

LATCHOUMANE Charles-François Vincent

Nationality: French  
Date of birth: 4<sup>th</sup> March 1982  
Marriage: Single  
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## **Education**

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2006/~2010 Ph.D. Candidate at Bio and Brain Engineering department, KAIST.  
Field of interest: Comput. Neuroscience, EEGs dynamical analysis, Alzheimer's disease/ AD-HD diagnostic, and Music, cognition and emotion.  
Expected graduation: June 2010.

2006 / 2004 Co-supervision Master's degree: Ecole Nationale Supérieure de Physique de Grenoble (ENSPG, France) and Korean Advanced Institute of Science and Technology, (KAIST, South Korea).  
Master's Biosystems, Computational Neuroscience, KAIST: July 2006  
Master's degree in Physics, specialty in BioInstrumentation, ENSPG: July 2006.  
Field of interest: Computational Neuroscience, BioInformatics and Biosystems.

2004 / 2002 B.S. in Physics Engineering at Ecole Nationale Supérieure de Physique de Grenoble (ENSPG, Grenoble National Engineering School of Physics).  
Bachelor's degree in Physics engineering: May 2004.  
Field of specialization: Instrumentation for Biotechnology.

2000 / 2002 A two-year university level preparatory program in Mathematics and Physics for admission to French national engineering schools (MPSI, PSI).

2000 French secondary school diploma in mathematics, with honors.

## **Professional Experience**

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2008 January-February Visiting Technician at RIKEN, BSI, Laboratory for Advance Brain Signal Processing (LABSP): signal processing of Alzheimer's disease patients.

2004 June-September Internship in the Bio-Informatics and Systems Laboratory (BISL), Dept. of Biosystems, KAIST (3 months).  
Topic: Modeling and Simulation of the Immune System.

2003 July-August Internship in the hydraulic division of the French national electric company, E.D.F. in Reunion Island (1 month).

## **Languages**

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French Mother Language. French dialect from REUNION Island.

English Fluent, 1-month in Australia (Perth) in 1999, TOEFL score 227 (CBT 2003), IELTS score 7.0 (PBT, academic module 2006), TEPS score 808 (PBT 2006).

Korean Fluent, 5years of residency in Daejeon, Republic of Korea (June 2004/~ now); KLPT level 3 score 300 (PBT, 2007); TOPIK level 2 (2008), KLT 560 (2008)

German Intermediate.

Japanese Beginner/social.

Dutch Beginner

## Awards

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Academical	IITA scholarship, honoring best graduate, international students, 2004-2006. IITA scholarship, honoring best graduate, international students, 2006-2010. Best Student Paper Award for the 2008 International Conference of Systems Biology and Bioengineering (ICSBB'08) published in the World Congress of Engineering (WCE) processing by IAENG (ISBN: 978-988-98671-9-5). Bronze price for the contest: Idea for Treatment of the future (미래의료 IDEA 공모전), KAIST INSTITUTE, 2008 Dec.
Miscellaneous	Third rank at the KAIST song festival, 2006, Daejeon, South Korea Semi-Finalist of the Ssamzie Sound Festival, 2007, Seoul, South Korea Finalist of the Saemangum Rock Festival, 2007, Saemangum, South Korea Finalist of the Iksan Sodong Music Festival 2007, Iksan, South Korea Best Speaker KAIST Korean Speech Contest, 2007 Special contribution award to the UN/MDGs contest, 2007, South Korea Popularity Price KAIST Korean Speech Contest, 2009
Membership	Member of the CNS (Cognitive Neuroscience Society), IAENG (International association of Engineers), Student Member IEEE.  Review Board of the journal of Computational Intelligence and Neuroscience. Review Board of IEEE, Trends in Biomedical Engineering. Review Board of American Journal of Psychiatry.

## Personal skills and interests

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Computer Skills	Proficient in Windows XP professional and Linux operating systems. Advanced programming in procedural oriented languages. Expert use of MATLAB programming (Simulink). Advanced knowledge in computational neuro-scientific tools (NEURON, GENESIS, NEST, CSIM).
Sports	Aikido (1 <sup>er</sup> DAN), Kendo, Badminton (Departmental rank), Rowing, Swimming (3 consecutive years, academic champion of fin swimming, 1998-2000), Scuba diving, fitness, Latin sport dance (competition level).
Music	Guitarist/composer/vocalist interpret in a band ( <a href="http://bobbygrovy.giveu.net">http://bobbygrovy.giveu.net</a> / CD demo, single public release).
Miscellaneous	International driving license (obtained in 2000), Daedok ToastMasters member.

## Proceedings

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2005 Nov.	<b>Charles-Francois Latchoumane</b> , Kwang-Hyung Lee, Doheon Lee, and Jaeseung Jeong, "Dynamical stationarity Analysis in EEGs of patient with Attention-Deficit/Hyperactivity Disorder during cognitive Tasks," presented at the 3 <sup>rd</sup> European Medical & Biological Engineering Conference (EMBEC'05), Prague, Czech Republic, 2005.
2006 Sept.	Hye-ran Jang, Hee-kyoung Ko, <b>Charles-Francois Vincent Latchoumane</b> , Jeong-Ho Chae, Jaeseung Jeong, "Comparison of linear and nonlinear functional connectivity in Alcoholic patients." Presented at the World Congress on Medical Physics and Biomedical Engineering Seoul, South Korea, August 27 - September 1 (2006)
2006 Sept.	C. Goh, E. Ifeachor, G. Henderson, <b>C. Latchoumane</b> , J. Jeong. C. Bigan, N. Hudson, M. Besleaga, P. Capostosto, S. Wimalaratna, "Characterization of EEG at different Stages of Alzheimer's disease," presented at the 28 <sup>th</sup> International Congress in Clinical Neurophysiology (ICCN'06), Edinburgh, Scotland, 2006. (in Clinical Neurophysiology, Volume 117, Supplement 1, September 2006, Pages 138-139)
2007 July	C. Goh, E. Ifeachor, G. Henderson, <b>C. Latchoumane</b> , J. Jeong. C. Bigan, N. Hudson, M. Besleaga, P. Capostosto, S. Wimalaratna, "Characterization of EEG at different Stages of

- Alzheimer's disease," 3<sup>rd</sup> International Conference on Computational Intelligence in Medicine and Healthcare (CIMED'07) , Plymouth, England, 2007
- 2007 July **Charles-Francois Latchoumane**, Dong-II Chung, Seongkyun Kim and Jaeseung Jeong., "detecting and characterizing eeg during mental tasks using dynamical nonstationarity," 3<sup>rd</sup> International Conference on Computational Intelligence in Medicine and Healthcare (CIMED'07), Plymouth, England, 2007
- 2007 Nov. **Charles-Francois Latchoumane**, Emmanuel Ifeachor, Nigel Hudson, Sunil Wimalaratna and Jaeseung Jeong, "Dynamical nonstationarity of resting EEGs in Alzheimer's disease," 14<sup>th</sup> International Conference on Neuronal Information Processing (ICONIP'07), Hibikino, Kitakyushu, Japan, 2007
- 2008 Apr. **Charles-Francois Latchoumane**, Lee Eunyoung, Lee Hyeosup, Chung Dong-II, Park SongMin, Lee Soyeon, Shin Jiyeon and Jaeseung Jeong, " Alteration of mood using after presentation of multimedia content during cognitive task: an EEG study," to be presented at the 15<sup>th</sup> symposium of the Cognitive Neuroscience Society (CNS), San Francisco, USA, 2008
- 2008 Jul. **Charles-Francois Latchoumane**, Francois Vialatte, T. Musha, Andrejz Cichocki and Jaeseung Jeong, "Multivariate analysis of Alzheimer's disease : Classification based on space-frequency characteristics of EEG time series," to be presented at the WCE ICSBB'08, London, England (ISBN: 978-988-98671-9-5)
- 2008 Aug. **Charles-Francois Latchoumane**, Lee Eunyoung, Lee Hyeosup, Chung Dong-II, Park SongMin, Lee Soyeon, Shin Jiyeon and Jaeseung Jeong, " Proactive Multimedia Therapy Contents Design for Public: Audio and Visual Production Rules and Cognitive Response Measurements (EEG, cCPT, and Verbal Measures)" to be presented at the 10<sup>th</sup> International conference on Music, cognition and perception (ICMPC), Sapporo, Japan, 2008
- 2008 Nov. Francois-Benoit Vialatte, Jordi Sole-Casals, Monique Maurice, **Charles-Francois Vincent Latchoumane**, Nigel Hudson, Sunil Wimalaratna, Jaeseung Jeong and Andrzej Cichocki, " Improving the quality of EEG Data in patients with Alzheimer's disease using ICA," 15<sup>th</sup> International Conference on Neuronal Information Processing (ICONIP'08), Hokkaido, Sapporo, Japan, 2008
- 2009 Sept. J. Dauwels, F. Vialatte, **C. Latchoumane**, J. Jeong and A. Cichocki, " Loss of EEG synchrony in early-stage AD patients: a study with multiple synchrony measures and multiple EEG data sets," the 31st Annual International IEEE EMBS Conference to be held in Hilton Minneapolis, Minnesota, USA during September, 2-6 (2009)
- 2010 Jan. F. Vialatte, **C.-F. V. Latchoumane**, N. Hudson, S. Wimalaratna, J. Sole-Casals, J. Jeong and A. Cichocki, "Sparse bump modeling of mildAD patients: modeling transient oscillation in the EEG of patients with mild Alzheimer's disease," to be presented at Biosignals 2010, special session: Neural Signals and Brain Disorders, Valencia, Spain.
- 2010 Jan. **C.-F. V. Latchoumane**, N. Hudson, S. Wimalaratna and J. Jeong, " Dynamical Nonstationarity of EEGs in patients with mild Alzheimer's disease," to be presented at Biosignals 2010, special session: Neural Signals and Brain Disorders, Valencia, Spain.

## **Book Chapter**

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- 2009 April **Charles-Francois Vincent Latchoumane**, Francois-Benoit Vialatte, Jeuseung Jeong and Andrzej Cichocki, "EEG Classification of Mild and Severe Alzheimer's Disease using Parallel Factor Analysis Method: *PARAFAC Decomposition of Spectral-Spatial Characteristics of EEG Time Series*," Book Chapter in Advance in Electrical Engineering and Computational Science, Springer (ISBN: 978-90-481-2310-0)

## **International Journal Publication**

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- 2006 Sept. C. Goh, E. Ifeachor, G. Henderson, **C. Latchoumane**, J. Jeong, C. Bigan, M. Besleaga, N. Hudson, P. Capotosto and S. Wimalaratna, "Characterisation of EEG at different stages of Alzheimer's disease (AD)", *Clinical Neurophysiology*, Volume 117, Supplement 1, September 2006, Pages 138-139
- 2009 **Charles-Francois Vincent Latchoumane** and Jaeseung Jeong , "Quantification of Brain Macrostates using Dynamical Nonstationarity of Physiological Time Series," *IEEE, transactions in biomedical engineering, signal processing* (in press).