Vivien Pianet

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29 year old, French
Married, two children

Scientific Computing Research Engineer

Education

- **2011-2014 :** PhD degree in Physical Chemistry. (University of Bordeaux, France)
- **2009-2011 :** Masters degree in Fundamental and Applied Physical Chemistry. (University of Bordeaux, France)
- **2007-2009 :** Bachelors degree in Physical and Chemical Sciences. (University of Bordeaux, France)
- **2006-2007 :** 1-year university-level program specialized in physics. (Lycée Gustave Eiffel, Bordeaux, France)
- **2006:** Baccalauréat with honors (French equivalent to high-school degree). (Lycée Elie Vinet, Barbezieux, France)

Skills and Scientific Training

- Management of a theoretical and experimental research project.
- Analytical and numerical modeling (Fortran, Scilab, C++, Python) in physical chemistry and applied mathematics for oncology.
- Numerical processing (C++, Python) of medical images (MRI, CT-Scan) for the study and the modeling of physical and biological properties in oncology (Tumor growth, Response to treatment).
- Implementation and Management of databases (SQL, C-interface for SQL).
- Development of prototype-level graphical interfaces (PyQt).

Scientific interests

- Medical image processing, tumor growth, analytical modeling, numerical simulations, thermodynamics.

Professional Activity

Current Position

- **Since February 2017 :** Research and maturation engineer funded by Inria and SATT.

Institutions : INRIA Bordeaux Sud Ouest, Talence, France.
Institut de Mathématiques de Bordeaux (IMB), Talence, France.

Team : Modeling in Oncology (MONC) (*Team leader* : Dr. Hab. O. Saut).

Project : Creation of the Start-Up Nénuphar: a software suite for a better patient care plan in oncology.

Previous Positions

- **February 2015 - February 2017 :** Scientific computing research engineer funded by Excellence Initiative (Idex).

  Institutions : Institut de Mathématiques de Bordeaux (IMB), Talence, France.
  INRIA Bordeaux Sud Ouest, Talence, France.

  Team : Modeling in Oncology (MONC) (*Team leader* : Pr. T. Colin / Dr. Hab. O. Saut).

  Project : Prediction and simulation of intracranial tumor growth from medical imaging.

- **September 2011 – December 2014 :** PhD candidate and teaching assistant funded by French Ministry of Higher Education and Research (MESR).

  Institutions : Centre de Recherche Paul Pascal (CRPP), Pessac, France.
  Institut de Mathématiques de Bordeaux (IMB), Talence, France.

  Teams : Molecular Materials & Magnetism (M_3) (*Team leader* : Dr. Hab. R. Clérac).
  Modeling, Control and Computations (MC2) (*Team leader* : Pr. T. Colin).

  Supervision : Pr. C. Coulon, Pr. T. Colin.

  Thesis : "Static and Dynamic properties of Single Chain Magnets". Defended on the 2nd of December 2014.

  Research : Theoretical study of Single Chain Magnets via analytical and numerical methods. Magnetic static and dynamic properties measurements on powder and single crystal of Single Chain Magnets in the presence of an applied magnetic field.

  Teaching : Laboratory (Chemistry in solution) and tutorial (Thermodynamics and Theoretical Chemistry) classes for 1st, 2nd and 3rd year students in Bachelors of Chemistry and Material Sciences (University of Bordeaux, France, 192 hours).

- **January - July 2011 :** 2nd year Masters degree internship, Centre de Recherche Paul Pascal, Pessac, France.
  Team : Molecular Materials & Magnetism (M_3) (*Team leader* : Dr. Hab. R. Clérac).
  Supervision : Pr. C. Coulon.
  Project : Theoretical study on dynamic properties of Single Chain Magnets for high-density data storage.
- **May – July 2010 :** 1st year Masters degree internship, Centre de Recherche Paul Pascal, Pessac, France.
  Team : Molecular Materials & Magnetism (M_3) (*Team leader* : Dr. Hab. R. Clérac).
  Supervision : Pr. C. Coulon.
  Project : Theoretical study on static properties of Single Chain Magnets for high-density data storage.
- **May - July 2009 :** 3rd year Bachelors degree internship, Institut des sciences moléculaires, Talence, France.
  Team : Molecular Spectroscopy Group (MSG) (*Team leader* : Pr. V. Rodriguez).
  Supervision : Dr. A. Desmedt, Pr. F. Castet.
  Project : Second harmonic generation in inclusion compounds for information delivery.

Communications

- **7 July 2016 :** TRAIL 4th Scientific Day, "Prediction and simulation of intracranial tumor growth from medical imaging: the case of meningiomas ", Bordeaux, France, **oral communication and poster**, **V. Pianet**, T. Colin, H. Loiseau, J. Joie, J.-P. Lafourcade, G. Kantor, B. Taton, O. Saut. **Winner of the poster prize**.
- **7-8 April 2016 :** Statistical and biomathematical Models for imaging in cancer, "Prediction and simulation of intracranial tumor growth from medical imaging: the case of meningiomas ", Bordeaux, France, **poster**, **V. Pianet**, T. Colin, H. Loiseau, J. Joie, J.-P. Lafourcade, G. Kantor, B. Taton, O. Saut. **Winner of the poster prize**.
- **5-6 November 2015 :** 11èmes Journées Cancéropôle Grand Sud-Ouest, "Prediction and simulation of intracranial tumor growth from medical imaging: the case of meningiomas ", Talence, France, **poster**, **V. Pianet**, T. Colin, H. Loiseau, J. Joie, J.-P. Lafourcade, G. Kantor, B. Taton, O. Saut.
- **10-12 December 2013 :** 2èmes Journées Scientifiques du Groupement de Recherche Magnétisme et

Commutation Moléculaires (GdR MCM2), "Single Chain Magnets : Slow relaxation of the magnetization", Dourdan, France, **oral communication and poster**, **V. Pianet**, T. Colin, C. Coulon.

- **11-12 October 2013 :** Satellite Workshop on Magnetic Anisotropy, "Single Chain Magnets : Slow relaxation of the magnetization", Karlsruhe, Germany, **poster**, **V. Pianet**, T. Colin, C. Coulon.
- **6-10 October 2013 :** 4th European Conference on Molecular Magnetism (ECMM2013), "Single Chain Magnets : Slow relaxation of the magnetization", Karlsruhe, Germany, **poster**, **V. Pianet**, T. Colin, C. Coulon.
- **15-19 October 2012 :** 13èmes Journées Francophones des Jeunes Physico-Chimistes (JFJPC13), "Single Chain Magnets : Slow relaxation of the magnetization", Dinard, France, **oral communication**, **V. Pianet**, T. Colin, C. Coulon.

Publications

- "Magnetic tetrastability in a spin chain", **V. Pianet**, M. Urdampilleta, R. Clérac, C. Coulon, *Physical Review B,* **94**, 054431 (2016).
- "Single-Chain Magnets and Related Systems", C. Coulon, **V. Pianet**, M. Urdampilleta, R. Clérac, *Structure and Bonding,* **164**, 143 (2015) Springer Berlin Heidelberg.
- "Static and dynamic properties of Single-Chain Magnets with sharp and broad domain walls", O. V. Billoni, **V. Pianet**, D. Pescia, A. Vindigni , *Physical Review B*, **84**, 064415 (2011).

References

- **Pr. T. Colin :** Institut de Mathématiques de Bordeaux, 351 cours de la Libération, 33405 Talence, France.
  Tel : (+33)5 40 00 21 20. E-mail : colin@math.u-bordeaux1.fr

- **Dr. Hab. O. Saut :** Institut de Mathématiques de Bordeaux, 351 cours de la Libération, 33405 Talence, France.
  Tel : (+33)5 40 00 21 12. E-mail : olivier.saut@math.u-bordeaux1.fr

- **Pr. C. Coulon :** Centre de Recherche Paul Pascal, 115 av. Dr. Schweitzer, 33600 Pessac, France.
  Tel : (+33)5 56 84 56 50. E-mail : coulon@crpp-bordeaux.cnrs.fr

- **Dr. Hab. R. Clérac :** Centre de Recherche Paul Pascal, 115 av. Dr. Schweitzer, 33600 Pessac, France.
  Tel : (+33)5 56 84 56 50. E-mail : clerac@crpp-bordeaux.cnrs.fr

- **Dr. A. Desmedt** : Institut des Sciences Moléculaires, 351 cours de la Libération, 33405 Talence, France.
  Tel : (+33)5 40 00 29 37. E-mail : a.desmedt@ism.u-bordeaux1.fr