unravelling the Earth structure from seismic imaging and interpretation, geological observations, and numerical experiments*", *co-convener*, Vienna, April.

2012 EAGE *Liaison Officer*, "*Near-Surface Geoscience 2012*", Paris.

EAGE *co-convener* workshop 4 "*Integrated Geosciences for subsurface instabilities, offshore and onshore*", Copenhagen.

2009 EAGE *Co-convener* workshop "*Subsalt imaging*", Cairo, Egypt.

**INSTITUTIONAL RESPONSIBILITIES**

2017-present **UiB/GEO**: GBS rep. in program board and deputy leader of the latter from 04/2019; 02/2017-08/2019 deputy leader of the "*Basin and Reservoir Studies - BRS*" research group (prior GBS); acting BRS leader 07/2017-08/2018; misc. GEO hiring evaluation committees; 2018-2021 GEO institute board member; 2019-2023 employment committee member (non-permanent positions) at the Faculty of Mathematics and Natural Sciences; 2019-present student-recruitment committee (GEO).

2019 Univ. Nancy, France, PhD committee member (Irakarama).

2017-present UiB PhD evaluation committee coordinator (Bredesen; Kehl; Stemland).

Prior 2017 PhD evaluation committees: *2<sup>nd</sup> opponent* (Måsøy, 2004, NTNU; Sanchis, 2010, UiT; Bælum, 2011, UiB/UNIS); *chairman* (Zhang, 2013, Univ. Uppsala); *member* (Taillander, 2008, Univ. Paris; Yang, 2012, Univ. Uppsala).

**COMMISSIONS OF TRUST IN ACADEMIC, PUBLIC OR PRIVATE ORGANISATIONS**

2019-present SEG Council, elected *District 7 Representative* (Northern Europe)

2019-2020 EAGE *co-editor* *Near-Surface Geophysics* special issue "*Quantitative Geophysical Characterisation of Marine Near-Surface*" (published January 2020).

2017-2020 SEG *European Regional Advisory Committee* member

2015 SEG/AAPG *co-editor* *Interpretation* special issue "*Geophysical modelling for interpreters*"

2008-2012 EAGE *Technical Program Officer*, Near-Surface Geoscience Division.

2008-2009 SEG *nomination committee* member

2008 SEG *co-editor* *Geophysics* special issue "*Advances in seismic inversion and imaging*"

2004-2011 SEG *Associate Editor*, *Geophysics*, *Seismic Imaging*

**MEMBERSHIPS OF ACADEMIES / SCIENTIFIC SOCIETIES / NETWORKS**

2005-2018 OSEG, funding member, treasurer (2005-2006), president (2007)  
 2001-present EAGE member  
 1997-present SEG active member

**MAJOR COLLABORATIONS**

2021-present Sand Injection Research Group (SIRG), Phase 4, A. Hurst project leader (industry consortium); geophysics and seismic modelling co-investigator.  
 2020-present Environmental factors in minimal-invasive Cultural Heritage Management. The Vestfold Monitoring Project (VEMOP), Dr. P. Schneidhofer project leader, Vestfold og Telemark fylkeskommune; participating in the reference group.  
 2020-2024 NFR Petromaks2 (308805, KMP), “*Rift and rifted margin deep-water depositional systems: Application to Late Jurassic – Early Cretaceous rifting on the NCS - DeepRift*”, Prof. R. Gawthorpe (leader, UiB/GEO); participant.  
 2019-present European COST Action SAGA (CA17131), “*The Soil Science & Archaeo-Geophysics Alliance*”, C. Cuenca Garcia project leader, Dept. of Archaeology and Cultural History, NTNU; acting as MC substitute for Norway; participating to Working Group 3 “*Data integration, visualization and Parameterization*”.  
 2017-present Paleokarst team in Bergen, J. Tveranger leader/coordinator (NFR and industry project), geophysics and seismic modelling advisor.  
 2014-2018 A. Braathen and colleagues from misc. univ. and industry, UiO NFR Petromaks “*TriasNorth: Reconstructing the Triassic northern Barents Shelf; basin infill patterns controlled by gentle sags and faults*” project #234152/E30  
 2003-2012 *Guest researcher* in the International Centre for Geohazards (ICG), NFR-funded Norwegian Research Centre of Excellence (SFF), in cooperation with NGI, NGU, UiO and NTNU

**Track record**

1991-present sources: [Scopus](#); [Google Scholar](#); [ResearchGate](#) (RG); [CRIStin](#) (Norway)  
[Scopus](#): h-index 19; 108 documents; 1868 citations by 1465 documents; 215 co-authors  
[Google Scholar](#): h-index 27; i10-index: 54; 161 documents; 3333 citations  
[RG](#): 28.85; 147 documents; 2289 citations; 27361 reads  
[CRIStin](#): 164 documents

**Selected peer-reviewed publications** (citation number from Google Scholar) – see links above for more

- Jensen, K., Johansen, M. K., **Lecomte**, I., Janson, X., Tveranger, J., and T. Kaschwich, 2021, Paleokarst reservoirs: Efficient and flexible characterization using point-spread function-based convolution modeling, *Interpretation*, 9, 2, 1-65, *Cit. 1*.
- Mascolo, V., and I. **Lecomte**, 2020, Seismic modelling of outcrop carbonate systems: an application to the Cretaceous platform-to-basin system of the Maiella Mountain (Central Apennines, Italy), in *Seismic characterization of carbonate platforms and reservoirs, Special Publications, Geological Society*, 509, *Cit. 1*.
- Wrona, T., Fossen, H., **Lecomte**, I., Eide, C.H., and Gawthorpe, R.L., 2020, Seismic expression of shear zones: Insights from 2-D point-spread-function based convolution modelling, *Journal of Structural Geology*, 140, *Cit. 3*.
- Rabbal, O., Galland, O., Mair, K.; **Lecomte**, I., Spacapan, J. B., Senger, K., and R. Manceda, 2018, From field analogues to realistic seismic modelling: a case study of an oil-producing andesitic sill complex in the Neuquén Basin, Argentina, *Journal of the Geological Society*, 175(4), 580, *Cit. 33*.
- Eide, C. H., Schofield, N., **Lecomte**, I., Buckley, S. J., and J. A. Howell, 2018, Seismic interpretation of sill complexes in sedimentary basins: Implications for the sub-sill imaging problem, *Journal of the Geological Society*, 175(2), 193-209, *Cit. 57*.

- **Lecomte, I.**, Lubrano Lavadera, P., Anell, I., Buckley, S. J., Eide, C. H., Grippa, A., Mascolo, V., and S. Kjoberg, 2016, 2(3)D convolution modelling of complex geological targets – beyond 1D convolution, *First Break*, 34, 99-107, *Cit. 34*.
- Botter, C., Cardozo, N., Hardy, S., **Lecomte, I.**, Paton, G., and A. Escalona, 2016, Seismic characterisation of fault zones in 3D using mechanical and seismic modelling techniques, *Marine and Petroleum Geology*, 77, 973-990, *Cit. 32*.
- **Lecomte, I.**, Lubrano Lavadera, P., Anell, I., Buckley, S. J., Schmid, D. W., and M. Heeremans, 2015, Ray-based seismic modelling of geological models: understanding and analyzing seismic images efficiently, *Interpretation*, 3, no. 4, SAC71-SAC89, *Cit. 41*.
- Botter, C., Cardozo, N., Hardy, S., **Lecomte, I.**, and Escalona, A., 2014, From mechanical modeling to seismic imaging of faults: A synthetic workflow to study the impact of faults on seismic, *Marine and Petroleum Geology*, 57, 187-207, *Cit. 73*.
- Sauvin, G., **Lecomte, I.**, Bazin, S., L'Heureux, J. S., and Vanneste, M., Solberg, I. L., and Dalsegg, E., 2013, Towards geophysical and geotechnical integration for quick-clay mapping in Norway, in Special Issue on Geotechnical Assessment and Geo-environmental Engineering, *Near Surface Geophysics*, 11, no 6, 613-623, ICG contribution 395, *Cit. 26*.
- **Lecomte, I.**, 2008. Resolution and illumination analyses in PSDM: A ray-based approach, *The Leading Edge*, 27, 650-663, *Cit. 250*.
- Gelius, L.-J., **Lecomte, I.**, and Tabti, H., 2002. Analysis of the resolution function in seismic prestack depth imaging, *Geophysical Prospecting*, 50, 505-515, *Cit. 89*.
- **Lecomte, I.**, Gjøystdal, H., Dahle, A., and Pedersen, O. C., 2000. Improving modelling and inversion in refraction seismic with a first order Eikonal solver, *Geophysical Prospecting*, 48, 437-454, *Cit. 57*.
- Podvin, P., and **Lecomte, I.**, 1991. Finite difference computation of traveltimes in very contrasted velocity models: a massively parallel approach and its associated tools, *Geophys. J. Int.*, 105, 271-284. *Cit. 1096*.

#### Patents:

- **Lecomte, I.**, 2013, “Method for simulating local prestack depth migrated seismic images”, Canada Patent 2,521,919.
- **Lecomte, I.**, 2013, “Method for simulating local prestack depth migrated seismic images”, European Patent 1611461, validated in France, Germany, The Netherlands, and the United Kingdom.
- **Lecomte, I.**, 2008, “Method simulating local prestack depth migrated seismic images”, US patent #7,376,539. *Cit. 88*.
- **Lecomte, I.**, 2006, “Fremgangsmåte for simulering av lokale prestakk dypmigrerte seismiske bilder”: Norway patent # 322089.

#### Industrial innovation:

- **SeisRoX™** is a software suite developed by NORSAR to model efficiently 3D PSDM seismic images at detailed reservoir scale. SeisRoX is developed around the the SimPLI patents (see under patents category above).

#### Research expeditions:

- **Glacial hazards:** geophysical expedition in Russia, Caucasus, summer 2010, and in Norway, Jotunheimen, summer 2011: project leader and grant owner for the NATO Collaborate Linkage Grant, “Glacial Hazards due to Climate Change in South Russia”, partners Moscow State University, ICG, UiO and UiB.
- **Finneidfjord quick-clay case**, Northern Norway, 2008: geophysics to characterize quick clay sites, support from ICG and cooperation with the University of Strasbourg.
- **Flatbre debris-flow case**, Western Norway, 2006: geophysics on a terminal moraine damming a glacial lake, support from ICG, NORSAR, UiO, NGL, NGU, BreMuseum.
- **Åknes landslide case**, Western Norway, 2005: project leader and grant owner of the NFR Norwegian/French BILAT project #169822/D15, NORSAR/Grenoble, “Geophysics for investigation and analyses of large landslides”, 01/06/2005-31/12/2005. Additional support from ICG and NGU.

# **Curriculum vitae – Isabelle Lecomte**

## **Long List**

## PUBLICATIONS

## Peer-reviewed papers

- Balyesiima, M., Pettersen, Ø., Tveranger, J., and I. **Lecomte**, 2021. Flow in complex generic paleokarst reservoirs: a simulation approach. *In preparation*.
- Oldfield, S.J., Paton, D.A., Bramham, E.K., **Lecomte**, I., and Bentham, H.L.M., 2021. Interpreting along-fault pore fluids and structural 3 architecture from seismic frequency analysis. *In preparation*.
- Dimmen, V., Rotevatn, A., and I. **Lecomte**, 2021. Imaging of small-scale faults in seismic reflection data: insights from seismic modelling of faults in outcrop, *In preparation/soon submitted*.
- Faleide, T. S., Braathen, A., **Lecomte**, I., and I. Anell, 2021. Exploring detection and resolution thresholds of fault architecture and gas seeps in the shallow subsurface with seismic modelling. *In preparation/soon submitted*.
- Volatili, T., Agosta, F., Cardozo, N., Zambrano, M., **Lecomte**, I., and E. Tondi, 2021. Outcrop-based characterization and seismic modelling of an extensional fault 1 zone in Mesozoic platform carbonates of the Fucino Basin, central Italy. *In preparation/soon submitted*.
- Pertiwi, R. N., **Lecomte**, I., Iacopini, D., and A. Hurst, 2021. A synthetic study of 3D heterogeneous and anisotropic sand injection complexes: Part 2 – Seismic modelling and AVA, *submitted to Geophysical Journal International*.
- Faleide, T. S., Braathen, A., **Lecomte**, I., Mulrooney, M. J., Midtkandal, I., Bugge, A. J., and S. Planke, 2021. Impacts of seismic resolution on fault interpretation: Insights from seismic modelling, *submitted to Tectonophysics, in revision*.
- Bradaric, A. D., Andersen, T., **Lecomte**, I., Løseth, H., and C. H. Eide, 2021. Recognition and characterization of small-scale sand injectites in seismic data: Implications for reservoir development. *Submitted to Journal of the Geological Society, London, in revision*.
- Jensen, K., **Lecomte**, I., Gelius, L.-J., and Kaschwich, T., 2021. Point-Spread Function convolution to simulate prestack depth migrated images: a validation study. *Geophysical Prospecting*, doi: 10.1111/1365-2478.13132, *in press*.
- Mascolo, V., and I. **Lecomte**, 2021. Seismic modelling of outcrop carbonate systems: an application to the Cretaceous platform-to-basin system of the Maiella Mountain (central Apennines, Italy). *Geological Society, London, Special Publications*, 509, doi: 10.1144/SP509-2019-81.
- Masiero, I., Burgess, P., Hollis, C., Manifold, L., Gawthorpe, R., **Lecomte**, I., Marshall, J., Rotevatn, A., 2021. Syn-rift carbonate platforms in space and time: testing and refining conceptual models using stratigraphic and seismic numerical forward modelling. *Geological Society, London, Special Publications*, 509, doi: 10.1144/SP509-2019-217.
- Senger, K., Betlem, P., Birchall, T., Buckley, S.J., Coakley, B., Eide, C.H., Flaig, P.P., Forien, M., Galland, O., Jr, L.G., Jensen, M., Kurz, T., **Lecomte**, I., Mair, K., Malm, R.H., Mulrooney, M., Naumann, N., Nordmo, I., Nolde, N., Ogata, K., Rabbal, O., Schaaf, N.W., and A. Smyrak-Sikora, 2021. Using digital outcrops to make the high Arctic more accessible through the Svalbox database. *Journal of Geoscience Education*, 69, 123–137, doi: 10.1080/10899995.2020.1813865.
- Albaric, J., Kühn, D., Ohrnberger, M., Langet, N., Harris, D., Polom, U., **Lecomte**, I., and G. Hillers, 2021. Seismic Monitoring of Permafrost in Svalbard, Arctic Norway. *Seismological Research Letters*, doi: 10.1785/0220200470.

## CV – Long List - Isabelle Lecomte – 2021

- Senger, K., Betlem, P., Grundvåg, S.-A., Horota, R.K., Buckley, S.J., Smyrak-Sikora, A., Jochmann, M.M., Birchall, T., Janocha, J., Ogata, K., Kuckero, L., Johannessen, R.M., **Lecomte, I.**, Cohen, S.M., and S. Olausen, 2021. Teaching with digital geology in the high Arctic: opportunities and challenges. *Geoscience Communication Discussions*, 1–39, doi: 10.5194/gc-2021-6.
- Jensen, K., Johansen, M. K., **Lecomte, I.**, Janson, X., Tveranger, J., and T. Kaschwich, 2021. Paleokarst Reservoirs: Efficient and Flexible Characterization Using Point-Spread-Function-Based Convolution Modeling, *Interpretation*, 9, no. 2, T331–47. doi: 10.1190/INT-2020-0130.1.
- Wrona, T., Fossen, H., **Lecomte, I.**, Eide, C.H., and R. L. Gawthorpe, 2020. Seismic expression of shear zones: Insights from 2-D point-spread-function based convolution modelling. *Journal of Structural Geology*, 140, 104121, doi: 10.1016/j.jsg.2020.104121.
- Vardy, M., and I. **Lecomte**, 2020. Foreword. Issue - Quantitative Geophysical Characterisation of Marine Near-Surface, *Near Surface Geophysics*, 18, 3–4, doi: 10.1002/nsg.12087
- Lubrano-Lavadera, P., Senger, K., **Lecomte, I.**, Mulrooney, M. J., and D. Kühn, 2019, Seismic modelling of metre-scale normal faults at a reservoir-cap rock interface in Central Spitsbergen, Svalbard: implications for CO2 storage, *Norwegian Journal of Geology*, 99, 2, 329-347, doi:10.17850/njg003.
- Grippa, A., Hurst, A., Palladino, G., Iacopini, D., **Lecomte, I.**, and N. Huuse, 2019, Seismic imaging of complex geometry: forward modeling of sandstone intrusions, *Earth and Planetary Science Letters*, 513, 51-63, doi: 10.1016/j.epsl.2019.02.011.
- Yenwongfai, H., Mondol, N. H., **Lecomte, I.**, Faleide, J. I., and J. Leutscher, 2018, Integrating facies-based Bayesian inversion and supervised machine learning for petro-facies characterization in the Snadd Formation of the Goliat Field, south-western Barents Sea, *Geophysical Prospecting*, 66, no. 6, 1365-2478, doi: 10.1111/1365-2478.12654.
- Lubrano-Lavadera, P., Kühn, D., Dando, B. D. E., **Lecomte, I.**, and K. Senger, 2018, CO2 storage in the high Arctic: efficient modelling of pre-stack depth-migrated seismic sections for survey planning, *Geophysical Prospecting*, 66, no. 6, 1180-1200, doi: 10.1111/1365-2478.12637.
- Rabbel, O., Galland, O., Mair, K., **Lecomte, I.**, Senger, K., Spacapan, J. B., and R. Manceda, 2018, From field analogues to realistic seismic modelling: a case study of an oil-producing andesitic sill complex in the Neuquén Basin, Argentina, *Journal of the Geological Society*, 175, no. 4, 580-593, doi: 10.1144/jgs2017-116.
- Eide, C. H., Schofield, N., **Lecomte, I.**, Buckley, S. J., and J. A. Howell, 2018, Seismic interpretation of sill complexes in sedimentary basins: implications for the subsill imaging problem, *Journal of the Geological Society*, 175, no. 2, 193-209, doi: 10.1144/jgs2017-096.
- Lubrano-Lavadera, P., Drottning, Å., **Lecomte, I.**, Dando, B. D. E., Kühn, D., and V. Oye, 2017, Seismic modelling: 4D capabilities for CO2 injection, *Energy Procedia*, 114, 3432-3444, doi: 10.1016/j.egypro.2017.03.1474.
- Yenwongfai, H., Mondol, N., Faleide, J. I., **Lecomte, I.**, and J. Leutscher, 2017, Prestack inversion and multi-attribute analysis for porosity, shale volume and sand probability in the Havert formation of the Goliat field, southwestern Barents Sea, *Interpretation*, 5, no. 3, SL69-SL87, doi: 10.1190/INT-2016-0169.1.
- Yenwongfai, H., Mondol, N., Faleide, J. I., and I. **Lecomte**, 2017, Prestack simultaneous inversion to predict lithology and pore fluid in the realgrunnen subgroup of the Goliat field, southwestern Barents Sea, *Interpretation*, 5, no. 2, SE75-SE96, doi: 10.1190/INT-2016-0109.1.

## CV – Long List - Isabelle Lecomte – 2021

- Kjoberg, S., Schmiedel, T., Planke, S., Henrik H. Svensen, H. H., John M. Millett, J. M., Jerram, D. A., Olivier Galland, O., **Lecomte**, I., Schofield, N., Haug, Ø. T., and A. Helsem, 2017, 3D structure and formation of hydrothermal vent complexes at the Paleocene-Eocene transition, the Møre Basin, mid-Norwegian margin, *Interpretation*, 5, no. 3, SK65-SK81, doi: 10.1190/INT-2016-0159.1
- Botter, C., Cardozo, N., **Lecomte**, I., Rotevatn, A., and G. Paton, 2017, The impact of faults and fluid flow on seismic images of a relay ramp over production time, *Petroleum Geoscience*, 23, 17–2822, doi: 10.1144/petgeo2016-027.
- Botter, C., Cardozo, N., Hardy, S., **Lecomte**, I., Paton, G., and A. Escalona, 2016, Seismic characterisation of fault zones in 3D using mechanical and seismic modelling techniques, *Marine and Petroleum Geology*, 77, 973-990, doi: 10.1016/j.marpetgeo.2016.08.002.
- Anell, I., **Lecomte**, I., Braathen, A., and S. J. Buckley, 2016, Synthetic seismic illumination of small-scale growth faults, paralic deposits and low-angle clinoforms: A case study of the Triassic successions on Edgeøya, NW Barents Shelf, *Marine and Petroleum Geology*, 625-639, doi: 10.1016/j.marpetgeo.2016.07.005.
- **Lecomte**, I., Lubrano Lavadera, P., Anell, I., Buckley, S. J., Eide, C. H., Grippa, A., Mascolo, V., and S. Kjoberg, 2016, 2(3)D convolution modelling of complex geological targets – beyond 1D convolution, *First Break*, 34, 99-107.
- **Lecomte**, I., Lubrano Lavadera, P., Anell, I., Buckley, S. J., Schmid, D. W., and M. Heeremans, 2015, Ray-based seismic modelling of geological models: understanding and analyzing seismic images efficiently, *Interpretation*, 3, no. 4, SAC71-SAC89, doi: 10.1190/INT-2015-0061.1.
- Garofalo, F., Sauvin, G., Socco, V., and I. **Lecomte**, 2015, Joint inversion of seismic and electric data applied to 2D media, *Geophysics*, 80, no. 4, EN93-EN104, doi: 10.1190/geo2014-0313.1.
- Mascolo, V., Rusciadelli, G., and I. **Lecomte**, 2015, Young geoscientists show the way forward with style in student paper competition - Synthetic Seismic Modelling of Outcropping Carbonate System of the Maiella Mountain (Central Apennines-Italy), *First Break*, 33, June, 103-108.
- Botter, C., Cardozo, N., Hardy, S., **Lecomte**, I., and Escalona, A., 2014, From mechanical modeling to seismic imaging of faults: A synthetic workflow to study the impact of faults on seismic, *Marine and Petroleum Geology*, 57, 187-207.
- Sauvin, G., **Lecomte**, I., Bazin, S., Hansen, L., Vanneste, M., and L'Heureux, J.-S., 2014, On the integrated use of geophysics for quick-clay mapping: The Hvittingfoss case study, Norway, *Journal of Applied Geophysics*, 106, 1-13, doi: 10.1016/j.jappgeo.2014.04.001.
- Albaric, J., Oye, V., Langet, N., Hasting, M., **Lecomte**, I., Iranpour, K., Messeiller, M., and Reid, P., 2013, Monitoring of induced seismicity during the first geothermal reservoir stimulation at Paralana, Australia, *Geothermics*, 52, 120–131, DOI: 10.1016/j.geothermics.2013.10.013.
- Hansen, L., L'Heureux, J.-S., Sauvin, G., Polom, U., **Lecomte**, I., Vanneste, M., Longva, O., and Krawczyk, C., 2013, Effects of mass-wasting on the stratigraphic architecture of a fjord-valley fill: correlation of onshore, shear-wave seismic and marine seismic data at Trondheim, Norway, *Sedimentary Geology*, 289, 1-18.
- L'Heureux, J.-S., Long, M., Sauvin, G., Polom, U., Hansen, L., **Lecomte**, I., Vanneste, M., Dehls, J., and Janbu, N., 2013, Settlement prediction from high resolution shear-wave seismics in the Trondheim harbour, mid Norway, *Engineering Geology*, 167, 72–83.
- Sauvin, G., **Lecomte**, I., Bazin, S., L'Heureux, J. S., and Vanneste, M., Solberg, I. L., and Dalsegg, E., 2013, Towards geophysical and geotechnical integration for quick-clay mapping in Norway, in *Special Issue on*



Geotechnical Assessment and Geo-environmental Engineering, Near Surface Geophysics, 11, no 6, 613-623, ICG contribution 395, doi: 10.3997/1873-0604.2012064.

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- Hansen, L., U. Polom; J.-S. L'Heureux; G. Sauvin; I. **Lecomte**; C. M. Krawczyk; O. Longva (2009) Fjord-valley fill stratigraphy from onshore high-resolution shear-wave seismics, Trondheim harbour area, central Norway. AGU fall meeting, San Francisco, USA, 14-18 December 2009.
- Kühn, D., V. Oye, I. **Lecomte**, and A. Drottning, 2009, SafeCO2: Safety Monitoring of CO2 Storages Using Microseismicity and 4-D Seismic Modelling – a new CCS Project in Norway, CO2 Sequestration Geophysics, 2009 SEG Summer Research Workshop, Banff, Canada, 23-27 August.
- Köllner, F., I. **Lecomte**, D. Petrakov, S. Chernomorets, M. Shakhmina, S.-E. Hamran, A. Kaab, and H. Juliussen, Geophysics in glacial-hazard initiation zones: the high mountains of South Russia, "Glacier Hazards, Permafrost Hazards and GLOFs in Mountain Areas: Processes, Assessment, Prevention, Mitigation" international workshop, Vienna, 10-13 November.

## CV – Long List - Isabelle Lecomte – 2021

- **Lecomte**, I., T. Kaschwich, H. Gjøystdal, and I. Iversen, 2009, Use ray-based modeling methods to plan, analyze and control subsalt imaging, EAGE "Subsalt Imaging - focus on azimuth" workshop, Cairo, 15-18 November.
- Morgan, E.C., Vanneste, M., Longva, O., **Lecomte**, I., McAdoo, B., and Baise, L., 2009, Evaluating gas-generated pore pressure with seismic reflection data in a landslide-prone area: an example from Finneidfjord, Norway, proceeding, 4th Symposium on Submarine Mass Movements and Their Consequences, Austin, Texas, November.
- Polom, U., Hansen, L., L'Heureux, J.-S., Longva, O., **Lecomte\***, I., and Krawczyk1, C.M., 2009, High-resolution shear wave reflection seismic in the harbour area of Trondheim, Norway, 71st EAGE Conference & Exhibition, Amsterdam. Selected among the "best of" (**Lecomte** speaker), with invitation to SAGEEP 2010.
- Polom, U., Hansen, L., L'Heureux, J.-S., Longva, O., **Lecomte**, I., and Krawczyk, C., 2008, Shear wave reflection seismic surveying in the Trondheim harbour area - imaging of land slide processes, AGU Fall Meeting, San Francisco, December.
- Morgan, E., Vanneste, M., Longva, O., **Lecomte**, I., McAdoo, B., and Blaise, L., 2008, Using seismic reflection data to investigate gas-generated pore pressure in a landslide-prone area: and example from Finneidfjord, Norway, AGU Fall Meeting, San Francisco, December.
- **Lecomte**, I., and T. Kaschwich, 2008, Closer to real earth in reservoir characterization: a 3D isotropic/anisotropic PSDM simulator, Expanded Abstract, SEG 78th Annual Meeting, Las Vegas, 1570-1574.
- **Lecomte**, I., Bano, M., Hamran, S.-E., Dalsegg, E., and Nielsen, K. M., 2008, Mapping quick-clay sites for geohazard assessment: the Finneidfjord case study, Norway, Expanding Abstracts, EAGE Near Surface Annual Meeting, Krakow, September 4-6, ICG contribution 192. Selected among the "best of", with invitation to SAGEEP 2009 (declined).
- Morgan, E., Vanneste, M., Longva, O., **Lecomte**, I., and Blaise, L., 2008, Using seismic reflection data to investigate free gas in a landslide area: an example from Finneidfjord, Norway, 33rd International Geological Congress, Oslo, 6-14 August.
- **Lecomte**, I., Bano, M., Hamran, S.-E., Dalsegg, E., Nielsen, K.-M., Holst Nielsen, M., Douillet, G., Fréry, E., Guy, A., and Volesky, S., 2008, Submarine slides at Finneidfjord (Norway): geophysical investigations, proceeding, 21st SAGEEP, Philadelphia, April 6-10, ICG Contribution 182, ranked among the top 10 best.
- Vanneste, M., Westerdahl, H., Sparrevik, P., Madshus, C., **Lecomte**, I., Zühlendorff, L., 2007, Shear-Wave Source for Offshore Geohazard Studies: A Pilot Project to Improve Seismic Resolution and Better Constrain the Shear Strength of Marine Sediments, proceeding, Offshore Technology Conference, Houston, 30 April–3 May.
- **Lecomte**, I., Thollet, I., Breien, H., Elverhøi, A., Høeg, K., Juliussen, H., Hamran, S.-E., Bagge-Lund, M., Souche, A., and Sand, M., 2007, Using geophysics on a terminal moraine damming a glacial lake: the Flatbre debris flow case, Western Norway: EGU General Assembly, Vienna, April 16-20.
- **Lecomte**, I., Juliussen, H., Hamran, S.-E., Thollet, I., Bagge-Lund, M., Souche, A., and Sand, M., 2007, Geophysical survey of a terminal moraine in Fjaerland, Norway: looking for ice after a major debris flow in 2004: 2nd Alexander von Humboldt International Conference, EGU, "The Role of Geophysics in Natural Disaster Prevention", Lima, March 5-9.
- Kaschwich, T., Iversen, E., **Lecomte**, I., Mispel, J., and Gjøystdal, H., 2006. Aspects of imaging tilted anisotropic media: Model representation, model parameter specification, and selection of wave types. The 12th international workshop on seismic anisotropy, Beijing, 22-27 October 2006.



## CV – Long List - Isabelle Lecomte – 2021

- **Lecomte, I.**, 2006, Illumination, resolution, and incidence-angle in PSDM: a tutorial, Expanded Abstracts, SEG 76th Annual Meeting, New-Orleans, SPMI\_6.6.
- **Lecomte, I.**, Dietrich, M., Roth, M., Meric, Delarue, C., and Rønning, J.S., 2006. Active and passive seismic at the unstable rock slide of Åknes (Norway), Expanding Abstracts, EAGE Near Surface Annual Meeting, Helsinki, September.
- **Lecomte, I.**, 2006, Illumination and resolution in seismic imaging for all acquisition geometries, in passive or active mode: a general approach, "What Can EP Learn from Seismology and Vice-Versa" workshop, 68th EAGE Conference & Exhibition, Vienna, poster.
- Drottning, Å., **Lecomte, I.**, Gjøystdal, H., Skorstad, A., Kolbjørnsen, O., and Huseby, O., 2006, Modelling the Seismic Response to Production: a closer look at the sensitivity to overburden, survey, rock physics model and seismic modelling approach, Biennial Geophysical Seminar, Norwegian Petroleum Society, Kristiansand, March 20-22.
- Roth, M., Dietrich, M., Blikra, L.H., and **Lecomte, I.**, 2006. Seismic monitoring of the unstable rock slope site at Åknes, Norway, Expanding Abstracts, SAGEEP Annual Meeting, Seattle, April 6-10.
- Brenguier, F., Coutant, O., Dietrich, M. and I. **Lecomte**, 2005, High resolution seismic imaging of highly heterogeneous media: An experiment on the Puy des Goules volcano, France, Geophysical Research Abstracts, 7, .
- **Lecomte, I.**, and Pochon-Guérin, L., 2005. Simulated 2D/3D PSDM images with a fast, robust, and flexible FFT-based filtering approach, Expanded Abstracts, SEG 75th Annual Meeting, Houston, SPI\_1.1.
- Drottning, Å., **Lecomte, I.**, Gjøystdal, H., Johansen, T. A., and Klefstad, L., 2004. Towards an efficient workflow for modelling the seismic responses from reservoir fluid simulator data, SGBf/SPE Workshop, 22-24 June, Rio de Janeiro.
- **Lecomte, I.**, 2004. Simulating Prestack Depth Migrated Sections, Extended Abstracts, EAGE 66th Conference and Exhibition, Paris, June 2004, P071.
- **Lecomte, I.**, Gjøystdal, H., and Drottning, Å., 2003. Simulated Prestack Local Imaging: a robust and efficient interpretation tool to control illumination, resolution, and time-lapse properties of reservoirs., Expanded Abstracts, SEG 73rd Annual Meeting, Dallas.
- Sjøberg, T., Gelius, L.-J., and **Lecomte, I.**, 2003. 2D deconvolution of seismic image blur, Expanded Abstracts, SEG 73rd Annual Meeting, Dallas.
- Mispel, J., Iversen, E., Vinje, V., Laurain, R., and **Lecomte, I.**, 2003. Local two-way travelttime approximation in 3-D media, Extended Abstracts, EAGE 65th Conference and Exhibition, June 2003, Stavanger.
- Gelius, L.-J., **Lecomte, I.**, and Hamran, S.-E., 2002. The concept of Local Parabolic Wave Imaging (LpI) in PSDM, Expanded Abstracts, SEG 72nd Annual Meeting, Salt Lake City.
- **Lecomte, I.**, Gelius, J.-J., and Hamran, S.-E., 2002. Local Imaging approach and applications, Extended Abstracts, EAGE 64th Conference and Exhibition, Florence, May 2002.
- Hamran, S.-E., **Lecomte, I.**, and Gelius, L.-J., 2002. GPR Processing using Local Plane-Wave Imaging, GPR 2002 Conference, Santa Barbara, USA, April 29 - May 2, 2002.

## CV – Long List - Isabelle Lecomte – 2021

- **Lecomte**, I., Hamran, S.-E., Tabti, H., and Gelius, L.-J., 2001. New insights in migration through analogies between Generalized Diffraction Tomography and Synthetic Aperture Radar, 71st Ann. Internat. Mtg., Soc. Expl. Geophys., Expanded Abstracts, MIG P1.4.
- Laurain, R., and **Lecomte**, I., 2001. Elastic / electromagnetic wave propagation: equivalences and application to 2D modelling of GPR, Extended Abstracts, EAGE 63rd Conference & Technical Exhibition, Amsterdam, P 142, Volume 2.
- Gelius, L.-J., and **Lecomte**, I., 1999. The resolution function in prestack depth migration, Extended Abstracts, EAGE 61st Annual Meeting, Helsinki, P134.
- **Lecomte**, I., and Gelius, L.-J., 1998. Have a look at the resolution of prestack depth migration for any model, survey and wavefields, Expanded Abstracts, SEG 68th Annual Meeting, New-Orleans, September, 1112-1115.
- Gjøystdal, H., **Lecomte**, I., Mjelva, A.E, Maaø, F., Hokstad, K., Johansen, T.A., 1998. Fast repeated seismic modelling of local complex targets, Expanded Abstracts, SEG 68th Annual Meeting, New-Orleans, 1452-1455.
- Gelius, L.-J., and **Lecomte**, I., 1998. The resolution function in linearized Born and Kirchhoff inversion, abstract book, Interdisciplinary Inversion Conference 1998 (IIC98), Copenhagen, August.
- Hokstad, K., **Lecomte**, I., Maaø, F., Tuseth, M., Mjelva, A.E., Gjøystdal, H., and Sollie, R., 1998. Hybrid modelling of elastic wavefield propagation, Extended Abstracts, EAGE 60th Annual Meeting, Leipzig, 5-56.
- **Lecomte**, I., 1996. Hybrid modeling with ray tracing and finite difference. Expanded Abstract, SEG 66th Annual Meeting, Denver, November, MOD 2.6.
- Iversen, E., **Lecomte**, I., and Gjøystdal, H., 1994. Macro-model construction by integration of local prestack depth imaging, event interpretation and non-zero offset ray-theoretical depth conversion, Expanded Abstracts, SEG 64th Annual Meeting, Los Angeles, october 1994.
- Vinje, V., **Lecomte**, I., Åstebøl, K., and Iversen, E., 1994. Efficient Green's functions calculation for improved 3D seismic imaging in complex areas, EAEG 56th Annual Meeting, paper B043, Wien.
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- Iversen, E., Gjøystdal H., and **Lecomte**, I., 1993. Local velocity estimation and structural imaging based on prestack depth migration, Lofoten Seminaret, Nyvågar, August 1993.
- **Lecomte**, I., 1993. Finite-difference traveltimes and reflection seismics: modeling and inversion, EAEG 55th Annual Meeting, paper P101, Stavanger.
- **Lecomte**, I., 1992. Finite-difference calculations of first traveltimes in anisotropic media, EAEG 54th Annual Meeting, paper P86, Paris.
- **Lecomte**, I., Glangeaud, F., Geli, L., Mars, J. Gounon, P., and Gavin, P., 1988. Signal processing applied to refraction seismic data obtained with an Ocean Bottom Vertical Seismic Array: spectral matrix method and other processing, in Signal Processing IV: Theories and Applications, J.L. Lacoume, A. Chehikian, N. Martin, and J. Malbos (Editors), Elsevier Sciences Publishers B.V. (North-Holland), Eurasip 1988.

## Other publications

- **Lecomte, I.**, 2019. From Outcrop Geology to Seismic... and Back! GEO ExPro Magazine (AAPG), <https://archives.datapages.com/data/geo-expro-magazine/016/016004/pdfs/72.html>

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- **Lecomte, I.**, 2013, "Method for simulating local prestack depth migrated seismic images", Canada Patent 2,521,919.
- **Lecomte, I.**, 2013, "Method for simulating local prestack depth migrated seismic images", European Patent 1611461, validated in France, Germany, The Netherlands, and the United Kingdom.
- **Lecomte, I.**, 2008, "Method simulating local prestack depth migrated seismic images", US patent #7,376,539.
- **Lecomte, I.**, 2006, "Fremgangsmåte for simulering av locale prestakk dypmigrerte seismiske bilder": Norway patent # 322089.

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- Malehmir, A., Bastani, M., Krawczyk, C., Polom, U., Malinowski, M., Persson, L., Gurk, M., Snowball, I., Juhlin, C., Ismail, N., and **Lecomte, I.**, 2013, Integration of geophysical, hydrogeological and geotechnical methods to aid monitoring landslides in Nordic countries: a 4D approach for landslide risk assessment, *Final Report 2011-2013*, Uppsala University, SEG "Geoscientists Without Borders" project.
- Polom, U., and **Lecomte, I.**, 2013, Shear-wave reflection-seismic tests at the UNIS CO2 Well park, Spitzberg, September 2012, NORSAR Technical Report, 13-004.
- **Lecomte, I.**, 2012, ICG Theme 1: Geophysics for Geohazards, *Summary report 2005-2012*, NORSAR Technical Report, 12-025.
- Vanneste, M., Forsberg, C. F., Kvalstad, T. J., L'Heureux, J.-S., Longva, O., Chand, S., Rise, L., Vardy, M. E., Brendryen, J., Haflidason, H., and **Lecomte, I.**, 2012, C-Dog: Coastal and Deepwater Offshore Geohazards, Assessing Offshore Geohazards: Site Surveying, Sampling and Comparison of Shallow, Submarine Landslides in Coastal and Deepwater Environments, Northern Norway. *SEABED consortium*, Report Number: 20100135-1.
- **Lecomte, I.**, Bazin S., Grandjean G., Michoud C., Derron M.-H., Abellán A., Jaboyedoff M., 2010. Ground-Based Geophysical Investigations. In the Deliverable 4.1 of the European project SAFELAND: Review of Techniques for Landslide Detection, Fast Characterization, Rapid Mapping and Long-Term Monitoring, edited by Michoud C., Abellán A., Derron M.-H. and Jaboyedoff M., available at <http://www.safeland-fp7.eu>.
- Kaschwich, T., **Lecomte, I.**, Gjøystdal, H., and Iversen, E., 2010. Reflection, diffraction and resolution. *14th Annual Report, Wave Inversion Technology (WIT) consortium*, p153-163.
- Kaschwich, T., **Lecomte, I.**, Gjøystdal, H., Iversen, E., and Tygel, M., 2009, Advanced ray-based synthetic seismograms, in 13th Annual Report of the Wave Inversion Technology (WIT) consortium.
- **Lecomte, I.**, 2002. Strategic Institute Program "3D seismic hybrid-modelling of oil/gas reservoirs", NORSAR Contribution 759, Final Scientific Report, NFR project # 113597/ 420.
- **Lecomte, I.**, 2001. Prestack Depth Migration with Local Plane-Wavenumber Diffraction Tomography, NORSAR

Contribution 736, in the final report of the NFR-PetroForsk Project # 128440/431.

- Co-author of, HybriSeis. Hybrid modelling of seismic data Feasibility study. IKU & NORSAR, Final Report prepared for Agip, Norsk Hydro, Saga Petroleum and Statoil, February 1998.
- Co-author of, High resolution seismic seabed imaging, Final Scientific-Technical Report, *EU MAST II Program, MAS2-CT94-0093*, by ISMES, NGI, GEODIA, NORDEV, NORSAR and LASSSO, January 1998.
- **Lecomte, I.**, 1997. High resolution seismic seabed imaging - Computer modelling and imaging tasks, Third yearly scientific report, NORSAR Technical Report 626.
- Dahle, A., H. Gjøystdal, I. **Lecomte**, A.E. Mjelva & V. Vinje, 1997: NORSAR Shallow Seismics (Seismiske metoder for grunnundersøkelser), STP 101061/420 Strategiske Instituttprogram, Final Report, April 1997.
- Dahle, A., I. **Lecomte**, H. Gjøystdal & A.E. Mjelva, 1997: A study of traveltimes and amplitude variations of seismic waves across a weakness zone in bedrock. NORSAR Tech. Rep. (contribution no. 613), March 1997.
- **Lecomte, I.**, 1996. High resolution seismic seabed imaging - Computer modelling and imaging tasks, Second yearly scientific report, NORSAR Technical Report 602.
- **Lecomte, I.**, 1995. High resolution seismic seabed imaging - Computer modelling and imaging tasks, First yearly scientific report, NORSAR Technical Report 567.
- Iversen, E., **Lecomte, I.**, Mjelva, A.E., and Gjøystdal, H., 1994. Velocity estimation based on prestack depth migration. Phase II. Report prepared for Statoil, January 1994.
- **Lecomte, I.**, 1993. Analysis of finite-difference calculations of traveltimes, NORSAR Technical Report 480.
- **Lecomte, I.**, 1990. Crustal structure of a slow ridge: 3D seismic tomography of Mohn's ridge (72°20N, 1°30E), **Ph.D. Thesis, Sciences (Geophysics)**, University of Strasbourg, <https://archimer.ifremer.fr/doc/00034/14522/>, in French.
- **Lecomte, I.**, 1988. Application of spectral matrix methods to data obtained with an OBVSA, **Diploma Engineering, Geophysicist, Thesis**, University of Strasbourg, in French.
- **Lecomte, I.**, 1987. Sismogrammes synthétiques obtenus par une methode de differences finies: étude et application à la simulation numérique de codas, **Diplôme d'Etudes Approfondies (DEA), Geophysics, Thesis**, University of Strasbourg, in French.

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#### INVITED TALKS – STAY ABROAD

- **Lecomte, I.**, 2017, "Understanding and analysing seismic images Insight through appropriate modelling", University of Leeds, UK, February.
- **Lecomte, I.**, 2012, "Modern applications of ray tracing in seismic O&G exploration", Politecnico di Torino, March.
- **Lecomte, I.**, 2009, "Modern applications of ray tracing in seismic O&G exploration", Institute of Geology and Geophysics, Chinese Academy of Sciences, Beijing, May.
- **Lecomte, I.**, 2009, "International Centre for Geohazards, Oslo: activity overview with focus on geophysics", Institute of Geology and Geophysics, Chinese Academy of Sciences, Beijing, May.
- **Lecomte, I.**, 2007, "Improved applicability of ray tracing in seismic acquisition, imaging, and

*interpretation. Application to near surface and geohazards?*", ETH, Zurich, May.

- **Lecomte, I.**, 2004, "Dealing with strong heterogeneity in seismic modelling and imaging", NTNU – Medical Imaging seminar, Trondheim, December.
- Rio de Janeiro, Brazil, May 2003, 2-week stay at PUC university, invited by Petrobras; courses in seismic modelling, both to students and Petrobras employees.

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#### PUBLIC OUTREACH

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- Demo of GPR equipment, **Geologisdag** 2018-2019, Bergen.
- Participation to "**Forskningsdagene**", 2018, Bergen (UiB/GEO).
- Demo of GPR equipment, UiO/NMBU cooperation for "**Forskningsdagene**", Oslo, 20-21 September 2013.
- **Lecomte, I.**, 2004, "L'imagerie sismique en exploration pétrolière... ou comment éviter de forer pour rien!", invited evening lecture, Centre Culturel Français, Oslo.

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#### PROJECTS

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- **co-investigator** in the *Sand Injection Research Group* (SIRG – industry consortium), A. Hurst project leader; geophysics and seismic modelling advisor (08/2021-present).
- participant in **reference group** for *The Vestfold Monitoring Project* (VEMOP), P. Schneidhofer project leader, Vestfold og Telemark fylkeskommune (01/2020-present).
- **participant** in WG3 "Data integration, visualization and Parameterization" and Norway MC substitute 2 in the European COST Action CA17131 "The Soil Science & Archaeo-Geophysics Alliance - SAGA", C. Cuenca Garcia project leader, Dept. of Archaeology and Cultural History, NTNU (2019-present).
- **partner** in the UNIS UArctic education projects "Circum-Arctic Geology for Everyone: An integrated approach to learning and teaching in the Arctic" (2016-2018) and "Svalbox2020: digital teaching and outreach of Arctic Geology" (2019-2020).
- **participant** in the NFR Petromaks2 (308805, KMP), "Rift and rifted margin deep-water depositional systems: Application to Late Jurassic – Early Cretaceous rifting on the NCS - DeepRift", Prof. R. Gawthorpe (leader, UiB/GEO) (2020-2024).
- **project leader** for UiB/GEO as partner in "Forecasting of architecture, seismic characteristics and flow behaviour in paleokarst reservoirs - FOPAK", NFR Petromaks2 contract 267634/E30, led by NORCE/CIPR (J. Tveranger) (01/2017-12/2019).
- **project leader** for NORSAR as a partner of the NFR Petromaks "Reconstructing the Triassic northern Barents Shelf; basin infill patterns controlled by gentle sags and faults" project led by University of Oslo, NFR contract #234152/E30 (01/2014-12/2017).
- **project leader** and **grant owner** for the NATO Collaborate Linkage Grant, "Glacial Hazards due to Climate Change in South Russia", project involving Moscow State University, ICG, UiO and UiB (11/2009-10/2011).
- **project leader** of the NORSAR Innovation AS "Brukerstyrte innovasjonsprosjekter (BIP)", "Fast Elastic Inversion of Multi-offset Prestack Depth Migrated Seismic Data", PETROMAKS program, NFR contract #187318/S30

(01/2008-12/2010).

- **project leader** and **grant owner** of the NORSAR Strategic Institute Program “*Flexible local seismic imaging in an integrated dynamic modelling framework*”, NFR contract #181688/I30 (01/2007 to 12/2009).
- **theme coordinator** for “*Geophysics for Geohazards*”, International Centre for Geohazards (ICG), Norwegian Research Centre of Excellence (SFF), NFR contract #128440/431 (2005-2012).
- **project leader** and **grant owner** of the NFR Norwegian/French BILAT project #169822/D15, NORSAR/Grenoble, “*Geophysics for investigation and analyses of large landslides*” (01/06/2005-31/12/2005)
- **project leader** for NORSAR as a partner of the E-learning project “*UniGEM*” of the universities of Oslo and Bergen, financial support from Statoil, contract #128440/431 (01/04/2003-31/12/2004).
- **project leader** for NORSAR as a partner of the ICG #6 project “*Offshore Geohazards*”, responsible of the Geophysics task, NFR contract #128440/431 (01/04/2003-2012).
- **project leader** for NORSAR as a partner of the ICG #8 project “*Ground-based Interferometric Synthetic Aperture Radar*”, responsible of the software task (imaging and interferometry), NFR contract #128440/431 (01/04/2003-2008).
- **project leader** for NORSAR as a partner of the UiO PetroForsk “*Improving prestack depth migration by using resolution functions*”, NFR contract #128440/431 (01/09/1999-31/08/2001).
- **project leader** of the NORSAR Strategic Institute Program “*3D seismic hybrid modelling of oil and gas reservoirs*” – NFR contract #113597/420 (01/1997 to 12/2001).
- **project leader** for NORSAR as a partner of the EC MAS2-CT94-0093 project “*High Resolution Seabed Imaging*”, NGI subcontract #521675 (11/1994 to 12/1997).

## TEACHING & LECTURING & PEDAGOGY

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### Courses taught – University of Bergen

- **GEOV111**, “*Geofysiske Metoder*”, teacher since 2017 (in Norwegian), **responsible teacher** since 2018.

### Lectures – University of Bergen

- **GEOV2xx**, “*Geopraksis*” (Geo Internship): co-teacher in new 10-ECTS bachelor course under planning fall 2021 and starting spring 2022 (running every semester thereafter).
- **GEOV272**, “*Basic Seismic Interpretation*”, 2016-present, seismic modelling used to highlight seismic interpretation issues.
- **PTEK100**, “*Petroleum- og prosessteknologi*”, lectures in seismic, 2016-2019; **GEOV272**, “*Basic Seismic Interpretation*”, 2016-present.

### Courses taught – University of Oslo

- **GEO4260**, “*Reservoir Geophysics*”, **responsible teacher** (regular teacher on sick leave), **Adj. Assoc. Prof.** (30% during course period), fall 2015.
- **GEO4120**, “*Environmental/Near-surface Geophysics*”, **responsible teacher**, **Adj. Assoc. Prof.** (20%), 2012-2016.
- **GF281**, “*Inverse metoder*”, **responsible teacher** (regular teacher on leave), in Norwegian, 1995.

**Lectures – University of Oslo**

- **GEO4170**, “*Landslides and Debris Flows*”, 2012; **GEO4171**, “*Floods and Landslides*”, 2013; and **GEO4181**, “*Introduction to natural hazards*”, 2015, introduction to near-surface geophysics.
- **GEO4360**, “*Field methods in hydrogeology*”, introduction to near-surface geophysics and field demos, 2012-2014.
- **GEO4620**, “*Seismic waves and seismology*”, lecture on ray-based seismic modelling, 2013.

**Lectures – University Centre of Svalbard**

- **AG222**, “*Integrated Geological Methods: from outcrop to geomodel*”, lectures in seismic methods and seismic modelling, 2018-present.
- **AG335**, “*Arctic Seismic Exploration*”, lectures in micro-seismicity, seismic modelling and GPR; March 2015, 2017.
- **SVALEX**, multidisciplinary integration of students in petroleum-related courses, Norwegian Universities UiO, UiB, NTNU, UiT, UiS and UNIS, *lectures/demos in near-surface geophysics and participation to student exercises*, 2005-2009.

**Pedagogy – University of Bergen** (completed pedagogy training, based on

- Participant to “*Centre for Integrated Earth Science Education*”, **iEarth** (Centres for Excellence in Education – SFU - <https://iearth.no/>); e.g., design of a new 10-ECTS course “*Geopraksis*” and attending seminars, etc.
- Participant to UiB research group “*Teaching and Learning in Higher Education*” (**TeLEd**), 2020-present, <https://www.uib.no/en/rg/teled>.
- Participant to UiB research project “*Teaching and Learning in the Digital Age: Rethink learning through teaching and assessment*” (**TALIDA**), with re-designing of course GEOV111 in 2018-2019, <https://talida.w.uib.no/>.
- “**Vurdering og vurderingsformer**”, UPED621, **5 ECTS**, fall 2017, pass.
- “**How to create effective instructional videos**”, UPED637, 5 ECTS, spring 2017, pass. **5 ECTS** was the amount of extra ECTS required by UiB when hired fall 2016 to complete the pedagogy training from UiO (see below).

**Pedagogy – University of Oslo (87.5% of total and mandatory pedagogy training)**

- “**The courage to teach**”, 12.5% module (**12.5 hours**; voluntary as adjunct associate professor), fall 2015.
- “**Forskningsveiledning**”, 25% module (**25 hours**; voluntary as adjunct associate professor), fall 2014.
- “**Basiskompetanse**”, 50% module (**50 hours**; mandatory part for adjunct associate professors), fall 2013.

## PHD &amp; MSC/CIV. ENG. SUPERVISION

## PhDs

- **Peter Betlem**, 2019-present, working title “*Geological and geophysical analysis of overburden for CO2 storage sites*”, University of Oslo/UNIS, **co-supervisor** (K. Senger main supervisor).
- **Khalid Syaifullah**, 2019-present, working title “”, University of Aberdeen, **co-supervisor** (A. Hurst main supervisor).
- **Vilde Dimmen**, 2017-present, working title “*Geological and geophysical properties of fault zones in carbonate rocks: from outcrop analogues to seismic imaging (SW Barents Sea and analogues)*”, University of Bergen, **co-supervisor** (A. Rotevatn main supervisor).
- **Zhihua Cui**, 2016-present, working title “*Structural imaging of subsurface structure using forward modelling petrophysics and seismic image processing*”, University of Aberdeen, **co-supervisor** (D. Iacopini main supervisor).
- **Raisya Noor Pertiwi**, 2021, “*The Frequency-Dependent Elastic Properties of Shale and Sandstone, and their Seismic Responses in Sand Injection Complex*”, University of Aberdeen, **co-supervisor** (D. Iacopini main supervisor), *thesis delivery planned summer 2021 and defense fall 2021*.
- **Kristian Jensen**, 2021, working title “*Seismic modelling and deconvolution of prestack-depth migrated images through ray-based Point-Spread Functions*”, University of Bergen, **main-supervisor**, *thesis delivery planned August 2021, defense expected December 2021*.
- **Thea Sveva Faleide**, 2021, “*Seismic imaging of faults and sedimentary systems of the Hoop region, Barents Sea – seismic facies, fault geometries and detection thresholds*”, University of Oslo, **co-supervisor** (A. Braathen main supervisor), *thesis delivered June 2021, defense expected September 2021*.
- **Bjarte Lønøy**, 2021, “*Paleokarst reservoir modelling – a concept-driven approach*”, University of Bergen, **co-supervisor** (J. Tveranger main supervisor), *defense planned for August 20<sup>th</sup>*.
- **Isabelle Masiero**, 2020, “”, University of Liverpool, **major cooperation**, with visits (P. Burgess main supervisor).
- **Simon Oldfield**, 2018, “*Addressing structural uncertainty through seismic forward modelling*”, University of Leeds, **major cooperation**, with visits both ways (D. Paton main supervisor; <https://etheses.whiterose.ac.uk/22925/>; embargoed until March 2022).
- **Honoré Dzekamelive Yenwongfai**, 2018, “*Seismic attributes and facies of the Triassic Barents Shelf*”, University of Oslo, **co-supervisor** (J. I. Faleide main supervisor). (<https://www.mn.uio.no/geo/forskning/aktuelt/arrangementer/disputaser/2018/geolofys/yenwongfai.html>)
- **Valentina Mascolo**, 2017, “*Synthetic seismic modeling of outcropping carbonate systems: an application to the Cretaceous platform margins of the Maiella Mountain (Central Apennines, Italy) and the Mount Parnassus (External Hellenids, Greece)*”, Univ. Chieti-Pescara PhD, Italia, **co-supervisor** (G. Rusciadelli main supervisor). (Thesis not available online; see Mascolo and Lecomte, 2021, as publication post thesis about the seismic modelling; see also other Mascolo publications)
- **Charlotte Botter**, 2015, “*From mechanical modelling to seismic imaging of fault zones*”, University of Stavanger, **co-supervisor** (N. Cardozo main supervisor). (<https://uis.brage.unit.no/uis-xmlui/handle/11250/2391582>)
- **Guillaume Sauvin**, 2014, “*Integrated geophysics for mapping of quick-clay landslide-prone areas in Norway*”, University of Oslo, **main supervisor**. (<https://www.duo.uio.no/handle/10852/39924>)



- **Florent Brenguier, 2003**, “*High Resolution Seismic Imaging of Volcanic Structures: How can 2D and 3D forward modelling improve survey planning and data processing*”, LGIT, Univ. Grenoble, June 2003, main research contact at NORSAR.
- Prior 2011: Scientific support to Ph.D. students at/visiting NORSAR and at UiO: e.g., **Roger Bakke** (UiB), **Renaud Laurain** (UiO/NORSAR), **Øyvind Marcussen** (UiO).

#### PhD committees

- Committee chair (UiB/GEO): **Helene M. Stemland** (2020), **Christian Kehl** (2017), **Kenneth Bredesen** (2017).
- Chairman (disputation): **Fengjiao Zhang**, “*Quantifying the Seismic Response of Underground Structures via Seismic Full Waveform Inversion Experiences from Case Studies and Synthetic Benchmarks*”, 2013, Uppsala, Sweden.
- 2<sup>nd</sup> opponent (Norway): **Karoline Bælum**, 2011, UiB/UNIS, “*Geophysical and geological investigations of subsurface reservoirs - case studies of Spitsbergen, Norway*”; **Charlotte Sanchis**, 2010, UiT, “*Signal processing techniques for the enhancement of marine seismic data*”; **Svein-Erik Måsøy**, 2004, NTNU, “*Estimation and correction of aberration in medical ultrasound imaging*”.
- Member PhD defense: **Modeste Irakarama**, 2019, “*Towards Reducing Structural Interpretation Uncertainties Using Seismic Data*”, Nancy, France; **Can Yang**, 2012, “*Time-lapse Analysis of Borehole and Surface Seismic Data, and Reservoir Characterization of the Ketzin CO2 Storage Site, Germany*”, Uppsala, Sweden; **Cédric Taillandier**, 2008, “*Formulation de la tomographie des temps de première arrivée à partir d’une méthode de gradient : un pas vers une tomographie interactive*”, ENSMP, Paris, France.

#### Postdoctoral fellows

- **Mentor**, UiO program, 1-year mentoring of 1 female postdoctoral fellow, 2013-2014.
- **Paul Lubrano Lavadera**, 2-year postdoctoral fellowship, NORSAR, 2014-2015.
- Regular cooperation with postdoctoral fellows at NORSAR over the years and at UiB since 2016, with publications as results (see publication list, e.g., **P. Lubrano-Lavadera**, **C. H. Eide**, **T. Wrona**, **A. Grippa**, etc).

#### MSc. supervision and equivalent (e.g., Civ. Eng. and French “DEA” - Degree of in-Depth Studies)

- **Lucas Correa**, 2021-2023, ongoing, working title “*A study of normal fault structure and along-strike variations, based on the northern Moab fault system, Utah and seismic data*”, co-supervisor.
- **Casper Paulsen Flæte**, 2020-2022, ongoing, working title “*Seismic imaging of fault and fault zones: insight through modelling for improved interpretation*”, **main** supervisor.
- **Kingsley Chibuzo Ofoedu**, 2020-2022, ongoing, working title “*Seismic mapping of onshore-offshore transition zones - a modelling study*”, **main** supervisor.
- **Victoria Gajos Hamre**, 2020-2022, ongoing, working title “*Syn-rift deep-water channels and lobes of the Corinth Rift: Seismic modelling of outcrops and comparison with recent deposits in the Gulf of Corinth, Greece*”, co-supervisor.
- **Ina Tårup**, 2020-2022, ongoing, working title “*Syn-rift deep-water channels and lobes of the Corinth Rift: Seismic modelling of outcrops and comparison with recent deposits in the Gulf of Corinth, Greece*”, co-supervisor.
- **Emil Lie Hansen**, 2021, UiB MSc., “*Ground penetrating radar for archaeology in Western Norway: Examples from Lyse Abbey and Fana burial mound*”, **main** supervisor.

- **Øystein Haugen Ødegård**, 2021, UiB MSc., “From outcrop to Ground Penetrating Radar images with Point-Spread Function based convolution modelling”, **main** supervisor.
- **Alma Dzozlic Bradaric**, 2020, UiB MSc., “Seismic signature and detectability of small-scale sand injectites: insights from 2D Point-Spread Function based convolution modelling”, **main** supervisor.
- **Mari Prestegård**, 2020, UiB MSc., “Controls of fault zone structure on synthetic seismic images of the Maghlaq Fault, Malta”, co-supervisor.
- **Ingvild Gabrielsen Andersen**, 2020, UiB MSc., “Effects of geophysical parameters on the seismic expression of the Maghlaq Fault, Malta: insights from outcrop-based 2D seismic modeling”, co-supervisor.
- **Mustaqim Balyesiima**, 2020, UiB MSc., “Flow Simulation and Sensitivity Analysis of Paleokarst Carbonate Reservoirs”, **main** supervisor.
- **Sondre Hagevold**, 2019, UiB MSc., “From outcrop to synthetic seismic: 2D and 3D modelling of igneous intrusions at Botneheia, central Spitsbergen”, **main** supervisor.
- **Mari Sæbø**, M., 2019, UiB MSc, “Kallskarskredet og påfølgjande tapping av Onilsavatnet – Tafjord, Møre og Romsdal”, co-supervisor.
- **Espen Friestad**, 2018, UiB MSc., “Synthetic seismic modelling of fluvial channels in the Blackhawk Formation as an analogue to the Triassic Barents Sea”, co-supervisor.
- **Thomas Jarle Grimstad**, 2018, UiB MSc., “Modelling illumination and resolution effects in seismic with a 2(3)D convolution method”, **main** supervisor.
- **Martin Kyrkjebø Johansen**, 2018, UiB MSc., “A Modelling Workflow for Seismic Characterization of Paleokarst Reservoirs”, **main** supervisor.
- **Thea Sveva Faleide**, 2017, UiO MSc., “High-resolution 3D seismic interpretation of a Lower Cretaceous delta system in the Hoop area, SW Barents Sea”, co-supervisor.
- **Malin Flesland**, 2017, UiB MSc., “Volcanic rifted margins: comparing lidar data from outcrops of Traill Ø (East Greenland) with seismic data from the conjugate Vøring Margin”, co-supervisor.
- **Ole Rabbel**, 2016, UiO MSc., “Seismic modelling of magmatic intrusions”, co-supervisor.
- **Thomas Andre Larsen Greiner**, 2016, UiO MSc., “AVO signature on broadband seismic”, Lundin, replaced Prof. L. Gelius (sick leave) as UiO supervisor.
- **Ali Joiya Ahmed**, 2014, UiO MSc., “Assessing offshore geohazards: seismic integration and velocity model building at the ICG Finneidfjord lab site, Norway”, **main** supervisor.
- **Birara Ashagrie Yilma**, 2014, UiO MSc., “Geotechnical and geophysical investigations for stability assessment, a case study at Hvitvingfoss, Norway”, co-supervisor.
- **Mesay Geletu Gebre**, 2013, UiO MSc., “Tunnel Health Monitoring using Active Seismics”, co-supervisor.
- **Juan Saez-Barrero**, 2012, UiO MSc., “Comparative study of the Nise formation seismic response between Møre and Vøring basin Case studies”, **main** supervisor.
- **Nadege Langet**, 2011, Civil Engineer in Geophysics, “Shear-wave seismic for geohazards: a case study from Trondheim harbour”, EOST, University of Strasbourg, co-supervisor.
- **Jean Letort**, 2010, Civil Engineer in Geophysics, “Fast elastic seismic inversion: from theory to software”, EOST, University of Strasbourg, confidential, **main** supervisor.

## CV – Long List - Isabelle Lecomte – 2021

- **Guillaume Sauvin**, 2010, Civil Engineer in Geophysics, "*Shear-wave seismic for geohazards: a case study from Trondheim harbour*", EOST, University of Strasbourg, **main** supervisor.
- **Junaïd Yaqoob**, 2009, UiO MSc., "*Modelling by demigration: a feasibility study*", co-supervisor.
- **Alexandra Guy**, 2008, Civil Engineer in Geophysics, "*Flexible and target-oriented Prestack Depth Migration tools: a ray-tracing approach*", EOST, University of Strasbourg, **main** supervisor.
- **Marianne Holst Nielsen**, 2008, UiO MSc., "*Structure and microseismicity of the unstable rock slide at Åknes*", Norway, co-supervisor.
- **Karl-Magnus Nielsen**, 2007-2008, UiO MSc., "*Seismic surface wave analysis for the determination of soil shear-strength in sites exposed to landslides*", co-supervisor.
- **Maxime Mouyen**, 2007, Civil Engineer in Geophysics, "*SeisRoX: case studies and tutorial*", EOST, University of Strasbourg, **main** supervisor.
- **Isabelle Thollet**, 2006, Civil Engineer in Geophysics, "*Geophysics for Glacial Hazards: the Flatbre moraine GLOF case, Norway*", EOST, University of Strasbourg, **main** supervisor and censor.
- **Sandrine Eichert**, 2006, Civil Engineer in Geophysics, "*Including noise in the Simulated Migration Method*", EOST, University of Strasbourg, co-supervisor.
- **Mael Daleau**, 2006, Civil Engineer in Geophysics, "*Shear-wave source for offshore geohazards: preliminary studies*", EOST, University of Strasbourg, **main** supervisor and censor.
- **Anne-Laure Bouillon**, 2005, Civil Engineer in Geophysics, "*Geophysics for geohazards assessment on land: technical review, user guide, application examples and advices for potential users*", EOST, University of Strasbourg, **main** supervisor and censor.
- **Matthieu Bulteau**, 2004, Civil Engineer in Geophysics, "*Controlling and correcting resolution effects in marine seismics: application to better assessment of offshore geohazards*", EOST, University of Strasbourg, main supervisor and censor.
- **Thomas Alexander Sjøberg**, 2003, "*Dekonvolving av seismiske bilder v.h.a. billedprosesseringsmetoder*", MSc in Geophysics, University of Oslo, co-supervisor.
- **Anthony Quillivic**, 2002, "*Integrating 1D modelling in commercial ray tracing software*", DESS Geosciences, IPGS, University of Paris VI, main supervisor.
- **Anne Sieminski**, 2002, "*Receiver effects in 3D seismic ray modelling*", Civil Engineer in Geophysics, EOST, University of Strasbourg, co-supervisor and censor.
- **Renaud Laurain**, 2000, Civil Engineer in Geophysics, "*From seismics to GPR. A theoretical and technical evaluation for modelling, processing and imaging*", EOST, University of Strasbourg, main supervisor and censor.
- **Renaud Laurain**, 2000, DEA Physique et Chimie de la Terre, "*Modelling Ground Penetrating Radar: from electromagnetism to seismics*", University of Strasbourg, main supervisor.
- **Philippe Pessey**, 1990, Civil Engineer in Geophysics, "*Traitement de tirs individuels ECORS à l'aide de filtrages matriciels*", EOST, University of Strasbourg, main supervisor and censor.
- **Vincent Sturny**, 1990, Research Project "*Modélisation d'atténuation par diffraction/dispersion avec code de différences finies*", Maîtrise des Sciences de la Terre, University of Strasbourg, main supervisor.
- Scientific support to MSc. students at NORSAR/UiO: **Christina Gladso Hæreid** (1995), **Heidi Olsen** (2000).

- **Censor** (internal/external) in MSc/Civ. Eng. committees : **over 40**.

#### MSc. /Civ. Eng. - shorter/summer internships

- **Karine Petrus**, 2011, "*Interpretation and modelling of SH-wave reflection seismic, Trondheim harbour*", Civ. Eng. summer job, University of Strasbourg and UiO Erasmus, main supervisor.
- **Sylvain Tissot**, 2011, Civ. Eng. summer job, fieldwork assistant, University of Strasbourg, co-supervisor with PhD candidate G. Sauvin.
- **Amandine Sergeant-Boy**, 2010, "*OhmMapper practical manual: from data acquisition to data inversion with Res2DInv software*", ICG-T1-2010-1 report, summer job, University of Strasbourg, main supervisor.
- **Guillaume Sauvin**, 2008, "*Early warning system at Rauberget: geophysical investigations*", summer job, University of Strasbourg, co-supervisor.

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#### NATIONAL/INTERNATIONAL ACTIVITIES

- **Co-editor**: "Near-Surface Geophysics" special issue, "Quantitative Geophysical Characterisation of Marine Near-Surface", 2020.
- Member of **SEG Council, Districte 7 representative** (Northern Europe), 2020-present.
- Member of **SEG Europe Regional Advisory Committee (RAC)**, 2018-2021.
- **Technical Program Officer** of the EAGE Near-Surface Geoscience Division committee, 2008-2012 and **Liaison officer** for "Near Surface Geoscience 2012", Paris.
- **Associate Editor**, Seismic Migration, Geophysics, publication of the Society of Exploration Geophysicists (SEG), 08/2004-2011.
- **Chairman**: SEG (2007), EAGE/NSG (2008, 2009, 2010, 2011, 2012, 2017, 2021), EGU (2017), NGF (2009, 2015).
- **SEG Nomination committee**: 2008-2009 (OSEG representative).
- **Co-editor**: "Interpretation" special issue, 2015; Geophysics special issue, 2008.
- **Co-convenor of workshops**: EAGE Workshop 4 "*Integrated Geosciences for Subsurface Instabilities, Offshore and Onshore*", 2012, Copenhagen; EAGE "*Subsalt-imaging*", 2009, Cairo, 2009.

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#### MEMBERSHIPS

- **Society of Exploration Geophysicist (SEG)**, associate member since 1997, active member since 2005.
- **European Association of Geoscientists and Engineers (EAGE)**, active member since 2001.
- **Oslo Society of Exploration Geophysicists (OSEG)**, associated with SEG and EAGE), funding and active member since 2005, Treasurer 2005-2006, President 2007, SEG Nomination committee 2008-2009.
- **Others (past and present)**: EGU, AGU, EEGS, NPF.

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#### HUMANITARIAN

- **Norwegian Red Cross**: refugee guide (2012-2016); local emergency preparedness guard (2012-2016).