**François-Benoît VIALATTE**
Date of birth: 05/09/1979.
Nationality: French
**E-mail**: fvialatte@brain.riken.jp
http://www.bsp.brain.riken.jp/~fvialatte/

# Education

**2002-2005**
- **PhD in cognitive neurosciences**

Paris VI University UPMC*
**Two PhD supervisors**: Prof. G.Dreyfus, Prof. R. Gervais.
**defense of thesis:** December 16th, 2005

**2001-2002**
- **Master's degree of cognitive sciences**

Paris VI University UPMC - Internship in Laboratoire d'Électronique of ESPCI
- **Engineer diploma : Master's degree in computer science**

Third engineering year in Epita engineering school (Paris)
Computational Intelligence specialization (www.epita.fr/en).

*Academic Ranking of World Universities 2004-2008 (http://ed.sjtu.edu.cn/ranking.htm): 1st French university

# Research experience

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|---|---|
| **Feb. 2006-currently** | Research Scientist in Riken Brain Science Institute (Japan). Laboratory for Advanced Brain Signal Processing. (http://www.bsp.brain.riken.jp/). Supervisor: Dr. Cichocki. |
| **Oct.-Dec 2005** | Research Scientist in ESPCI (France). Laboratoire d'Électronique of ESPCI (www.neurones.espci.fr). Supervisor: Pr. Dreyfus |
| **Jan.-Feb 2005** | One month Internship in Riken Brain Science Institute (Japan). Laboratory for Advanced Brain Signal Processing. (http://www.bsp.brain.riken.jp/). Supervisor: Dr. Cichocki. |
| **Feb. 2000 – Mars 2001** | Research director for Essilab SA (France). Co-creator of Essilab SA Company ("virtual town" reconstitution.) |
| **Oct. 1999 – May 2000** | Adjunct professor (computer programming), Epita engineering school (Paris). |

# Administratives

**Editor**
Associate editor of "Computational Intelligence and Neuroscience" (2008-now)
**Review board**
Computational Intelligence and Neuroscience (2006-now)
IEEE Transactions on Biomedical Circuits and Systems (2007-now)
IEEE Transactions on Neural Systems and Rehabilitation Engineering (2008-now)
Computer Methods and Programs in Biomedicine (2008-now)
Advances in Artificial Neural Systems (2009-now)
MICAI conference (2008-now), EMBC conference (2009-now),
KES conference (2009-now), ICCN conference (2009-now)
Session chair: ICONIP2008, ICCN2009, BioSigs2010.
**Academic societies memberships**
APNNA - Asia-Pacific Neural Network Assembly (2006-now)
YEBN - Young European Biotech Network (2006-now)
INCF - International Neuroinformatics Coordinating Facility (2009-now)
OCNS - Organization for Computational Neurosciences (2009-now)
**Grants**
French Ministry of Research, MENESR scholarship. FY2002-2005, Principal Investigator. 64,200 euros.

# Skills, activities and interests

- **Languages**: French, English, Japanese (passed J.L.P. Test level 3 in 2006).
- **Computer programming** (C/C++, Matlab, Delphi; Java and Lisp notions)
- **Computational intelligence**: signal processing, sparse bump modeling, wavelets, neural networks, ICA, HMM, SVM, multiway analysis.
- **Experimental**: EEG and fMRI experiment design and recording, ECG (holter).
- **Science**: cognition, machine learning, brain imaging & brain signals.
- **Sports**: trekking, martial arts (karate, aikibudo, kendo).
- **Simulation and strategy:** as an example igo game (1 Kyu Japanese level).
- Former **Vice-President** of Cognivence (cognivence.free.fr): organization of the third "*cognitive science laboratories* forum", 02/04/2004 in Paris, Cité Universitaire (cognivence.free.fr/projets/forum2004).
- Driving licence (French and Japanese). CMAS Diver license. First-aider license (French).

# Recent publications

PhD title: Relevant oscillatory patterns modeling and analysis, within activity of neuronal populations, observed for animals and humans, involved in a cognitive task (translated from the French title : « Analyse et modélisation des motifs oscillatoires reproductibles dans l'activité de populations neuronales chez l'animal et chez l'homme »)

journal papers

* **Vialatte** F.B., Maurice M., Dauwels J., Cichocki A. Steady-State Visually Evoked Potentials: Focus on Essential Paradigms and Future Perspectives. Progress in Neurobiology, accepted.
* Dauwels J., **Vialatte** F.B., Musha T., Cichocki A. A comparative study of synchrony measures for the early diagnosis of Alzheimer's disease based on EEG. Neuroimage, 2010, 49:668-693.
* Dauwels J., **Vialatte** F.B., Cichocki A. A comparative study of synchrony measures for the early diagnosis of Alzheimer's disease based on EEG, Neuroimage, in press.
* Dauwels J., **Vialatte** F., Weber T., Cichocki A. Quantifying statistical interdependance by message passing on graphs, PART I: algorithms and applications to neural signals, Neural Computation, 2009, 21(8):2152-2202.
* Dauwels J., **Vialatte** F., Weber T., Cichocki A. Quantifying statistical interdependance by message passing on graphs, PART II: Multi-Dimensional Point Processes, Neural Computation, 2009, 21(8):2203-2268.
* **Vialatte** F.B., Solé-Casals J., Dauwels J., Maurice M., Cichocki A. Bump Time-Frequency Toolbox: a Toolbox for Time-Frequency Oscillatory Bursts Extraction in Electrophysiological Signals, BMC Neuroscience, 2009, 10:46.
* **Vialatte** FB, Dauwels J, Maurice M, Yamaguchi Y, Cichocki A. On the synchrony of steady state visual evoked potentials and oscillatory burst events, Cognitive Neurodynamics, 2009 S3(3):251-61.
* **Vialatte** F., Solé-Casals J., Cichocki A. EEG windowed statistical wavelet scoring for evaluation and discrimination of muscular artifacts, Physiological Measurement, 2008, 29(12):1435-52.
* **Vialatte** F.B., Bakardjian H., Prasad R., Cichocki, A. EEG paroxysmal gamma waves during Bhramari Pranayama: a yoga breathing technique, Consciousness and Cognition, doi:10.1016/j.concog.2008.01.004
* **Vialatte** F., Cichocki, A. Split-Test Bonferroni correction for QEEG Statistical Maps, Biological Cybernetics, 2008, 98(4):295-303.
* **Vialatte** F., Martin C., Dubois R., Quenet B., Gervais R., Dreyfus G. A machine learning approach to the analysis of time-frequency maps, and its application to neural dynamics, Neural Networks 2007, 20:194-209.
* Chen Z., Ohara S., Cao J., **Vialatte** F.B., Lenz F.A., Cichocki A. Statistical modeling and analysis of laser-evoked potentials of electrocorticogram recordings from awake humans. Computational Intelligence and Neuroscience, vol. 2007, Article ID 10479, 24 pages, 2007. doi:10.1155/2007/10479.
* Woon W.L., Cichocki A., **Vialatte** F., Musha T. Techniques for early detection of Alzheimer's disease using spontaneous EEG recordings, Physiological Measurement 2007, 28(4):335-347.

Invited talks

* **Vialatte** F.B., Latchoumane C.F., Dauwels J., Maurice M., Jeong J., Cichocki A. Alzheimer's Disease – Local and Large-Scale Brain Dynamics, European Winter Conference on Brain Research, Les Menuires, France, March 7-14 2009
* Dauwels J., **Vialatte** F., Weber T., Cichocki A. Analyzing Brain Signals by Combinatorial Optimization. Proceedings of the 46$^{th}$ Annual Allerton Conference, September 23-26, 2008, University of Illinois at Urbana-Champaign, IL, USA
* **Vialatte** F., Cichocki A., Dreyfus G., Musha T., Shishkin S.L., Gervais R. Early Detection of Alzheimer's Disease by Blind Source Separation, Time Frequency Representation, and Bump Modeling of EEG Signals. International Conference on Artificial Neural Networks 2005, Warsaw, Poland, September 11-15 2005. LNCS 3696:683-692.