

Aurélie GERMA

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Volcanology, Geochronology, Geochemistry

Professional experience

Research

- 03/11 – 05/11** **Research assistant**, Science Center, University of South Florida, Tampa, USA.
Magmatism of San Rafael Swell, Utah
- 11/10 – 03/11** **Post-doctoral fellow**, CICESE, Ensenada, BC, Mexico.
Spatial distribution of monogenetic volcanoes in Central Baja California, Mexico
- 10/10** **Voluntary research assistant**, Department of Geology, University of South Florida, Tampa, USA.
Rock crushing for geochemical analyses
- 09/08 – 08/10** **Teaching and Research Assistant**, Univ. Paris-Sud XI, Orsay, France.
155h of teaching & 175h of field work with undergraduate students.
Earth Sciences principles, geologic mapping, petrology, tectonics, magmatism, volcanism, sedimentology. Research on the recent volcanism of Martinique Island.

Field work

- 07/11** **Merapi, Java, Indonesia.**
Stratigraphy of the October - November 2010 eruption in the Gendol River.
- 06/11** **San Rafael Swell, Utah.**
Two weeks. Sampling of magmatic rocks.
- 2006 – 2009** **Martinique Island, Lesser Antilles.**
Three field campaigns. Hand-size blocks sampling from massive lava domes and lava flows
- 08/07** **Merapi, Java, Indonesia.**
Stratigraphy of the June 2006 eruption in the Gendol River.

Education

- 2005 - 2008** **PhD • Volcano-tectonic evolution of Martinique Island (Lesser Antilles Island arc): new geochronological and geomorphological constrains.**
Obtained with First Class Honours, December 4th 2008. Supervisor: Pr. Quidelleur, X.
Laboratoire de Géochronologie Multi-Techniques (LGMT), Univ. Paris XI, Orsay (France).
- 2004 – 2005** **Master 2 Research (5th year).**
Volcanic Environments; Univ. Paris XI, Orsay (France).
Research project: “*Volcanic and magmatic evolution of Payun Matru Volcanic Field (Argentina)*”.
- 2003 – 2004** **Master’s degree (equivalent to M.Sc., 4th year).**
Earth Sciences, course Volcanology; Univ. Blaise Pascal, Clermont-Ferrand (France).
Research project: “*Characterizing the seismic frequency of volcanic units using induced vibrations*”.
- 2002 – 2003** **Licence (equivalent to B.Sc., 3rd year).**
Earth Sciences, course Volcanology; Univ. Blaise Pascal, Clermont-Ferrand (France).
- 2000 – 2002** **DEUG (Undergraduate, 1st and 2^d years of university).**
Earth and Planetary Sciences; Univ. Paul Sabatier, Toulouse (France)
- Academic fieldworks**
- 2000 – 2005** **Mapping, stratigraphy and structure of volcanic, sedimentary and metamorphic provinces**
France (Auvergne, Pyrenees, Ardèche), Spain (Cap de Creus), Italy (Bay of Naples, Aeolian Islands)

Publications

- A. Germa**, X. Quidelleur, S. Labanieh, C. Chauvel and P. Lahitte. *The volcanic evolution of Martinique Island: insights from K-Ar dating into the Lesser Antilles arc migration since the Oligocene*. Revised version submitted to Journal of Volcanology and Geothermal Research.
- A. Germa**, X. Quidelleur, P. Lahitte, S. Labanieh and C. Chauvel. *The K-Ar Cassinot-Gillot technique applied to western Martinique lavas: A record of the evolution of the recent Lesser Antilles island arc activity from 2 Ma to Mount Pelée volcanism*. Quaternary Geochronology 6 (2011), Issue 3-4, pp 341-355.
- A. Germa**, X. Quidelleur, S. Labanieh, P. Lahitte and C. Chauvel. *The eruptive history of Morne Jacob volcano (Martinique Island, French West Indies): geochronology, geomorphology and geochemistry of the earliest volcanism in the recent Lesser Antilles arc*. Journal of Volcanology and Geothermal Research 198 (2010), Issue 3-4, pp 297-310.
- S. Labanieh, C. Chauvel, **A. Germa**, X. Quidelleur and E. Lewin. *Isotopic hyperbolae constrain sources and processes under the Lesser Antilles arc*. Earth and Planetary Science Letters 298 (2010), Issues 1-2, pp 35-46.

- A. Germa**, X. Quidelleur, P.-Y. Gillot and P. Tchilinguirian. *Volcanic Evolution of the back-arc Pleistocene Payun Matru Volcanic Field (Argentina)*. Journal of South American Earth Sciences 29 (2010), pp 717-730.
- X. Quidelleur, J. Carlut, P. Tchilinguirian, **A. Germa** and P.-Y. Gillot. *Paleomagnetic directions from mid-latitude sites in the southern hemisphere (Argentina): Contributions to Time Average Field models. Physics of the Earth and Planetary Interiors 172 (2008), pp 199-209.*

Conference abstracts

- A. Germa** and E. Cañon-Tapia. Statistical analysis of eruptive vent distribution from post-subduction monogenetic fields in Baja California, Mexico. Oral presentation at IUGG General Assembly, 28 June - 7 July 2011, Melbourne, Australia.
- A. Germa**, P. Lahitte and X. Quidelleur. Geomorphological reconstruction applied to the recent volcanoes in Martinique Island (Mount Conil and Mount Pelée). Oral presentation at IUGG General Assembly, 28 June - 7 July 2011, Melbourne, Australia.
- A. Germa**, X. Quidelleur, A. Samper and V. Rouchon. Preservation of inherited argon in plagioclase and implication for residence time after reservoir remobilization: a case study of Central Lesser Antilles Islands. Poster presentation at IUGG General Assembly, 28 June - 7 July 2011, Melbourne, Australia.
- A. Germa**, X. Quidelleur, P. Lahitte, S. Labanieh and C. Chauvel. Evolution of the Lesser Antilles arc since the Oligocene inferred from K-Ar dating and geochemical analyses of Martinique Island lavas. Poster presentation at IUGG General Assembly, 28 June - 7 July 2011, Melbourne, Australia.
- A. Germa**, Quidelleur X., Lahitte P., Labanieh S. and Chauvel C. *K-Ar dating of Martinique island: A record of Lesser Antilles arc activity since the Oligocene*. Abstract 25 presented at 2011 Soufrière Hills Volcano 15 Years On Conference, MVO, Montserrat; W.I., 4-8 April 2011. Oral presentation.
- A. Germa**, Lahitte P., Quidelleur X. *Geomorphological reconstruction applied to the recent volcanoes in Martinique Island (Mount Conil and Mount Pelée)*. Abstract 35 presented at 2011 Soufrière Hills Volcano 15 Years On Conference, MVO, Montserrat; W.I., 4-8 April 2011. Poster presentation.
- A. Germa**, Lahitte P. and Quidelleur X. *DEM-based palaeotopography reconstructions and evolution through time of the recent volcanoes in Martinique Island (Mount Conil and Mount Pelée)*. Geophysical Research Abstracts, vol. 13, EGU General Assembly 2011, Vienne, Autriche. Poster presentation.
- A. Germa**, Quidelleur X., Lahitte P., Labanieh S., & Chauvel C. (2010). *Volcano-tectonic evolution of Martinique Island (Lesser Antilles Island arc): new geochronological, geomorphological and geochemical constraints*. in Volcanic and Magmatic Studies Group, 2010 Winter Meeting, Glasgow.
- A. Germa**, Quidelleur X., Rouchon V. & Samper A. (2010). *Preservation of inherited argon in plagioclase and implication for residence time after reservoir remobilization: a case study of Central Lesser Antilles Islands*. in Volcanic and Magmatic Studies Group, 2010 Winter Meeting, Glasgow.
- Labanieh S., Chauvel C., **A. Germa**, Quidelleur X. Why are Martinique lavas so heterogeneous? Goldschmidt 2009, Geochimica et Cosmochimica Acta 73, 13S, pp. A712.
- A. Germa**, Quidelleur X., Labanieh S., Lahitte P., and Chauvel C. (2008). *Reconstruction of Morne Jacob Volcano evolution (Martinique, French Lesser Antilles) deduced from K-Ar dating and geochemical data*. IAVCEI General Assembly, Understanding Volcanoes. August 2008. Reykjavik.
- Labanieh S., C. Chauvel, **A. Germa** and X. Quidelleur (2008). *Two isotopic mixing lines in Martinique Island: The effect of ridge subduction*. Geochimica Et Cosmochimica Acta 72(12): A509-A509. Goldschmidt, Vancouver.
- Labanieh S., Chauvel C., **A. Germa**, Quidelleur X. Variations temporelles de la composition chimique des laves de la Martinique. Réunion des Sciences de la Terre, 2008.
- A. Germa**, Quidelleur X., Labanieh S. and Chauvel C.(2007). *New K/Ar ages on Martinique Island: A Record of the Lesser Antilles Island Arc Evolution*. in Eos Trans. AGU, Fall Meet. Suppl., 88 (52), Abstract T13C-1467. 2007. San Francisco.
- A. Germa**, Quidelleur X., Labanieh S. and Chauvel C.(2007). *Temporal evolution and migration of volcanism in Northern Martinique Island (Lesser Antilles, French West Indies)*. in IUGG XXIV General Assembly, JSW001, Abstract 2399. 2007. Perugia.
- A. Germa**, Quidelleur X., Gillot P.-Y. and Tchilinguirian P.(2007). *Volcanic evolution of the back-arc complex of Payun Matru (Argentina) and its geodynamic implications for caldera-forming eruption in a complex slab geometry setting*. in IUGG XXIV General Assembly, VS007, Abstract 6760. 2007. Perugia.
- A. Germa** and Quidelleur X.(2007). *Evolution of the northern volcanism of Martinique Island (French West Indies)*. in Volcanic and Magmatic Studies Group, 2007 Winter Meeting, Abstract P51. Oxford.
- Carlut J., Quidelleur X., **A. Germa**, Gillot P.-Y. and Tchilinguirian P.(2006). *New Paleomagnetic results from Pleistocene and Holocene extrusives from Argentina: contribution to Time averaged field models*. in Eos Trans. AGU, Fall Meet. Suppl., 87 (52), Abstract GP21B-1309. 2006. San Francisco.