

## CURRICULUM VITAE

**Catherine Persephone  
AGATHOS**

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France

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## RESEARCH INTERESTS

Multi-sensory integration and dynamic reweighting for sensorimotor control. In particular, I am interested in how changes due to age or pathology affect one's perception of their environment (and self), how this influences sensorimotor control for postural and locomotor equilibrium, and how these principles may be used to develop assessment, prevention and rehabilitation protocols.

## RESEARCH EXPERIENCE

**Essilor International R&D**  
Paris, France

*Vision Sciences Department*

**Université Paris-Sud**  
Orsay, France

*Complexity, Innovation, Motor  
and Sports Activities  
(CIAMS - EA 4532)*

**Aix-Marseille Université**  
Marseille, France

*Laboratory of Cognitive  
Neuroscience  
(LNC - UMR 7291)*

Doctorate, Sports and Human Movement Sciences

Dec 2012 – Mar 2016

- Thesis: *Reliance on the visual frame of reference in aging across different sensorimotor tasks: from perception to walking*
- Supervisors: Prof. Brice Isableu & Dr. Christine Assaiante
- Industrial Tutor: Dr. Delphine Bernardin
- Disciplinary fields: Motor Control, Experimental Psychology, Neuroscience

**Imperial College London**, London, UK

*Centre for Bio-Inspired Technology (CBIT), Institute of Biomedical Engineering*

Research Assistant, Neural Interfaces

Oct 2011 – Nov 2012

- Electrochemical characterisation of cuff electrodes of different materials
- Supervisor: Dr. Dylan Banks
- Disciplinary fields: Biomedical Engineering, Electrochemistry

**Imperial College London**, London, UK

*Brain & Behaviour Lab, Department of Biomedical Engineering*

Research project, MEng final year

Oct 2010 – Jul 2011

- Thesis: *Principles of Motor Control in the Ageing Brain: Motor Noise vs. Age Tremor*
- Supervisors: Dr. Aldo Faisal & Prof. Etienne Burdet
- Disciplinary fields: Motor Control, Neuroscience

## EDUCATION

**Université Paris-Sud**, Paris, France

PhD, Sports and Human Movement Sciences

October 2016

- Jury Members: Prof. Marion Luyat (rep.), Prof. Christophe Bourdin (rep.), Prof. Charalambos Papaxanthis (pres.), Prof. Manh-Cuong Do (exam.), Dr. Leslie Decker (exam.), Prof. Brice Isableu (sup.), Dr. Christine Assaiante (sup.), Dr. Delphine Bernardin (ind. tutor)

**Imperial College London**, London, UK

MEng, Biomedical Engineering with Electrical Engineering

Aug 2011

- Upper second class honours

**European School of Brussels III**, Brussels, Belgium

European Baccalaureate (Scientific)

July 2007

## SKILLS

Motion Capture:

- optoelectronic (VICON) & force plate (AMTI) – extensive experience
- eye tracking (Dikablis) – basic knowledge

Programming & Data analysis:

- signal processing & analysis (MATLAB), statistical analysis (Statistica) - extensive experience
- basic knowledge in Python, C++, LabView

Languages: Bilingual in English and Greek (Native level); Fluent in French

Other: Microsoft Office, Adobe Illustrator & InDesign, SketchUp

## PROFESSIONAL EXPERIENCE

**Essilor International R&D**, Paris, France

*Vision Sciences Department*

Researcher – CIFRE contract

Dec 2012 – Mar 2016

- Developed, planned, analysed results & communicated on multiple experiments
- Wrote briefing reports and methodological guidelines (in English mostly)
- Presented within and outside the Department (in French)
- Participated in other R&D programmes involving aging and/or movement analysis
- Co-supervised interns
- Interacted with Low Vision Centre (including patients)

**Imperial College London**, London, UK  
*Centre for Bio-Inspired Technology (CBIT), Institute of Biomedical Engineering*

**Research Assistant**

Intern (Undergraduate Research Opportunities)

Oct 2011 – Nov 2012

Jun – Sep 2009

- Studied, designed and implemented electrochemical characterisation methods and accelerated life testing
- Produced in-house, small scale cuff electrodes & authored manufacturing manual
- Presented results orally and in writing

**Altera Ltd. / Hemofarm Ltd. / Institute of Orthopaedics, Physical Medicine and Rehabilitation**  
**Dr. Miroslav Zotovic**, Banja Luka, Bosnia & Herzegovina  
via the *International Association for the Exchange of Students for Technical Experience (IAESTE)*

**Intern**

Jul – Aug 2010

Gained:

- Insight on process design and clean room technology and the pharmaceutical qualification & validation process
- Wet-lab experience in drug assays
- Interaction with doctors, technicians & patients and knowledge on the design, manufacturing & testing of prosthetic and orthotic devices

**PUBLICATIONS AND PRESENTATIONS**

**Journal Papers**

Agathos, C. P., Bernardin, D., Baranton, K., Assaiante, C., & Isableu, B. Drifting while stepping in place in old adults: association of self-motion perception with reference frame reliance and ground optic flow sensitivity  
(under revision for *Neuroscience*)

Agathos, C. P., Bernardin, D., Huchet, D., Scherlen, A. C., Assaiante, C., & Isableu, B. (2015). Sensorimotor and cognitive factors associated with the age-related increase of visual field dependence: a cross-sectional study. *AGE*, 37, 1-19 doi: <http://dx.doi.org/10.1007/s11357-015-9805-x>

**Conference Presentations**

Agathos, C. P., Bernardin, D., Baranton, K., Assaiante, C., & Isableu, B. Centre of pressure drift when stepping in place increases with age, sensitivity to optic flow and perceptual reference frame reliance. *International Workshop on Aging in the Neuro-Musculo-Skeletal System*, 15-17 March 2016, Marseille, France – oral presentation

Agathos, C. P., Bernardin, D., Huchet, D., Scherlen, A. C., Assaiante, C., & Isableu, B. Cognitive and sensorimotor factors associated with visual field dependence in the context of aging. *16<sup>th</sup> ACAPS conference*, 26-28 October 2015, Nantes, France – oral presentation

Agathos, C. P., Bernardin, D., Huchet, D., Scherlen, A. C., Assaiante, C., & Isableu, B. Factors associated with the increased perceptual reliance on the visual reference frame with age. *International Society for Posture and Gait Research World Congress (ISPGR 2015)*, 28 June – 2 July 2015, Seville, Spain – poster presentation

## Conference Papers

Woods, V. M., Triantis, I. F., Agathos, C., & Toumazou, C. (2011). “Capacitive” pulse shapes for platinum cuff electrodes. In *Engineering in Medicine and Biology Society, EMBC, 2011 Annual International Conference of the IEEE*, (pp. 5408-5411). IEEE

## OTHER RESPONSIBILITIES

### IAESTE London Local Committee

Founding Member

Sep 2010 – Nov 2012

Secretary

Nov 2011 – Nov 2012

- Set up the Local Committee; in charge of internal and external communications
- Interacted with universities and companies to raise jobs/request sponsorship
- Provided administrative and social support to incoming and outgoing intern

### Imperial College Radio

Music Team Member

Oct 2007 – Jul 2011

Head of Music

Oct 2009 – Jul 2011

- Reviewed new releases and live concerts, interviewed artists, organised live recordings
- Liaised with record companies and managed music team, website & database

## REFERENCES

Dr. Delphine Bernardin

Essilor/CRSNG Industrial Chair, University of Montreal  
3744 Rue Jean Brillant , Montreal QC H3T 1P1, Canada

Email: dtranvouez-bernardin@essilor.ca; delphine.bernardin@umontreal.ca

Prof. Brice Isableu

*Psyché Centre, Cognitive Psychology Departement, Aix-Marseille Université*  
29, avenue Robert Schuman, 13621 Aix en Provence, France

Email: brice.isableu@univ-amu.fr; brice.isableu@gmail.com

Dr. Christine Assaïante

*Laboratory of Cognitive Neuroscience, CNRS - Aix-Marseille Université*  
3 Place Victor Hugo, 13331 Marseille, France

Email : christine.assaïante@univ-amu.fr