

Curriculum Vitae of Dimitrios Kalamatianos

September 30, 2009

PERSONAL

Surname: Kalamatianos
First Name: Dimitrios
Date of Birth: 1st October 1978
Place of Birth: Cholargos, Attika, Greece
Nationality: Greek
Marital Status: Single
Home Address: Parkgate Place, Parkgate Street, Dublin 8, Ireland
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EDUCATION

Feb 09-Present: **Diploma** in Project Management Dublin Business School, Ireland
Sep 01-Sep 04: **PhD** in Electrical Engineering Dept. of Electrical and Electronic Engineering, University of Manchester Institute of Science and Technology (UMIST), UK
Title: Control and Signal Processing for a new FT-NIR Michelson Interferometer
Supervisors: Prof. Peter E. Wellstead, Dr. Panos Liatsis
Sep 96-Sep 01: **Dipl. Eng.** Dept. of Electrical and Computer Engineering, University of Patras, Greece
Overall Rate: 7.00/10 (First Class), Rank: 7th out of 267
Diploma Thesis Title: Architectural Design of the Cryptographic Algorithm Cayley-Purser
Supervisor: Prof. Thanos Stouraitis
Sep 93-Jun 96: High School, Overall Rate: 96%

WORK EXPERIENCE

Oct 07-Present: Research Fellow
Hamilton Institute, National University of Ireland, Maynooth, Ireland
Oct 04-Oct 07: Postdoctoral Fellow
Hamilton Institute, National University of Ireland, Maynooth, Ireland
Jun 02-Aug 02: External Researcher (European Constructors Survey)
National Statistical Service of Greece, Greek Ministry of Economy and Finance
Jun 01-Aug 01: External Researcher (European Constructors Survey)
National Statistical Service of Greece, Greek Ministry of Economy and Finance

TEACHING

- Sep 09-Jan 10: Lecturer (Module EE624: Bio-image Processing and Analysis)
MEng, Dept. of Electronic Engineering, NUI Maynooth
- Feb 09-May 09: Lecturer (Module EE623: Imaging and Systems Biology)
MEng, Dept. of Electronic Engineering, NUI Maynooth
- Nov 02-Dec 03: Teaching Assistant (Module: Software Development)
BA, Dept. of Electrical and Electronic Engineering, UMIST

SUPERVISION

Current group members

Diego Oyarzún Rodriguez, BSc/MSc - Hamilton Institute; Jan 07 - present

Diego is a PhD researcher working on theoretical studies in Systems Biology, mainly focused on systems and control approaches to analyze metabolic pathways. He is just finishing the second year of his PhD and has already presented his work at FOSBE 2007 (Stuttgart, Germany) and the IFAC World Congress 2008 (Seoul, Korea). He has also submitted his first journal publication at the Bulletin of Mathematical Biology.

Perrine Paul, BSc/MSc/Phd - Hamilton Institute; Jan 08 - present

Perrine is a postdoctoral researcher working on the development of a novel automated monitoring system for live cell imaging based on real time evaluation of microscopic images. She has already presented his work at ICSB 2008 (Gothenburg, Sweden) and submitted a paper at the IEEE BIBE 2008 Conference (Athens, Greece).

Mark Readman, BSc/MSc/Phd - Hamilton Institute; Jun 08 - present

Mark is a postdoctoral researcher working on the application of Control and Systems Theory for understanding the cellular self-destruction mechanisms.

Fernando Lopez-Caamal, BSc/MSc - Hamilton Institute; Oct 08 - present

Fernando is a PhD researcher working on the analysis of apoptotic cell death models. His work is focused on the application of systems theory to mathematical models of apoptosis.

Magdalena Zebrowska, BSc/MSc - Hamilton Institute; Nov 08 - present

Magdalena is a PhD researcher working on the modelling and analysis of cellular self-eating mechanisms. Her work is focused on the mathematical modelling of the autophagic pathway in cells.

Past group members

Maria Secrier, BSc - Hamilton Institute; Aug 09 - Sep 09

Maria was an internship student working on mathematical modelling of neuronal migration in the early stages of brain development. This project is a collaboration with Microsoft Research and Dr. Yaki Seti.

RESEARCH FUNDING AWARDED

Wellstead P. and **Kalamatianos D.**

Image to Mathematical Model Transition Facility of the National Biophotonics Imaging Platform. HEA PRTL Cycle 4; 933,103 EUR; Sep 2007 - Sep 2010

SELECTED AWARDS & SCHOLARSHIPS

- Distinguished Greek Scientist Abroad Award (2007), Greek Ministry of Defence
- Sir Peter Allen Scholarship (2004), UMIST
- PhD Scholarship (2001-2004), Engineering and Physical Sciences Research Council (EPSRC)
- Undergraduate scholarship for the academic year 2000-2001, I. Latsis Foundation
- Undergraduate scholarship for the academic year 1999-2000, I. Latsis Foundation
- Undergraduate scholarship for the academic year 1998-1999, I. Latsis Foundation
- Undergraduate scholarship for the academic year 1997-1998, I. Latsis Foundation
- Undergraduate scholarship for the academic year 1996-1997, I. Latsis Foundation
- First high school student (1996), I. Latsis Foundation

CONFERENCE ORGANISATION

- Jul 17-19 2006: Organising Committee member of the 1st International Workshop on Systems Biology (Maynooth, Ireland)
- Aug 17-20 2008: Organising Committee member of the 2nd International Workshop on Systems Biology (Maynooth, Ireland)
- Mar 23-25 2009: Program Committee member of the 2nd International Conference on Bioinformatics and Systems Biology (BSB 2009) (Leipzig, Germany)

PROFESSIONAL MEMBERSHIPS

- Institute of Electrical and Electronics Engineers (IEEE)
- Engineering in Medicine and Biology Society (EMBS)
- Technical Chamber of Greece (TEE)

LANGUAGES

Greek: Mother tongue
English: Excellent
French: Good

COMPUTER SKILLS

Programming: C/C++, Java, HTML, Visual Basic, Matlab
Software: MS Office, Latex, Mathematica

PUBLICATIONS

- [1] H. Düßmann, J. Wenus, D. Kalamatianos, P. Paul, P. Wellstead, H. Huber, and J. Prehn. Real-time automated live cell image acquisition and analysis using confocal laser scanning microscopy. In *Neuroscience 2009*, Chicago, ILL, Oct 17–21 2009.
- [2] D. Kalamatianos, A. D. Anastasiadis, and P. Liatsis. A nonextensive method for spectroscopic data analysis with artificial neural networks. *Brazilian Journal of Physics*, 39(2A):488–494, August 2009.
- [3] F. López-Caamal, M. C. Readman, J. A. Moreno, and D. Kalamatianos. Structure identification and robustness analysis of the intrinsic and extrinsic apoptosis pathways. In *Cancer Systems Biology*, Rostock, Germany, Jun 7-10 2009.
- [4] F. López-Caamal, M. C. Readman, J. A. Moreno, and D. Kalamatianos. Structure identification and control mechanisms in the extrinsic apoptosis pathway. In *Conference on Dynamics in Systems Biology*, Aberdeen, Scotland, Sep 14-18 2009.
- [5] D. Oyarzún, B. Ingalls, R. Middleton, and D. Kalamatianos. Sequential activation of metabolic pathways: a dynamic optimization approach. *Bulletin of Mathematical Biology*, 2009.
- [6] P. Paul, H. Düßmann, T. Bernas, H. Huber, and D. Kalamatianos. Automatic noise quantification for confocal fluorescence microscopy images. *Computerized Medical Imaging and Graphics*, 2009. Submitted.
- [7] P. Paul, D. Kalamatianos, H. Huber, J. Wenus, and H. Düßmann. Automatic real-time detection of the onset of apoptosis in confocal fluorescence microscopy. In *Proceedings of the Focus on Microscopy Conference*, page 240, Krakow, Poland, Apr 5–8 2009.
- [8] J. Wenus, H. Düßmann, P. Paul, D. Kalamatianos, M. Rehm, P. Wellstead, J. Prehn, and H. Huber. Alissa - an automated live-cell imaging system for signal-transduction analyses. *Biotechniques*, 2009. Accepted.
- [9] M. Zebrowska, M. C. Readman, M. Cloutier, and D. Kalamatianos. The autophagy pathway: A systems view. In *Cancer Systems Biology*, Rostock, Germany, Jun 7-10 2009.
- [10] M. Zebrowska, M. C. Readman, M. Cloutier, and D. Kalamatianos. A systems study of the autophagic pathway. In *The 17th ECDO Euroconference on Apoptosis*, Paris, France, Sep 23-26 2009.
- [11] A.D. Anastasiadis and D. Kalamatianos. Coating weight estimation through nonextensive statistical analysis. In *Proceedings of the International Conference on Nonextensive Statistical Mechanics Foundations and Applications*, Foz do Iguacu-PR, Brazil, Oct 27–31 2008.
- [12] D. Oyarzún, B. Ingalls, R. Middleton, and D. Kalamatianos. Optimal metabolic pathway activation. In *Proceedings of the 17th IFAC World Congress*, Seoul, Korea, Jul 6–11 2008.
- [13] P. Paul, D. Kalamatianos, H. Düßmann, and H. Huber. Automated live cell image segmentation for on-line high-content screening. In *Proceedings of the 9th International Conference on Systems Biology*, Gothenburg, Sweden, Aug 22–28 2008.
- [14] P. Paul, D. Kalamatianos, H. Düßmann, and H. Huber. Automatic quality assessment for fluorescence microscopy images. In *Proceedings of the 8th IEEE International Conference on Bioinformatics and Bioengineering*, pages 1–6, Athens, Greece, Oct 8–10 2008.
- [15] P. Wellstead, E. Bullinger, D. Kalamatianos, O. Mason, and M. Verwoerd. The rôle of control and system theory in systems biology. *Annual Reviews in Control*, 32:33–47, 2008.
- [16] E. Bullinger, R. Findeisen, D. Kalamatianos, and P. Wellstead. System and control theory furthers the understanding of biological signal transduction. In I. Queinnec, S. Tarbouriech, G. Garcia, and S.-I. Niculescu, editors, *Biology and control theory: current challenges*, volume 357 of *Lecture Notes in Control and Information Sciences (LNCIS)*, pages 123–135. Springer-Verlag, Berlin, Germany, 2007.

- [17] D. Kalamatianos, P. Liatsis, and P.E. Wellstead. Novel FT-NIR instrumentation for real-time blood monitoring. Annual Meeting of the Association of Physical Scientists in Medicine, May 11–12 2007.
- [18] D. Oyarzún, B. Ingalls, and D. Kalamatianos. Optimal metabolic regulation by time varying enzyme activities: a control theoretic approach. In *Proceedings of the Foundations of Systems Biology in Engineering Conference 2007*, pages 491–496, Stuttgart, Germany, Sep 9–12 2007.
- [19] F. Kämper, O. Selchow, D. Kalamatianos, H. Wajant, K. Pfizenmaier, and E. Bullinger. High-throughput image analysis of subcellular localization patterns of fluorescently labeled proteins. In *Proceedings of the 7th International Conference on Systems Biology*, Yokohama, Japan, Oct 9–13 2006.
- [20] D. Kalamatianos, P. Liatsis, and P.E. Wellstead. Near-infrared spectroscopic measurements of blood analytes using multi-layer perceptron neural networks. In *Proceedings of the 28th Annual International Conference of the IEEE Engineering in Medicine and Biology Society*, pages 3541–3544, New York, NY, Aug 30–Sep 3 2006.
- [21] D. Kalamatianos, P.E. Wellstead, J.M. Edmunds, and P. Liatsis. Active alignment for two-beam interferometers. *Review of Scientific Instruments*, 77(1), 2006.
- [22] D. Kalamatianos, P.E. Wellstead, P. Liatsis, and R.J. Houston. Control and data analysis tool for a novel FT-NIR spectrometer. In *Proceedings of the International Control Conference 2006*, Glasgow, UK, Aug 30–Sep 1 2006.
- [23] D. Kalamatianos, P. Liatsis, and P.E. Wellstead. Classification of urea data from a novel near-infrared spectrometer. In W.C. Chan, K. Yu, U.J. Krull, R.I. Hornsey, B.C. Wilson, and R.A. Weersink, editors, *Proceedings of SPIE*, volume 5969, pages 379–387, 2005.
- [24] D. Kalamatianos, J.M. Edmunds, P.E. Wellstead, R.J. Houston, P. Liatsis, S.M. Christie, R.J. Dewhurst, and M.S. Thorniley. Dynamic alignment system for an FT-NIR Michelson interferometer. In *Proceedings of the IEEE International Conference on Virtual Environments, Human-Computer Interfaces and Measurement Systems*, pages 120–124, Boston, MA, Jul 12–14 2004.
- [25] D. Kalamatianos, J.M. Edmunds, P.E. Wellstead, R.J. Houston, S.M. Christie, M.S. Thorniley, and R.J. Dewhurst. An algorithm development environment for an on-line FT-NIR spectrometer. In K. M. Iftekharuddin and A.A.S. Awwal, editors, *Proceedings of SPIE*, volume 5201, pages 138–145, 2003.
- [26] D. Kalamatianos, R.J. Houston, J.M. Edmunds, P.E. Wellstead, P. Liatsis, M.S. Thorniley, and R.J. Dewhurst. Characterization and evaluation of portable FT-NIR instrumentation for life science measurements. In R.K. Wang, J.C. Hebden, A.V. Priezzhev, and V.V. Tuchin, editors, *Proceedings of SPIE*, volume 5486, pages 35–42, 2003.