

MÁRIA-MAGDOLNA ERCSEY-RAVASZ



PERSONAL INFORMATION

Date of birth: 11.09.1980

URL for web site: <http://sirius.phys.ubbcluj.ro:33380/Ercsey-Ravasz>

EDUCATION

- 2008 **PhD joint degree** (Summa cum laude)
in Physics at Babeş-Bolyai University, Faculty of Physics, Cluj-Napoca, Romania (supervisor: Prof. Zoltán Néda)
in Information Technology (Infobionics) at Péter Pázmány Catholic University, Faculty of Information Technology, Budapest, Hungary (Supervisor: Prof. Tamás Roska).
- 2004 **Master in Computational Physics**
Babeş-Bolyai University, Faculty of Physics, Cluj-Napoca, Romania (supervisor: Prof. Zoltán Néda)
- 2003 **Bachelor in Physics**
Babeş-Bolyai University, Faculty of Physics, Cluj-Napoca, Romania (supervisor: Prof. Zoltán Néda)

CURRENT POSITION

- 2014 – Researcher
Babeş-Bolyai University, Faculty of Physics, Romania

PREVIOUS POSITIONS

- 2012 – 2014 Research Fellow in a Marie Curie International Incoming Fellowship
Babeş-Bolyai University, Faculty of Physics, Romania
- 2008 – 2011 Postdoc
Department of Physics, Interdisciplinary Center for Network Science and Applications, University of Notre Dame, IN, USA
- 2011 – 2012 Principal Investigator in a Starting Research Grant funded by the Romanian Government
Babeş-Bolyai University, Faculty of Physics, Romania

FELLOWSHIPS AND AWARDS

- 2014 UNESCO-L’Oreal Fellowship of *Young Women Researchers in Romania*
- 2011 *Award of Young Researchers* received from the Transylvanian Committee of the Hungarian Academy of Sciences, Romania
- 2007 Erasmus Fellowship, Faculty of Electrical Engineering, Catholic University of Leuven, Belgium
- 2003, Aug. Short Term Research Fellowship, KFKI Central Research Institute of Physics, Budapest, Hungary
- 2003 *Junior Bolyai János Award* received from the Hungarian Academy of Sciences, Hungary

- 2003, Mar. Short Term Research Fellowship, Bergen Computational Physics Laboratory, Bergen, Norway
- 2002, Nov. Short Term Research Fellowship, Bergen Computational Physics Laboratory, Bergen, Norway

RESEARCH GRANTS

- 2012-2014 Marie Curie International Incoming Fellowship, FP7-POEOPLE-2011-IIF-299915. Project title: “Chaotic Cellular Neural/Nonlinear Networks for Solving Constraint Satisfaction”
- 2011-2014 Principal investigator of the Romanian Young Researcher’s Grant PN-II-RU-TE-2011-03-121. Project title: “A continuous-time approach to constraint satisfaction: optimization hardness as transient chaos”
- 2012-2016 Principal investigator in a Partnership Project in Applicative Research funded by the Romanian UEFISCDI: PN-II-PT-PCCA-2011-3.2-0895. Project title: „Improving scientific evaluation through analysis of scientific networks”.

SUPERVISION OF GRADUATE STUDENTS AND POSTDOCTORAL FELLOWS

- 2011 – One Postdoc (Dr. Róbert Sumi)/ One PhD (Botond Molnár)/ One Master Student (Dávid Deritei)
Babeş-Bolyai University, Faculty of Physics, Romania

TEACHING ACTIVITIES

- 2011 Teacher of a Graduate Level Course – Introduction to Network Science, University of Notre Dame, IN, USA.
- 2006 Graduate Teaching Assistant – Evolution of Physics and Knowledge, Babes-Bolyai University, Romania
- 2006 Graduate Teaching Assistant – Numerical Methods in Physics, Babes-Bolyai University, Romania
- 2005 Graduate Teaching Assistant –Problem-solving tutorial in Quantum Mechanics I., Babes-Bolyai University, Romania
- 2004,2005 Graduate Teaching Assistant – Nonlinear Dynamical Systems, Péter Pázmány Catholic University, Romania

COMMISSIONS OF TRUST

- 2013 Reviewer for the UEFISCDI (Romanian Executive Agency for Higher Education, Research, Development and Innovation Funding) in the 2013/2014 “Partnership Grants in Applicative Research” program
- 2008 – 2014 Referee for scientific journals: New Journal of Physics; Physical Review Letters; Physical Review E; PLoS One; European Physics Letters; European Physics Journal B; IEEE Circuits and Systems, Scientific Reports.
- 2014 Scientific Evaluator for the Romanian UEFISCDI in the midterm evaluation of “Starting Grants” and “Ideas” programs.
- 2014 President of the Physics Committee in the Transylvanian Committee of the Hungarian Academy of Sciences

MAJOR COLLABORATIONS

- 2008- *Z. Toroczkai*, University of Notre Dame, USA. Topics: Analysing and modelling the inter-areal cortical network; Solving optimization problems with transiently chaotic dynamical systems; Other studies related to complex networks, such as the USA roadway network, international food-trade network etc.
- 2008- *H. Kennedy, K. Knoblauch*, INSERM 846, Lyon, France; *N. Markov*, Yale University, USA; Topic: Analysing and modelling the inter-areal cortical network based on their retrograde tracing experimental data.
- 2013- *E. Ravasz Regan*, Harvard Medical School, Boston, USA; Topic: Dynamical modularity in the cell regulatory network.
- 2012- *R. Florian*, Romanian Institute of Science and Technology, Romania; *Zs. Lázár, F. Járαι-Szabó, Z. Néda*, Babes-Bolyai University, Romania. Topic: Improving scientific evaluation through analysis of scientific networks.
- 2011-2012 *J. Baranyi*, Inst of Food Research, UK; Topic: Analysing the international food-trade network and its vulnerability.
- 2005-2006 *Gy. Szabó, A. Szolnoki*, KFKI Central Research Institute of Physics, Hungary. Topic: Game theory and population dynamical models.

ECHOES ABOUT RESEARCH RESULTS IN NEWS MEDIA

- July 2011 “Research reveals brain network connections”, Notre Dame Newswire July 13, 2011, Medical News Today, Eurekalert News, Science Daily News, Scientific Computing News, Bioscience Technology News July 14 2011. <http://www.sciencedaily.com/releases/2011/07/110713161828.htm>
- “Closer look at the brain network”, Szabadsag (“Freedom”) Daily Hungarian Newspaper in Cluj-Napoca, Romania. <http://www.szabadsag.ro/szabadsag/servlet/szabadsag/template/article%2CPArticleScreen.vm/id/60953>
- October 2011 “Notre Dame physicists propose solutions for constraint satisfaction problems”, Notre Dame Newswire, Physics today, October 7, 2011
- 2012 “The chaos within Sudoku” - Huffington Post, Daily Mail, Romanian Income Magazin, Szabadság Daily News Paper, Antena 3 TV channel.

LANGUAGE SKILLS

Hungarian – maternal language; Romanian – advanced; English – advanced; German – beginner.

COMPUTING SKILLS

C, C++, Matlab, Mathematica. Network visualisation: Pajek, Cytoscape.