

Adriana Dabacan

Curriculum Vitae

Education

- 2013–present **PhD**, *Experimental and Theoretical Neuroscience dept., Romanian Institute for Science and Technology and Signal processing dept., Technical University of Cluj Napoca, Cluj Napoca, Romania.*
Project title: In Vivo Investigation of Brain Cortical Networks with Respect to Neuronal Membrane Properties
- 2012–2013 **Masters of Science in Biomedical Engineering**, *RWTH Aachen, Germany and Universitet Zurich, Switzerland, .*
Project title: 3D Two Photon Imaging of Neuronal Activity in Awake Animals during Virtual Navigation
- 2011–2012 **Masters of Science in Bioengineering**, *Trinity College, Dublin, Ireland.*
Project title: Experimental Design for Behavioural and Electrophysiological Investigation of Adult-Onset Primary Torsion Dystonia
- 2010 **Erasmus mobility**, *Gent Universiteit, Gent, Belgium.*
- 2007–2011 **Bachelor of Applied Electronics**, *The Technical University of Cluj Napoca, Cluj Napoca, Romania.*
Project title: Low Cost, Low Power Mobile ECG Monitor System – Proof of Concept

Additional Training

- 2016 **Laboratory animal science accreditation (FELASA B)**, OXFORD UNIVERSITY, Oxford, UK.
 - Ethics concerns regarding animal experimentation.
 - Biological facts about laboratory animal welfare.
 - Practical course on procedures on mice.
 - Practical course on mouse handling and maintenance of animal facility.
- 2014 **PhD mobility**, ICM, Paris, France.
 - Extracellular recordings in a zebrafish model of epilepsy
 - Patch-clamp recordings in zebrafish motor neurons
- 2013 **Transylvanian Experimental Neuroscience Summer School**, TENSS 2013, Pike Lake, Romania.
 - Optics and microscopy techniques in experimental neuroscience
 - Anesthetised, awake head fixed and freely moving optical and electrophysiological recording strategies in rodents
 - Signal processing, data analysis techniques
 - Theoretical and computational modeling of neuronal circuits
- 2009 **Summer internship**, NATIONAL INSTRUMENTS, Cluj Napoca, Romania.
 - Testing time requirements and noise margins in a complex logical circuit
 - Implementing a digital designs using a microcontroller
 - Implementing labView projects

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1/3

2006 **Summer internship**, DIGILENT INC., Pullman WA, USA.

- Experience with C++ hardware programming
- Microcontroller and peripheral modules

Work experience

2015–present **Assistant researcher**, ROMANIAN INSTITUTE OF SCIENCE AND TECHNOLOGY, Romania.

- Experimental work and data analysis on acute anesthetised rodent multi-electrode probe recordings investigating the role of membrane properties in the dynamics of circuits in the visual cortex.
- Setup development and animal facility responsible

2014–present **Teaching assistant**, TENSS 2014, 2015, 2016, Romania.

- Lectures on the basic knowledge of optics needed in experimental neuroscience.
- Workshops on optics and electronics for neuroscience researchers.

2012–2013 **Student assistant researcher**, IZKF AACHEN, Germany.

- Developing a MatLab based tool for movement detection during awake rodent 2 photon imaging acquisition

Awards and Scholarships

2015–present Romanian Ministry of Education PhD Scholarship

2014–2015 Sectoral Operational Programme Human Resources Development POSDRU

2013–2014 Romanian Ministry of Education PhD Scholarship

2011–2012 CEMACUBE Erasmus Mundus Scholarship

2010 Erasmus Mobility Scholarship

2009–2010 Roberto Rocca Excellence Scholarship

2007–2011 Romanian Ministry of Education Bachelor Scholarship

Publications and conferences

2016 **Dăbâcan, A.**, Rusu, C., Mureşan, R. C. (2016). Robust analysis of non-stationary cortical responses: tracing variable frequency gamma oscillations and separating multiple component input modulations. MediTech conference proceedings, in press

Dăbâcan, A., Rusu, C., Mureşan, R. C. (2016). Probing Frequency Response in Neural Networks Using Light. Novice Insights, in press

Dăbâcan, A., Mureşan, R. C. (2016). Effects of periodic stimulation on cortical circuits as a function of stimulated population properties. Society for Neuroscience Annual Meeting, 12-16 November, San Diego, Accepted poster.

2015 **Dăbâcan, A.**, Rusu, C., Ciura, S., Kabashi, E., Mureşan, R. C. (2015). Method for Feature Extraction from Electrophysiological Recordings of Epileptic Activity. Acta Electrotehnica, 56.

Dăbâcan, A., Ciura S., Kabashi E., de Calbiac H., Mureşan, R. C., Novel perspective on field recordings in zebrafish models of epilepsy, CNS Meeting, Prague: BMC Neuroscience

2014 **Dăbâcan, A.**, Mureşan, R. C., Optogenetic manipulation of neural circuits. Plenary talk, SNN International conference, 2014

Molloy, A., Kimmich, O., Williams, L., Quinlivan, B., **Dăbâcan, A.**, Fanning, A., Hutchinson, M. (2014). A headset method for measuring the visual temporal discrimination threshold in cervical dystonia. Tremor and Other Hyperkinetic Movements

2013 Malloy A., Kimmich O., Killane I., Fanning A., **Dăbâcan, A.**, O’Riordan S., Hutchinson M., Reilly R.B., (2013), Validation of a New Portable (Goggles) Technique for Determination of the Visual Temporal Discrimination Threshold, Neurology 80. Meeting Abstracts 1, p 7-198

Non-scientific conferences

2015 **Dăbâcan, A.** (2015). Old tools, new ideas. TEDx Talk, Cluj Napoca, Romania, <https://www.youtube.com/watch?v=rIaEqLmh2kQ>

Languages

Romanian Mother tongue
English Proficiency
French Intermediate
German Basic
Spanish Basic

Interests

- Mountaineering
- Guitar playing
- Basketball
- Games