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### PRESENT APPOINTMENT

***1<sup>st</sup> August 2007 – present***

University of Bristol, Department of Engineering Mathematics  
Lecturer in Engineering Mathematics

### PREVIOUS APPOINTMENTS

***May 2006 – July 2007***

Ecole Normale Supérieure, 46 rue d'Ulm, 75005 Paris, France  
Postdoctoral Fellow

***November 2004 – April 2006***

LBM/NIDDK/NIH, Bethesda MD 20892-5621, US  
Postdoctoral Fellow

***September 2001 – October 2004***

University of Auckland, New Zealand  
PhD student in applied mathematics

***May 2000 - July 2001***

Drujba SA, Plovdiv, Glass packaging factory, Electronic Data Processing Department  
Specialist in statistical analyses of production processes

***September 1999 – April 2000***

The Boni Oborot Holding, office Plovdiv  
Technical assistant

***September 1998 – September 1999***

High school teacher in IT

***June 1997 – September 1998***

The Stambouli Bulgaria Ltd., Store and Warehouse Albena  
Computer specialist

***September 1996 – June 1997***

School teacher

### ACADEMIC QUALIFICATIONS

***December 2004***

Ph.D. in Mathematics, University of Auckland, New Zealand  
Thesis: A Mathematical Study of Calcium Oscillation and Waves

***June 1996***

M.Sc. in Mathematics, Plovdiv University, Bulgaria

Thesis: Sufficient conditions for existence of fractal attractors in some dynamical systems

***June 1996***

Certificate in Teaching Mathematics at Higher Education Level, Plovdiv University, Bulgaria

## RESEARCH PUBLICATIONS

### REFEREED JOURNAL ARTICLES

1. Kusev P, **Tsaneva-Atanasova K**, van Schaik P and Chater N, 2012, *Modelling judgment of sequentially presented categories using weighting and sampling without replacement*, **Behavior Research Methods**, in press
2. J Nowacki, HM Osinga and **K Tsaneva-Atanasova**, 2012, *Dynamical systems analysis of spike-adding mechanisms in transient bursts*, **The Journal of Mathematical Neuroscience**, 2:7
3. Hinke M Osinga, Arthur Sherman and **Krasimira Tsaneva-Atanasova**, 2012, *Cross-Currents Between Biology And Mathematics: The Codimension Of Pseudo-Plateau Bursting*, **Discrete and Continuous Dynamical Systems - Series A (DCDS-A)**, 32(8): 2853–2877
4. Finch AR, Caunt CJ, Perrett RM, **Tsaneva-Atanasova K** and McArdle CA, 2012, *Dual specificity phosphatases 10 and 16 are positive regulators of EGF-stimulated ERK activity: Indirect regulation of ERK signals by JNK/p38 selective MAPK phosphatases*, **Cellular Signalling**, 24(5): 1002-1011
5. Galfré E, Pitt SJ, Venturi E, Sitsapesan M, Zaccai NR, **Tsaneva-Atanasova K**, O'Neill S, Sitsapesan R, 2012, *FKBP12 Activates the Cardiac Ryanodine Receptor Ca<sup>2+</sup>-Release Channel and Is Antagonised by FKBP12.6*, **PLoS ONE**, 7(2): e31956
6. Petrovic MM, Nowacki J, Olivo V, **Tsaneva-Atanasova K**, Randall AD, et al. 2012 *Inhibition of Post-Synaptic Kv7/KCNQ/M Channels Facilitates Long-Term Potentiation in the Hippocampus*, **PLoS ONE**, 7(2): e30402
7. **Tsaneva-Atanasova K**, Caunt CJ, Armstrong SP, Perrett RM and McArdle, CA, 2012 *Decoding neurohormone pulse frequency by convergent signalling modules*, **Biochem Soc T**, 40, 273-278
8. **Tsaneva-Atanasova KT**, Mina P, Caunt CJ, Armstrong SP and McArdle CA, 2012, *Decoding GnRH neurohormone pulse frequency by convergent signalling modules*, **Journal of the Royal Society Interface**, 9(66):170-82
9. Oscar Benjamin, Thomas H. B. Fitzgerald, Peter Ashwin, **Krasimira Tsaneva-Atanasova**, Fahmida Chowdhury, Mark P. Richardson and John R Terry, 2012, *A phenomenological model of seizure initiation suggests network structure may explain seizure frequency in idiopathic generalised epilepsy*, **The Journal of Mathematical Neuroscience**, 2:1
10. Kusev P, Ayton P, van Schaik P, **Tsaneva-Atanasova K**, Stewart N and Chater N, 2011, *Judgments relative to patterns: How temporal sequence patterns affect judgments and memory*, **Journal of Experimental Psychology: Human Perception and Performance**, 37(6): 1874-86
11. Szalai R, **Tsaneva-Atanasova KT**, Homer ME, Champneys AR, Kennedy HJ & Cooper NP, 2011, *Nonlinear models of development, amplification and compression in the mammalian cochlea*, **Philosophical Transactions of the Royal Society A-Mathematical Physical and Engineering Sciences**, 369(1954): 4183-4204
12. Wondimu Teka, **Krasimira Tsaneva-Atanasova**, Richard Bertram and Joel Tabak, 2011, *From Plateau to Pseudo-Plateau Bursting: Making the Transition*, **Bulletin of Mathematical Biology**, 73(6): 1292-1311
13. Nowacki J, Osinga HM, Brown JT, Randall AD, **Tsaneva-Atanasova KT**, 2011, *A unified model of CA1/3 pyramidal cells: an investigation into excitability*, **Progress in Biophysics and Molecular Biology**, 105(1-2): 34-48

14. Walker JJ, Terry JR, **Tsaneva-Atanasova KT**, Armstrong SP, McArdle CA, Lightman SL, 2010, *Encoding and decoding mechanisms of pulsatile hormone secretion*, **Journal of Neuroendocrinology**, 22(12): 1226-1238
15. Osinga HM and **Tsaneva-Atanasova KT**, 2010, *Dynamics of plateau bursting in dependence on the location of its equilibrium*, **Journal of Neuroendocrinology**, 22(12): 1301-1314
16. **K Tsaneva-Atanasova**, HM Osinga, J Tabak and M Pedersen, 2010, *Modeling mechanisms of cell secretion*, **Acta Biotheoretica**, 58(4): 315-327
17. Stephen P Armstrong, Christopher J Caunt, Robert C Fowkes, **Krasimira Tsaneva-Atanasova** and Craig A McArdle, 2010, *Pulsatile and sustained gonadotropin-releasing hormone (GnRH) receptor signaling: Does the ERK signaling pathway decode GnRH pulse frequency?*, **Journal of Biological Chemistry**, 6; 285(32): 24360-71
18. Rackham O, **Tsaneva-Atanasova K**, Ganesh A and Mellor J, 2010, *A Ca<sup>2+</sup>-based Computational Model for NMDA Receptor-Dependent Synaptic Plasticity at Individual Postsynaptic Spines in the Hippocampus*, **Front. Syn. Neurosci.** 2:31 doi:10.3389/fnsyn.2010.00031
19. **K Tsaneva-Atanasova**, HM Osinga, T Rieß, A Sherman, 2010, *Full System Bifurcation Analysis of Endocrine Bursting Models*, **Journal of Theoretical Biology**, 264(4): 1133–1146
20. J Nowacki, SH Mazlan, HM Osinga, **K Tsaneva-Atanasova**, 2010, *The role of large-conductance Calcium-activated K<sup>+</sup> (BK) channels in shaping bursting oscillations of a somatotroph cell model*, **Physica D: Nonlinear Phenomena**, 239(9): 485-493
21. Stephen P Armstrong, Christopher J Caunt, Robert C Fowkes, **Krasimira Tsaneva-Atanasova** and Craig A McArdle, 2009, *Pulsatile and sustained gonadotropin-releasing hormone (GnRH) receptor signaling: Does the Ca<sup>2+</sup>/NFAT signaling pathway decode GnRH pulse frequency?*, **Journal of Biological Chemistry**, 18; 284(51): 35746-57
22. **K Tsaneva-Atanasova** and A Sherman, 2009, *Accounting for Near-normal Glucose Sensitivity in Kir6.2[AAA] Transgenic Mice*, **Biophysical Journal**, 4; 97(9): 2409-18
23. **K Tsaneva-Atanasova**, A Burgo, T Galli and D Holcman, 2009, *Quantifying neurite growth mediated by interactions between secretory vesicles, microtubules and actin networks*, **Biophysical Journal**, 96(3): 840-57
24. **K Tsaneva-Atanasova**, A Sherman, F van Goor and S Stojilkovic, 2007, *Mechanism of Spontaneous and Receptor-controlled Electrical Activity in Pituitary Somatotrophs: Experiments and Theory*, **Journal of Neurophysiology**, 98(1): 131-44
25. Hwei Ling Ong, Xibao Liu, **Krasimira Tsaneva-Atanasova**, Brij B Singh, Bidhan C Bandyopadhyay, William D Swaim, James T Russell, Ramanujan S Hegde, Arthur Sherman and Indu S Ambudkar, 2007, *Relocalization of STIM1 for activation of store-operated Ca<sup>2+</sup> entry is determined by the depletion of subplasma membrane endoplasmic reticulum Ca<sup>2+</sup> store*, **Journal of Biological Chemistry**, 282(16): 12176-85
26. Craig S Nunemaker, Richard Bertram, Arthur Sherman, **Krasimira Tsaneva-Atanasova**, Camille R Daniel and Leslie S Satin, 2006, *Glucose modulates [Ca<sup>2+</sup>]<sub>i</sub> oscillations in pancreatic islets via ionic and glycolytic mechanism*, **Biophysical Journal**, 91(6): 2082-96
27. **K Tsaneva-Atanasova**, Charles L Zimlik, Richard Bertram and A Sherman, 2006, *Diffusion of Calcium and Metabolites in Pancreatic Islets: Killing Oscillations with a Pitchfork*, **Biophysical Journal**, 90(10): 3434-3446

28. J Sneyd, **K Tsaneva-Atanasova**, V Reznikov, Y Bai, MJ Sanderson and DI Yule, 2006, *A Method for Determining the Dependence of Calcium Oscillations on Inositol Trisphosphate Oscillations*, **Proc. Natl. Acad. Sci. USA**, 103(6): 1675-1680
29. **K Tsaneva-Atanasova**, DI Yule and J Sneyd, 2005, *Calcium oscillations in a triplet of pancreatic acinar cells*, **Biophysical Journal**, 88(3): 1535-1551
30. **K Tsaneva-Atanasova**, TJ Shuttleworth, DI Yule, JL Thompson and J Sneyd, 2005, *Calcium oscillations and membrane transport: the importance of two time scales*, **SIAM Multiscale Modelling & Simulation**, 3(2): 245-264
31. J Sneyd, **K Tsaneva-Atanasova**, DI Yule, JL Thompson and TJ Shuttleworth, 2004, *Control of calcium oscillations by membrane fluxes*, **Proc. Natl. Acad. Sci. USA**, 101(5): 1392-1396
32. J Sneyd, **K Tsaneva-Atanasova**, JIE Bruce, SV Straub, DR Giovannucci and D.I. Yule, 2003, *A model of calcium waves in pancreatic and parotid acinar cells*, **Biophysical Journal**, 85(3): 1392-405
33. S Kostadinov and **K Tsaneva**, 1996, *On some generalization of the Hausdorff measure*, **Journal of the Thechnical University of Plovdiv**, "Fundamental Sciences and Applications", Vol. 2: 83-87

## BOOKS AND BOOK CHAPTERS

1. Alan Champneys and **Krasimira Tsaneva-Atanasova**, 2012, *Dynamical systems theory, bifurcation analysis*, in W. Dubitzky, O. Wolkenhauer, K. Cho & H. Yokota (eds.), **Encyclopedia of Systems Biology**, DOI 10.1007/978-1-4419-9863-7, © Springer Science+Business Media, LLC Springer-Verlag Heidelberg, in press
2. **K Tsaneva-Atanasova**, April 2009, *A Mathematical Study of Calcium Oscillations and Waves*, **VDM Verlag Dr. Muller Aktiengesellschaft & Co. KG**, ISBN 3639136519 - ISBN-13 9783639136517
3. J Sneyd and **K Tsaneva-Atanasova**, 2003, *Modeling calcium waves*, **Lecture Notes in Physics**, Springer-Verlag Heidelberg, Volume 62

## MEDIA PROFILES

1. **Tsaneva-Atanasova KT**, 2011, *Real time dynamic sub-structured testing and control of living systems*, **Profile in Public Service Review: UK Science & Technology: issue 3**, pp. 162

## CONFERENCE CONTRUBUTIONS (REFEREED)

1. E Rooke, B Bardy and **K Tsaneva-Atanasova**, 2011, *Toward a synergetic model of postural coordination dynamics*. **BIO Web of Conferences** 1, 00077, **SKILLS Conference: Multimodal Interfaces for Capturing and Transfer of Skill**, University of Montpellier, France, Published online: 15 December 2011, DOI: <http://dx.doi.org/10.1051/bioconf/20110100077>
2. J Nowacki, HM Osinga, **K Tsaneva-Atanasova**, 2011, *Mathematical analysis of a simplified model of after-depolarisation (ADP) via orbit segment continuation*. Program No. 622.05/YY67, 2011, Neuroscience Meeting Planner. Washington, DC: **Society for Neuroscience, 2011**
3. C Booth, J Nowacki, **K Tsaneva-Atanasova**, JT Brown, A Randall, 2011, *Altered intrinsic properties and resonance in CA1 pyramidal neurons of a*

- transgenic model of tauopathy*. Program No. 351.04/S3, 2011, Neuroscience Meeting Planner. Washington, DC: **Society for Neuroscience, 2011**
4. Nowacki J, Osinga H, Brown J, Randall A, **Tsaneva-Atanasova K.**, 2011, *Sensitivity analysis to explain the excitability in a pyramidal neuron with application to Alzheimer's disease*. **BMC Neuroscience**, **12** (Suppl 1): P342
  5. Kusev P, van Schaik P, Johansson P and **Tsaneva-Atanasova K.**, 2010, *Relative Theory of Choice*, Paper presented at the **Society for Risk Analysis conference**, King's College London, 21-23 June
  6. **Tsaneva-Atanasova K.**, N Azzopardi, T Galli and D Holcman, 2007, *Modeling vesicle trafficking and neurite growth*, **Biophysical Journal**, 115A-115A
  7. **Tsaneva-Atanasova K.**, C Nichols and S Arthur, 2006 *Accounting for near-normal glucose sensitivity in Kir6.2 AAA transgenic mice*, **Diabetes**, **55**, A371-A371
  8. Bertram R, Sherman A, Nunemaker CS, Luciani DS, Pedersen MG, Zhang M, **Tsaneva-Atanasova K** and Satin LS, 2006, *Evidence that calcium feedback and glycolytic oscillations are both important in pancreatic beta-cells: A computational and experimental study*, **Diabetes**, **55**: A369-A369
  9. Sherman, A. S., **Tsaneva-Atanosova, K. T.**, van Goor, F., Stojilkovic, S., 2005, *Role of cAMP-dependent ion channels in the regulation of spontaneous and receptor-controlled electrical activity in pituitary somatotrophs*, Program No. 760.4, 2005, Neuroscience Meeting Planner. Washington, DC: **Society for Neuroscience, 2005**
  10. Nunemaker CS, Zhang M, Bertram R, Sherman A, **Tsaneva-Atanasova K** and Satin LS, 2005, *Mouse beta-cells and islets differ in glucose responsiveness*, **Diabetes**, **54**: A407-A407
  11. Reznikov V, Sneyd J, **Tsaneva-Atanasova K** and Yule DI, 2005, *Dependence of CCK induced  $Ca_i^{(2+)}$  oscillations on fluctuations in the cytosolic InsP(3) level*, **Biophysical Journal**, **88**: 437A-437A