Christine BAKHOUS, INRIA Grenoble Rhône-Alpes
Researcher in applied statistics to brain imaging
Available from November 2013

Born 09/09/1985, *Nationality: French, driving licence B*

Cell: 06 49 46 57 37 ***Tel***: 04 76 00 13 53

christine.bakhous@inria.fr

Website: http://christine.bakhous.pagesperso-orange.fr

Education

2010-2013	**Phd in Applied Mathematics** « Model selection of brain activity in functional MRI: stochastic and variational approaches ». Joseph Fourier University, MSTII doctoral school, Grenoble (France).
2009-2010	**Master of science II** Science, Technology, Health « Electronics and Telecommunications », SISEA (**IMAGE** processing), (average mark 15.47/20, ranking 2/39). Télécom Bretagne, Brest (France).
2004-2009	**Engineer in Electronics and Telecommunications** (average mark 16.44/20, ranking 2/99). Damascus University (SYRIA).
2004	Scientific High School Diploma (18.91/20). Damascus (SYRIA).

Work Experience

2010-2013	**Multidisciplinary collaborative project** « Model selection of brain activity in functional MRI: stochastic and variational approaches ». MISTIS-INRIA/CEA/GIN (Grenoble Institute of Neurosciences), Grenoble (France).
2011-2013	**Teaching (128h)**: Statistical methods to biology (second year), Elementary algebra and geometry (first year). Joseph Fourier University, IM2AG Faculty, Grenoble (France).
2012	Doctorial Project (8-person group, duration 1.5 days) « Study of a solar table realization (design, budget, market access, turnover and profits). Price feasibility.
2009-2010	MsC thesis (6 months) « Estimation of respiratory movements using the elastic **Optical Flow registration** ». Team « Quantitative multimodality imaging for diagnosis and therapy », LaTIM « Laboratory of medical information processing », Brest (France).
2009-2010	MsC research project « Frequent patterns mining by **random projection techniques** ». Télécom Bretagne, Brest (France).
2009	Internship (1 month) « Mathematical modeling of each BTS profit ». Company « SyriaTel » RNP department (Radio Network Performance). Damascus (SYRIA).
2008-2009	Final project assignement (4-person group) « Simulation of a radio channel in the GSM mobile phone system ». Damascus University (SYRIA).

Skills/Languages

- Bayesian inference, modeling and statistical signal and image processing, Classification, Markov Chain Monte Carlo, Variational approximation methods (VEM), Medical imaging techniques (fMRI,PET/CT), Algorithms, Software development in python (PyHRF: pyhrf.org)
- Matlab, C/C++, Python, VTK, SPM, LaTeX
- Adaptability, ability to learn, pedagogy, organizational skills, teamwork
- Participation in the organization of Jean Kuntzmann centenary (14/12/2012)
- **Arabic** (mother tongue), **French** (bilingual), **English** (B1)

Acitivies/Interests

- Swimming, Reading (novels)
- PSC1: Prevention and Civil Emergency Level 1

Publications

International Conferences :

- C. Bakhous, F. Forbes, T. Vincent, M. Dojat and P. Ciuciu: « Variational variable selection to assess experimental condition relevance in event-related fMRI », IEEE 10^{th} International Symposium on Biomedical Imaging (ISBI), San francisco, California, US, 4p., Apr 7-11, 2013 (Oral presentation).
- C. Bakhous, F. Forbes, T. Vincent, L. Chaari, M. Dojat and P. Ciuciu: « Adaptive experimental condition selection in event-related fMRI », IEEE 9^{th} International Symposium on Biomedical Imaging (ISBI), Barcelona, Spain, 4p., Mai 2-5, 2012, page(s) 1755-1758 (Oral presentation).
- H. J. Fayad, C. Bakhous, T. Pan and D. Visvikis: «Optical Flow Vs Bspline Image Registration for Respiratory Motion Modeling», IEEE Nuclear Science Symposium and Medical Imaging Conference, California, US, Oct 29 - Nov 3, 2012 (Poster).

National Conferences :

- C. Bakhous, F. Forbes, F. Enikeeva, T. Vincent, M. Dojat et P. Ciuciu: « Analyse parcimonieuse des données d'IRM fonctionnelle dans un cadre Bayésien variationnel », Journées de Statistique de la Société Française de Statistique (SFdS), Toulouse, France, 6p., May 27-31, 2013 (Submitted).
- C. Bakhous, F. Forbes, T. Vincent, L. Chaari, M. Dojat et P. Ciuciu: "Selection de variables dans un cadre Bayésien de traitement de données d'IRM fonctionnelle", Journées de Statistique de la Société Française de Statistique (SFdS), Brussels, Belgium, 6p., May 21-25, 2012 (Oral presentation).

Journal article :

- C. Bakhous, F. Forbes, T. Vincent, F. Enikeeva, M. Dojat and P. Ciuciu: « Variational inference of sparse modeling of evoked brain activity in functional MRI » next submission to IEEE Trans on Medical Imaging.