


## PERSONAL INFORMATION

## Sumi Róbert Zoltán

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Sex Male | Date of birth 02/05/1982 | Nationality Romanian, Hungarian

## WORK EXPERIENCE

01/04/2012–Present

## Postdoctoral researcher

Babes-Bolyai University, Department of Physics  
Mihail Kogalniceanu 1, 400084 Cluj-Napoca (Romania)

01/12/2009–30/11/2011

## Postdoctoral researcher

Budapest University of Technology and Economics, Institute of Physics  
8, Budafoki ut, 1111 Budapest (Hungary)

## EDUCATION AND TRAINING

2013–Present

## MSc student

Babes-Bolyai University, Faculty of Mathematics and Computer Science  
Optimization of computational models

2007–2009

## PhD degree in Physics

Babes-Bolyai University  
1, Mihail Kogalniceanu, 400084 Cluj-Napoca (Romania)

Thesis: "Theoretical and experimental study of phase transitions in complex systems" Advisor: Prof. Dr. Zoltán Néda

2005–2007

## MSc degree in Physics

Babes-Bolyai University, Cluj-Napoca (Romania)

Thesis: Synchronization of multi-mode pulse-coupled oscillators

Advisor: Prof. Dr. Zoltán Néda

2001–2005

## Bachelor degree in Physics

Babes-Bolyai University  
1, Mihail Kogalniceanu, 400084 Cluj-Napoca (Romania)

University Major

1996–2001

## Baccalaureat

Kölcsey Ferenc Grammar School  
2, George Cosbuc, 440042 Satu Mare (Romania)

## PERSONAL SKILLS

Mother tongue(s)

Hungarian

Other language(s)	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C1	C1	C1	C1	C1
German	B2	B2	B2	B2	B2
Romanian	C1	C1	C1	C1	C1

Levels: A1/A2: Basic user - B1/B2: Independent user - C1/C2: Proficient user  
[Common European Framework of Reference for Languages](#)

## Communication skills

## Computer skills

Programming languages:

- Deep knowledge of C/C++ (STL and different parts of Boost)
- Good knowledge of SQL, Java, CUDA C/C++

Scientific programs and languages:

- Good knowledge of MATLAB, LaTeX
- Basic knowledge of R

Software design:

- Deep knowledge of object-oriented design principles and design patterns

Development tools:

- Good knowledge of the GNU Compiler Collection, Clang, Cmake
- Good knowledge of the Git version control system
- Good knowledge of Eclipse, Microsoft Visual Studio
- Good knowledge of the UNIX/Linux command line, shell scripting
- Basic knowledge of the GNU Debugger, Valgrind
- Basic knowledge of Doxygen

## ADDITIONAL INFORMATION

Publications:

1. R. Z. Sumi, Z. Néda, *Synchronization of multi-mode pulse coupled stochastic oscillators*, Journal of Optoelectronics and Advanced Materials, Vol. 10, Nr. 9 (2008) p. 2455
2. R. Sumi, Z. Néda, *Molecular Dynamics Approach to Correlation Clustering*, International Journal of Modern Physics C, Vol. 19, Nr. 9 (2008) p. 1349
3. A. G. Percus, G. Istrate, B. Goncalves, R. Z. Sumi, S. Boettcher, *The peculiar phase structure of random graph bisection*, Journal of Mathematical Physics, Vol. 49, Nr. 12 (2008) p. 125219
4. R. Sumi, Z. Néda, A. Tunyagi, Sz. Boda, Cs. Szász, *Nontrivial spontaneous synchronization*, Phys. Rev. E 79, 056205 (2009)
5. Z. Néda, R. Sumi, M. Ercsey-Ravasz, M. Varga, B. Molnár and Gy. Cseh, *Correlation clustering on networks*, J. Phys. A: Math. Theor. 42 345003 (2009)
6. R. Sumi, T. Yasserli, A. Rung, A. Komai, J. Kertész, *Characterization and prediction of Wikipedia edit wars*, In Proceedings of the ACM WebSci'11, June 14-17 2011, Koblenz, Germany
7. R. Sumi, T. Yasserli, A. Rung, A. Komai, J. Kertész, *Edit wars in Wikipedia*, IEEE SocialCom, 3rd Intl Conf on Social Computing, Oct 9-11 2011, Boston, arXiv:1107.3689
8. T. Yasserli, R. Sumi, J. Kertész, *Circadian patterns of Wikipedia editorial activity: A demographic analysis*, PLoS ONE 7(1): e30091 (2012)
9. T. Yasserli, R. Sumi, A. Rung, A. Kornai, J. Kertész, *Dynamics of conflicts in Wikipedia*, PLoS ONE 7(6): e38869 (2012)
10. R. Sumi, B. Molnár, M. Ercsey-Ravasz, *Robust optimization with transiently chaotic dynamical systems*, Europhysics Letters 106, 40002 (2014)

11. D. Deritei, Zs. Lazar, I. Papp, F. Jarai-Szabo, R. Sumi, L. Varga, ER Regan, M. Ercsey-Ravasz, *Community detection by graph Voronoi diagrams*, New Journal of Physics, vol. 16, 063007 (2014)

ISI Conference proceedings:

1. István Papp, Mária Ercsey-Ravasz, Dávid Deritei, Róbert Sumi, Ferenc Járjai-Szabó, Razvan V. Florian, Alexandru I. Cabuz, Zsolt I. Lázár, *The P-Index: Hirsch Index of Individual Publications*, ISSI 2013, Vienna, Austria, July 15-19 (2013)

2. B. Molnár, R. Sumi, M. Ercsey-Ravasz, *A CNN SAT-solver robust to noise*, Proceedings of CNNA 2014, Notre Dame, IN, USA (2014)

Conferences:

- International Workshop on Stochastic Phenomena, Cluj Napoca, Romania, 26-31 May 2008; "Synchronization of Pulse-Coupled Multi-Mode Stochastic Oscillators"
- International Conference of Faculty of Sciences, Oradea, Romania, 9-10 November 2007; "Synchronization of Pulse-Coupled Multi-Mode Stochastic Oscillators"
- International Workshop on Complex Systems and Networks, Sovata, Romania, 15-20 July 2007; "Complex Behavior of Multi-mode Stochastic Oscillators"
- 7th Vienna Central European Seminar, Vienna, Austria, 26-28 November, 2010; "Linguistic-based analysis of Wikipedia: a complex systems approach"
- 5th CHAOS 2012 International Conference, Athens, Greece, 12-15 June 2012; "Chaotic phase transition in an analog approach to constraint satisfaction"
- 7th CHAOS 2014 International Conference, Lisbon, Portugal, 7-10 June 2014; "Transient chaos provides hardness measure for constraint satisfaction problems"