

# Azeez Ayodeji ADEBIMPE

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CONTACT INFORMATION      Annenberg Public Policy Centre,      +1 215 573 5210  
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EXPERTS AND SKILLS      Personal skills  
    • Curiosity, Social Intelligence, Attention to Detail, Zest, Team Work, Humour  
Computer Programming  
    • MATLAB, C/C++, UNIX shell scripting, Python, R, Octave  
Analysis tools  
    • Machine Learning, Advanced Statistical Analysis, Graph theory, Applied Mathematics  
    • Connectivity, Complex system, System Modeling, Numerical Analysis  
Neuroimaging skills  
    • EEG Data Acquisition and Analysis, Realistic Head Modeling, Source Analysis  
    • Brain Connectivity, MRI/fMRI Data Acquisition and Analysis, Statistical Analysis  
    • Graph theory, Advanced Statistical Analysis  
Neuroimaging software  
    • SPM, FSL, FreeSurfer, Nipype, Brain Suite, Fieldtrip, EEGLAB, BCT

EDUCATION      **Universite de Picardie Jules Verne, Amiens, France**

Ph.D., Neuroscience, September 2013 - June 2016  
Main Courses: Advanced Statistical Analysis, Brain Imaging, Pediatric neuroimaging, Multimodal neuroimaging, Scientific writing and literature search

- Thesis Topic: *Resting state analysis and brain connectivity in young children, preterm and full term neonates*
- Advisors: Prof. Fabrice Wallois, MD, PhD and Dr. Ardalan Aarabi, PhD

**University of Groningen, The Netherlands,  
Ghent University, Belgium**

M.Sc., Biomedical Engineering (Double Master Degrees), Sept. 2011 to July 2013

**Erasmus Mundus Programme**

Main Courses: Biomedical Signals and Systems, Magnetic Resonance Imaging, Advanced Statistical Analysis, Advanced Image and Signal Processing, Imaging Techniques in Radiology, Biomedical instrumentation, Neuromechanics, Radiotherapy Techniques, Medical Dosimetry, Material Science

- Thesis Topic: *A comparison study between automated tissue segmentation of brain MR-images using SPM, FSL and FreeSurfer for EEG source reconstruction*
- Advisors: Prof. Stefaan Vandenberghe, PhD and Prof. Christian Vanhove, PhD
- *Distinction*

**Federal University of Technology, Minna, Nigeria,**

B. Eng., Electrical and Computer Engineering (Double Major), Sept. 2003 to Sept 2008

Main Courses: Engineering Mathematics, Computational Mathematics, Computer Programming, Control Engineering, Digital and Analogue Electronics, Measurement and Instrumentation, EM Fields and Waves, Communication Principles, Software Engineering, Digital Signal Processing, System Engineering, Reliability Engineering, Microcomputer Technology, Power System Engineering, Electrical Services Design

- Thesis Topic: *Design, construction and implementation of queue management system*
- Advisor: Dr Ayo Imoru
- *Distinction, Overall best student*

RESEARCH  
EXPERIENCE

**Doctoral Researcher (Neuroscience)** Sept. 2013 to present  
**INSERM U1105, Centre for University Research, CHU (Hospital), France.**

Objective: Understanding brain functional activity and connectivity in young children and neonates

Responsibilities:

- Recording high density EEG data in adult, young children and neonates
- Resting state analysis and brain connectivity in young children with benign epilepsy
- Identify EEG patterns and analysis in premature and full term neonates
- Set up research collaboration with Institute of Biomedical Engineering, Suzhou, China
- Visit Neuroimaging Centre at University of Groningen (Host: Prof M. Natasha)
- Supervising Master Students and assist other students
- Laboratory Technical Secretary and Journal Class Organizer

**Research Master Student** Sept 2012 to July 2013  
**Medical Image and Signal processing group, Ghent University Hospital, Ghent, Belgium.**

Objective: Design pipeline for accurate EEG forward and inverse problem with realistic head model

Responsibilities:

- MRI segmentation techniques and realistic head model construction
- EEG source analysis - forward and inverse problems
- Validation of the models with epilepsy data
- Implement the pipeline in Python with interface to Matlab
- fMRI and PET recording and analysis

**Intern** April 2013 to August 2013  
**University Medical Centre, Groningen**

Objective: Quality assurance for Magnetic resonance imaging machine

Responsibilities:

- Reliability and safety measures for all MRI machines
- Inspect the scientists during MRI scanning
- Perform quality assurance of MRI with phantom and subject
- Design quality assurance report for daily and weekly
- Design different MRI sequences

**Research Assistant** April 2009 to August 2011  
**CERD, Obafemi Awolowo University, Ile-Ife, Nigeria.**

Objective: Maintaining software of laboratory machines and data analysis

Responsibilities:

- Computer programming and training students
- Image and signal analyses

**Trainee Electrical Engineer** Oct. 2008 to April 2009  
**Units Environmental Sciences Limited, Abuja , Nigeria**

Objective: Design and review building electrical and mechanical services installations

Responsibilities:

- Research and development for new electrical designs
- Electrical services design- wiring, lighting and security
- Site supervisor

ACADEMIC  
SCHOLARSHIP

- 3-year Competitive INSERM PhD Scholarship 2013-2016
- 2-year Competitive Erasmus Mundus Master Scholarship 2011-2013
- State Scholarship for Best Student in Final Year Secondary School 1999

HONOUR AND  
AWARDS

- Best Erasmus Student in Biomedical Engineering 2013
- Vice Chancellor Award for Best Graduating Student, FUT, Minna, 2008
- NSE Award for Best Graduating Student, FUT, Minna, 2008
- NSE Award for Best Graduating Final Year Thesis FUT, Minna, 2008
- Outstanding Performance in Science and Engineering, FUT, Minna, 2008

GRANTS AND  
BURSARIES

- ECCN Bursary for European Congress on Clinical Neurophysiology, Brno, Czech Republic, Sept 30- Oct. 3, 2015 (€600)
- Travel Grant for Societe des Neurosciences, Montpellier, 19-22 May, 2015 (€250)
- INCF Travel Grant for Research Visit to the University of Gronigen, Netherlands, May, 2015 (€1000)
- INCF Travel Grant for 2014 Neuroinformatics Conference, Leiden, Netherlands, September 2014 (€1000)
- Campus France 2-year Competitive Travel Grant to China under Sino-French Cai Yuanpei Programme 2014- 2016

JOURNAL  
PUBLICATIONS

1. **Adebimpe, A.**, Aarabi, A., Bourel-Ponchel, E., Mahmoudzadeh, M., Wallois, F., 2015a. EEG resting state analysis of cortical sources in patients with benign epilepsy with centrotemporal spikes. *NeuroImage Clin.* 9, 275 to 282. doi:10.1016/j.nicl.2015.08.014.
2. **Adebimpe, A.**, Aarabi, A., Bourel-Ponchel, E., Mahmoudzadeh, M., Wallois, F., 2015b. Functional Brain Dysfunction in Patients with Benign Childhood Epilepsy as Revealed by Graph Theory. *PLoS ONE* 10, e0139228. doi:10.1371/journal.pone.0139228
3. **Adebimpe, A.**, Aarabi, A., Bourel-Ponchel, E., Mahmoudzadeh, M., Wallois, F., EEG resting state functional connectivity analysis in children with benign epilepsy with centrotemporal spikes, *Frontiers in Neuroscience*. doi:10.3389/fnins.2016.00143

JOURNALS IN  
PREPARATION

1. Disrupted functional source connectivity and resting state networks in children with epilepsy (completed)
2. Dynamic directed interictal connectivity in benign epilepsy with centrotemporal spikes (completed)
3. Influence of endogenous activity on preterm functional connectome: toward developing the preterm connectome (completed)
4. Brain function in full-term neonates assessed by functional connectivity and graph theory (completed)

ORAL  
PRESENTATIONS  
AND INVITED  
TALKS

1. **Influence of temporal theta burst activity on the functional connectivity of the cortical networks in preterm neonates** presented at 15th European Congress on Clinical Neurophysiology, Sept 09-13, 2015, Brno, Czech Republic
2. **Theta waves oscillation modulates high frequency signals in premature neonates** presented at Annual Conference on Clinical Neurophysiology and NeuroImaging 2015, Sept 30- Oct. 3, 2015, Brno, Munich, Germany
3. **Brain networks and functional connectivity in benign childhood epilepsy** presented at GDR2904 Multielectrode systems and Signal processing for Neuroscience, October 14-15 in Gif sur Yvette, France
4. **Network Modeling of the Brain** presented at Young Researchers Network on Complex Systems, Lucca, Italy, 26-30 Sept, 2014.
5. **The disruption of resting state networks in adolescents with benign childhood epilepsy with centrotemporal spikes** presented at Structure Federative de Recherche, UPJV, Amiens, France, March 27, 2014,

POSTER  
PRESENTATIONS

1. **Assessing the functional connectome in the preterm brain**, 22nd Annual Meeting of the Organization for Human Brain Mapping, June 26 to 30, Geneva, Switzerland.
2. **Brain network analysis of EEG functional connectivity in patients with benign childhood epilepsy with centro-temporal spikes** **15th European Congress on Clinical Neurophysiology**, Sept 30- Oct. 3, 2015, Brno, Czech Republic.
3. **Graph theoretical analysis of EEG functional connectivity in children with benign childhood epilepsy**. eposter presented at Annual Conference on Clinical Neurophysiology and NeuroImaging 2015, Sept 30- Oct. 3, 2015, Munich, Germany.
4. **Investigation of electroencephalographic functional connectivity in term and preterm neonates**, Submitted for **12th Congress of Societe de Neurosciences**, May 19 - May 22, 2015, Montpellier, France.
5. **Altered brain functional connectivity in patients with benign childhood epilepsy**, **INCF Congress**, Aug. 25 - Aug. 27, 2014, Leiden, Netherlands.
6. **Resting-state EEG functional connectivity in benign childhood epilepsy**, Society for Clinical Neurophysiology and Language(SNCLF), June 25- 27, 2014, Angers, France.
7. **The comparison of resting state networks between normal children and adolescents with benign childhood epilepsy with centrottemporal spikes: A high density EEG study**, 30th International Congress of Clinical Neurophysiology, March 19-22, 2014, Berlin, Germany, March 19-22, 2014.

WORKSHOPS AND  
TRAINING  
SCHOOLS

1. Power-laws and multiple scales in neural systems workshop, European Institute for Theoretical Neuroscience, Paris, France, March 12-13, 2015, EEG and electrophysiology signals in multi-scales.
2. Young Researchers Network on Complex Systems, Lucca, Italy, 26-30 Sept,2014, Presented - Network Modeling of the Brain.
3. Introduction to Neuroinformatics, INCF Congress, Leiden, The Netherlands, , 22-23 April,2014, Pre-conference school, introducing young researchers to data analysis and neuroscience database management.
4. Practical data analysis and modeling in cognitive and clinical neuroscience, INCF and Ghent University, Ghent, Belgium, 14-18 April, 2014, Practical classes on analysis of EEG/MEG and fMRI analysis with different toolboxes and methods such as source analysis, connectivity, machine learning, pattern recognition.

SERVICE

- Erasmus Students Organizing Committee March 2013  
Coordinator of the committee
- Organized best erasmus meeting for students from 5 european countries
- Co-founder of African Students Community in Groningen Dec. 2011 – July 2012  
West and North African students representative
- Set up the union for all African students in Gronigen
  - Co-organized meetings, symposiums.

SKILLS

- Language skill:
- English Native
  - Dutch Words and phrases
  - French Words and phrases
- Writing tools:
- Latex, Zotero, Microsoft suites
- Interest:
- Reading and Footballing