

CURRICULUM VITAE



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Date of Birth: 15/02/1972 (FRANCE)
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Single

PhD in Marine Geosciences

DEGREES

- Dec. 2001** : PhD in Marine Geosciences at " Institut Universitaire Européen de la Mer - Université de Bretagne Occidentale" (Brest, France), highly commended;
June 1998 : DEA in Marine Geosciences at "Institut Universitaire Européen de la Mer - Université de Bretagne Occidentale " (Brest, France);
June 1997 : "Maîtrise" in Earth Sciences at "Université de Bretagne Occidentale" (Brest, France);
June 1996 : "Licence" in Earth Sciences at "Université de Bretagne Occidentale" (Brest, France);
June 1995 : "DEUG" in Earth Sciences at "Université de Bretagne Occidentale" (Brest, France);

PhD Title : Structure et Tectonique des dorsales océaniques en dôme : approche cartographique et modèles analogiques.

POST-DOCTORATE ACTIVITIES

- June 2003 – now** : Marie Curie Postdoctoral Fellowship, EUMARSAND project, Southampton University
Sep. 2002 - June 2003 : Contractual Researcher and Teacher at "Université du Maine" (Le Mans, France);
Oct. 2001 - Aug. 2002 : Contractual Researcher and Teacher at "Université de Bretagne Occidentale" (Brest, France);

SCIENTIFIC THEMES

- Brittle deformation along axis of fast spreading oceanic ridges (East Pacific Rise): analogue modelling and quantitative studies from bathymetric data;
- Processes of accretion of slow spreading centers in context of high magma budget (North Fiji Basin spreading centers) : structural studies from bathymetry and sidescan sonar data;
- Extraction of tectonic, eustatic and gravitary informations from bathymetry of coastal areas;
- In-land neotectonic activity related to the Chile Ridge active subduction (Participation in French-Chilean program "ECOS-Sud");
- Conditions of formation of grabens and collapse structures at the surface of Mars;

SKILLS : Structural Geology, Marine Geophysics, Cartography, Bathymetry and seafloor reflectivity processing, Marine Neotectonics, Brittle Tectonics, Analogue modelling, Rheology.

ADVANCED NOTIONS : Geomorphology of coastal areas, In-land Neotectonic Activity, Remote Sensing.

SCIENTIFIC MISSIONS

Cruises:

- ANDINAUT (21/02 - 01/04/1999, R.V. Atalante, IFREMER) : Bathymetric recognition, Dives with submersible "NAUTILE", dredging, Seismic acquisition (OBS) and Core Boring in the Perou Trough ;
- ALAUF1 (26/02 - 12/03/2000, R.V. Atalante, IFREMER) : reconnaissance bathymétrique, imagerie acoustique et dragages dans le Sud-Ouest Pacifique ;
- PALEOPENTE (5-17/02/2002, R.V. Alis, IRD): Bathymetric recognition, seafloor acoustic imagery and dredges along the external slope of the New-Caledonia reef (SW Pacific).

Other Missions:

- Chile (7-24/12/1998, Collaboration to program "ECOS-Sud" with Y. Lagabrielle, DR1 CNRS): In-Land Neotectonic Study, North Patagonia.
- New-York, at Lamont Doherty Earth Observatory (October to December 1999, collaboration with M. Cormier (Researcher at Columbia University) : Compilation of bathymetric data.
- Matthews and Walpol Islands (SW Pacific, 3-7 April 2000, collaboration with IRD) : Installation of GPS receivers.
- Nouméa, New-Caledonia (April 2000, October 2000, March 2001, March 2002): Processing of acoustic data from the ALAUF1 and PALEOPENTE cruises.

ADMINISTRATIVE RESPONSABILITIES

- Organization of Seminars at "Brest" and "Le Mans" Universities ;
- Management of CNRS funds at the "Laboratoire de géodynamique des Rifts et Marges passives (Université du Maine, Le Mans)".

TEACHING

- Geodynamics and Tectonics, Applied Geology ; Geochronology; Natural Hazards; Paleontology; Geophysics; Cartography.
- Field Trips: Structural Geology, Cartography, Tectonics and Paleoenvironments.

LANGUAGE SKILLS

French, English, Spanish

COMPUTING

Operating Systems : Unix, Linux, Windows, Mac OS;

Mastered Softwares : Caraïbes TR and TD, Neptune, Adobe Illustrator, Generic Mapping Tool, Pack Microsoft Office, XLAB, Surfer, Digger, PCI Works.

SCIENTIFIC PUBLICATIONS

International Publications:

- Lagabrielle, Y., Garel, E., Dauteuil, O. and Cormier, M.H., 2001. Extensional faulting and caldera collapse in the axial region of fast spreading ridges: Analog modeling, J. Geophys. Res., 106: 2005-2015.
- Pelletier, B., Lagabrielle, Y., Benoit, M., Cabioch, G., Calmant, S., Garel, E. and Guivel, C., 2001. Newly identified segments of the Pacific-Australia plate boundary along the North Fiji Transform Zone, Earth Planet. Sci. Lett., 193, 347-358.
- Garel, E., Dauteuil, O. and Lagabrielle, Y., 2002. Deformation Processes at fast to ultra-fast oceanic spreading axes: mechanical approach, Tectonophysics, 346, 223-246.
- Garel, E., and Lagabrielle, Y., Axial topography of slow-spreading centers in the northern North Fiji Basin : high amplitude variations related to variable magma budget in a back-arc setting. Submitted to Marine Geology.
- Mège, D., Cook, C.C., Garel, E. and Lagabrielle, Y., Volcanic rifting of martian grabens, in press, Jour. Geophys. Res.

Other Publications :

- Garel, E., 1998. Modélisation analogique de l'évolution volcano-tectonique de l'axe de la dorsale ultra-rapide du Pacifique, DEA, Université de Bretagne Occidentale, pp. 79.
- Garel, E., 2001. Structure et tectonique des dorsales océaniques en dôme : approche cartographique et modèles analogiques, Thesis, Université de Bretagne Occidentale, pp. 308.
- Pelletier B., Lagabrielle Y., Benoît M., Cabioch G., Calmant S., Garel E., Guivel C. and Perrier J., Février 2001. Newly Discovered Active Spreading Centers, North Fiji Transform Zone, Ridge Events, 11(1) : 7-9.

Congress Communications :

- **Oral :** (The name of the speaker is indicated in bold)
- **Garel, E.**, Lagabrielle, Y., Bourgois, J., and Suarez, M., 1999. Lake General Carrera (south Chile – 46°30'S) : a recent transverse rift zone in the patagonian andean belt, congress "Lennou", Brest, oral 29.
- **Garel, E.**, Dauteuil, O. and Lagabrielle, Y., Novembre 1999. Deformation processes in the axial region of the East Pacific Rise : analog modelling, Lamont Doherty Earth Observatory, New-York.
- **Garel, E.**, Dauteuil, O. and Lagabrielle, Y., Décembre 1999. Processus de déformation à l'axe de la dorsale rapide à ultra-rapide Est Pacifique (EPR) : modélisation analogique, Laval University, Québec.
- **Mège, D.**, Lagabrielle, Y., Garel, E., Cormier, M. H., and Cook, A. C., February 2000. Collapse features and narrow grabens on Mars and Venus : the role of dike emplacement and deflation of underlying magma chamber, LPSC, Houston.
- **Garel, E.**, Dauteuil, O. and Lagabrielle, Y., Février 2000. Modélisation analogique des processus de déformation à l'axe de la dorsale Est-Pacifique, Seminar, Institut Universitaire Européen de la Mer, Brest.
- **Garel, E.**, Lagabrielle, Y., and Pelletier, B., Avril 2001. The origin of the dome-shaped spreading centers in the evolved North Fiji back-arc basin : a new type of oceanic accretion ?, E.U.G. XI, Strasbourg.
- **Mege D.**, Cook T, Garel E., Lagabrielle Y, Cormier M.-H, 2002. Surface collapse and volcanic rifting on mars, Lunar Planet. Sci. Conf. XXXIII, Texas, Houston, Lunar and Planetary Institute, CD-ROM, 2042.pdf.
- **Garel, E.**, Morphologie et structure des dorsales océaniques, 5 Avril 2002. Lecture "MAGMA", Paul Sabatier University, Toulouse.
- **Garel E.**, Lagabrielle Y., Pelletier B., Avril 2002. L'origine des dorsales en dôme du nord du bassin Nord-fidjien : un nouveau type d'accrétion océanique, Réunion des Sciences de la Terre, Nantes.
- **Mège, D.**, Cook, A.C., Garel, E., Lagabrielle, Y., Cormier, M.H., 2003, Volcanic rifting on Mars. Royal Astronomical Society/Geological Society of London, Planetary Volcanism Meeting, November 14th, 2003.

- Posters:

- Garel, E., Dauteuil, O, and Lagabrielle, Y., Décembre. 1999. Deformation processes in the axial region of the East Pacific Rise : analog modelling, A.G.U., San Francisco.
- Pelletier, B., Lagabrielle, Y., Benoit, M., Cabioch, G., Calmant, S., Garel, E., Guivel, C., and Perrier, J., Septembre 2000. Découverte d'un système d'accrétion actif le long de la frontière de plaque Australie-Pacifique (région Nord-Fidji et TOM de Wallis et Futuna) : Premiers résultats de la campagne ALAUF1 du N.O. l'Atalante (Février-Mars 2000), Seminars "Dorsales", Roscoff.
- Garel, E., Lagabrielle, Y, and Dauteuil, O., Septembre 2000. Modélisation analogique des processus de déformation à l'axe des dorsales rapides à ultra-rapides, Seminars "Dorsales", Roscoff.
- Mege D., Cook A. C., Lagabrielle Y., Garel, E and Cormier M.H., 20-21 Décembre 2000. Rifting volcanique et effondrements gravitaires sur Mars, INSU/ATI Symposium, CNRS, Paris.
- Garel, E., Dauteuil, O, and Lagabrielle, Y., Avril 2001. Deformation processes at fast to ultrafast oceanic ridges: analog modelling constrains, E.U.G. XI, Strasbourg.

Reports :

- Pelletier B., Lagabrielle Y., Benoit M., Boda M., Cabioch G., Calmant S., Garel E., Guivel C. and Perrier J., 2000 - Alaufi Cruise, R.V. Atalante, 29 February - 17 march 2000. Rapports de missions, Science de la Terre, Géologie-Géophysique, Centre IRD de Nouméa, n°42, 95 p.
- Cabioch G., Pelletier B., Bore J.-M., Gallois F., Garel E., Leroy P., 2002 –PALEOPENTE Cruise. Cartographie multifaisceaux et dragages des pentes du récif barrière Ouest et Nord de Nouvelle- Calédonie. Rapports de missions, Science de la Terre, Géologie-Géophysique, Centre IRD de Nouméa, N°46, 19 p. + apendix.

Other activities :

Compilation of bathymetric data (East Pacific Rise) and realization of maps for diffusion on Internet: INSU project " Banque de Donnée DORSALES ", 2000.
(<http://www.ifremer.fr/sismer/program/dorsale/>).