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Education

2016 **Massachusetts Institute of Technology**
PhD in Electrical Engineering
Thesis: Functional modularity of gene networks
Advisor: Domitilla Del Vecchio

2011 **Budapest University of Technology and Economics, Hungary**
MS in Biomedical Engineering

2009 **Budapest University of Technology and Economics, Hungary**
MS in Electrical Engineering

Publications

Journal papers

[1] JW Lee, **A Gyorgy**, DE Cameron, N Pyenson, KR Choi, JC Way, PA Silver, D Del Vecchio, JJ Collins (2016) Creating single-copy genetic circuits, *Molecular Cell, 63(2):329–336*

[2] **A Gyorgy**, JI Jimenez, J Yazbek, H Chung, R Weiss, D Del Vecchio (2015) Isocost lines describe the cellular economy of genetic circuits, *Biophysical Journal, 109(3):639–646*

[3] **A Gyorgy**, D Del Vecchio (2014) Modular composition of gene transcription networks, *PLoS Computational Biology*, 10(3): e1003486

[4] **A Gyorgy**, L Kovacs, P Szalay, DA Drexler, B Benyo, Z Benyo (2011) Quasi-model-based control of type 1 diabetes mellitus, *Journal of Electrical and Computer Eng*, 4

[5] L Kovacs, B Kulcsar, **A Gyorgy**, Z Benyo (2011) Robust servo control of a novel type 1 diabetic model, *Optimal Control Application and Methods, John Wiley & Sons*, 2:215–238

Conference papers

[1] **A Gyorgy**, RM Murray (2016) Quantifying resource competition and its effects in the TX-TL System, *IEEE Conference on Decision and Control*

[2] TP Prescott, **A Gyorgy** (2015) Bounding the effect of retroactivity in the presence of parameter uncertainty, *IEEE American Control Conference*

[3] **A Gyorgy**, D Del Vecchio (2014) Limitations and trade-offs in gene expression due to competition for shared cellular resources (invited paper), *IEEE Conference on Decision and Control*

[4] **A Gyorgy**, D Del Vecchio (2013) How slaves affect a master module in gene transcription networks (invited paper), *IEEE Conference on Decision and Control*

[5] **A Gyorgy**, D Del Vecchio (2012) Retroactivity to the input and Thevenin's theorem for complex gene transcription networks (invited paper), *IEEE Conference on Decision and Control*

[6] L Kovacs, **A Gyorgy**, P Szalay, DA Drexler, B Benyo, Z Benyo (2011) Quasi model based optimal control of type 1 diabetes mellitus, *IFAC World Congress*

[7] **A Gyorgy**, P Szalay, Z Benyo, B Benyo, A Kovacsa, L Kovacs (2010) ANFIS regulated type 1 diabetic model for different glucose absorption scenarios, *IEEE Conference on Intelligent Engineering Systems*

[8] L Kovacs, **A Gyorgy**, B Kulcsar, P Szalay, B Benyo, Z Benyo (2010) Robust control of type 1 diabetes using μ-synthesis, *UKACC Conference on Control*

[9] L Kovacs, **A Gyorgy**, P Szalay, B Benyo, Z Benyo, CE Hann, JG Chase (2010) Investigating the applicability of qALPV modeling to ICU models for glycaemic control, *UKACC Conference on Control*

[10] **A Gyorgy**, I Harmati (2009) Motion planning algorithms for tactical actions in robot soccer, *IEEE European Control Conference*

[11] L Kovacs, **A Gyorgy**, Zs Almassy, Z Benyo (2009) Analyzing a novel model of human blood glucose system at molecular levels, *IEEE European Control Conference*

[12] L Kovacs, **A Gyorgy**, Zs Almassy, Z Benyo (2009) Analyzing a novel model of human blood glucose system at molecular levels, *IEEE European Control Conference*

[13] L Kovacs, **A Gyorgy**, B Benyo (2009) Type 1 diabetes regulated by ANFIS at molecular levels, *World Congress on Medical Physics and Biomedical Engineering*

[14] **A Gyorgy**, T Barbarics, Zs Puspoki, J Padanyi (2009) Application of neural networks in mine detection, *International Conference on Climbing and Walking Robots and the Support Technologies for Mobile Machines*

In preparation

[1] **A Gyorgy**, D Del Vecchio. Price and utility of proteins in synthetic gene circuits, *Submitted*

[2] **A Gyorgy**, M Arcak. Pattern formation in large-scale networks with asymmetric connections, *Submitted*

Research Experience

2016- **University of California, Berkeley**
Post-doctoral researcher, pattern formation and biological control (Murat Arcak)

2014 **California Institute of Technology**
Visiting researcher, characterization of resource competition *in vitro* (Richard Murray)

2010-2016 **Massachusetts Institute of Technology**
Research assistant in the Control Networks Group (Domitilla Del Vecchio)

2009 **University of Oxford, UK**
Summer researcher at the Department of Statistics (Jotun Hein)

2007–2009 **Budapest University of Technology and Economics, Hungary**
Research assistant, design of a robot soccer platform (Istvan Harmati) and pattern recognition with machine learning (Tamas Barbarics)

Teaching Experience

2013 **Massachusetts Institute of Technology**
Teaching assistant for Introduction to Numerical Simulation, 1 semester (Luca Daniel)

2009–2010 **Budapest University of Technology and Economics**
Teaching assistant for Control Theory in Biology, 2 semesters (Levente Kovacs)

2006–2009 **Budapest University of Technology and Economics**
Teaching assistant for Signals and Systems I–II, 6 semesters (Tamas Barbarics)

Select Awards

2006–2009 **GE Foundation Scholar Leaders Program**

2009 **Pro Scientia Gold Medal of National Scientific Student Council, Hungary**

Industry Experience

2008 **Dolphio Consulting Ltd., Hungary**
Summer intern, image processing applications (Zsolt Robotka)

Professional Service

2014–2015 **Member of student council**
Center for Integrative Synthetic Biology, Massachusetts Institute of Technology

2014 **Organizer of invited session on "Context-dependence in biology"**
IEEE Conference on Decision and Control

2012– **Student member of IEEE**

2010– **Reviewer**
IEEE Life Sciences Letters, Journal of the Royal Society Interface, Systems and Synthetic Biology, IEEE CDC, IEEE ACC

2009–2010 **Co-supervisor of MSc projects in control theory**
Budapest University of Technology and Economics, Hungary

Talks

2015 **Foundations of Systems Biology in Engineering, Boston, MA**
A systems-level approach to characterize context-dependence in biomolecular networks

2014 **Winter q-bio Meeting, Maui, HI**
Dynamics of complex gene transcription networks

2013 **Design Automation Conference, Austin, TX**
Modularity in gene transcription networks (invited talk)

References

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