

Dr. Evangelos Simeonidis

Contact

MCISB

MIB, The University of Manchester

131 Princess Street, Manchester, M1 7DN, UK

tel.: +44 161 3065146

website: <http://www.mcisb.org/people/simeonidis/>

e-mail: v.simeonidis@manchester.ac.uk

RESEARCH EXPERIENCE

2006 - present *Mathematical modeller (Post-doc)*

Manchester Centre for Integrative Systems Biology, University of Manchester, UK

I work at the Manchester Centre for Integrative Systems Biology (MCISB) and the School of Chemical Engineering and Analytical Science, University of Manchester. My research focuses on the development of mathematical models for the analysis of biological systems. My responsibilities include:

- producing quantitative mathematical models of complex biological systems, ultimately leading to whole-cell models. The research mainly focuses on the metabolism of baker's yeast
- building kinetic, ODE-based models to describe metabolic pathways
- using constraint-based and control theory approaches (e.g. Flux Balance Analysis (FBA), Metabolic Control Analysis (MCA) or Elementary Mode Analysis) for larger models, up to genome scale
- utilising data standards for systems biology models (e.g. SBML, ontologies, etc.) and integrating them with other -omics data standards
- developing methods for the visualisation of complex biological networks
- contributing towards the development of new research areas and attracting new funding
- teaching for the Doctoral Training Centre for Systems Biology, attached to the MCISB

EDUCATION

2000 - 2005 *PhD in Chemical Engineering: Optimisation of Biochemical Systems*

University College London, UK

The goal of my PhD was the application of mathematical programming and optimisation methodologies to problems of biological and biochemical nature.

1999 - 2000 *MSc in Process Systems Engineering*

Imperial College, London, UK (Centre for Process Systems Engineering)

1993 - 1999 *Diploma in Chemical Engineering*

Aristotle University of Thessaloniki, Greece

RESEARCH FUNDING

Grants

Participating / contributing as named researcher in MCISB grant applications to national (e.g. BBSRC) and international (e.g. EU FP7) bodies. Many of these applications are pending. In addition, I am participating in grant applications outside the MCISB; examples of pending proposals include:

- Multiscale analysis of complex networks in systems biology. *Funding body:* COST; €400,000
- Innovative applications in Epigenetics. *Funding body:* Thalis, Greek Ministry of Education; €510,000
- From reconstruction to model: Collaborative tool development to automate network reconstructions and improve their predictive power in Systems Biology. *Funding body:* BBSRC; £50,000

Industrial partners

Main contact for MCISB for a planned collaboration with UCB, a pharmaceutical company. The proposed collaboration is planned to last for a minimum of 3 years at a cost of in excess of £1,000,000.

Personal awards

- Centre for Process Systems Engineering (Imperial) Scholarship (2000; £36,000)
- EPSRC Scholarship (2001; £12,000)
- Several travel grants 2001-2009 (UCL Graduate School; Marie Curie; Royal Academy of Engineering)

SUPERVISION/MENTORING**2007 - present** *Supervision of PhD students (University of Manchester)*

- E. Murabito, Understanding cancer metabolism using differential metabolic control analysis, 2007-'10
- N. Stanford, Building a genome-scale kinetic model of yeast metabolism, 2008-'11
- O. Oshota, Identifying red and white biotechnological products through a systematic *in silico* gene deletion study, 2008-'11

International mentoring

Volunteered services as mentor for the 'International Mentoring' programme of the Biochemical Society.

2001 - present

Supervision of postgraduate (MSc) students (University of Manchester; University College London).

TEACHING EXPERIENCE

2009 - '10	Course coordinator of Data Analysis Unit, MRes in Translational Medicine (Manchester)
2007 - '08	Modelling and Flux Balance Analysis workshop, MCISB DTC (Manchester)
2007	Metabolic Engineering course, School of Chemical Engineering (Manchester)
2006 - '09	Mathematics refresh course, MCISB DTC (Manchester)
2000 - '04	GAMS software tutorials, Dept of Chemical Engineering (UCL)

SERVICE**Expert member - metabolic reconstructions**

Saccharomyces cerevisiae reconstruction: collaboration of leading groups in the field, which produced a consensus model of yeast metabolism (Herrgard *et al.*, 2008).

Homo sapiens reconstruction: ongoing effort from experts on metabolism and human physiology to build a reconstruction for human metabolism based on community consensus.

MCISB project manager (interim) *May to September 2009*

Review editor *Frontiers in Systems Biology* (since Feb 2010)

Referee

PLoS Computational Biology (2010); BioSystems (2008); FEBS Journal (2007); ESCAPE-15 (2005); International Conference on Computer Aided Metabolic Engineering (2005); ESCAPE-14 (2004)

Founder of BMNet

Founder and organiser of the BioModelling Network (BMNet); a network of researchers of Biological Modelling in the University of Manchester (<http://www.mcisb.org/bmnet>).

Coordination

Organised a series of research-related workshops, lectures, seminars and meetings on Systems Biology

GENERAL**Professional memberships**

International Society for Systems Biology; Biochemical Society; Institution of Chemical Engineers (IChemE); Yeast Systems Biology Network (YSBN); Technical Chamber of Greece (TEE-TCG)

Computer skills

Excellent knowledge of modelling and optimisation software (*e.g.* GAMS, MATLAB, COPASI, others)
Frequent user of Systems Biology Markup Language (SBML) and other systems biology standards and tools
Extremely competent with both UNIX and Windows and most popular commercial programs and packages

Languages English (fluent), French (intermediate), German (basic), Dutch (learning), Greek (native)

REFERENCES

Available upon request