

## KRISTÓF IVÁN, PhD



*Place and date of birth:* Budapest, Hungary, 15/03/1979

*Marital status:* married, 3 children

### *Employment, position*

- Faculty of Information Technology, Pázmány Péter Catholic University  
*associate professor* 2009–
- Faculty of Information Technology, Pázmány Péter Catholic University  
*research assistant* 2006–2009

### *Education: University*

- Faculty of Information Technology, Pázmány Péter Catholic University  
*Doctoral School, PhD* 2002–2006
- Faculty of Economic and Social Sciences, Budapest University of Technology and Economics  
*engineer teacher major* 1999–2004
- Faculty of Chemical Engineering, Budapest University of Technology and Economics  
*biological engineering major* 1997–2002

### *Awards, Grants*

- Fulbright Scholarship, Visiting Researcher 2011-2012
- Postdoctoral Research OTKA (National Scientific Research Fund) Grant  
for a research project on digital microfluidics. 2008–2011
- Bolyai Research Fellowship 2007–2008  
from the Hungarian Academy of Sciences. The research project was on the control of  
fluid flows in microchannels.
- Award of the Association of Hungarian Chemists 2002  
for the diploma work as a biological engineer at BUTE.

### *Professional memberships*

- IEEE member 2006 –
- IAESTE member 1999 – 2001

### *Research visits*

- 8 months in 2012 visiting prof. Luke P. Lee and the BioPOETS lab at UC Berkeley, California, lab-on-a-chip applications, acoustofluidics, molecular diagnostics
- 2 months in 2006 visiting the Dept. of Pharmaceutics, University of Minnesota, MN Prof. Ronald A. Siegel; MEMS fabrication, microfluidic flow control.
- 1 week visit in 2008 at Imperial College, London, UK, Prof. Chris Toumazou, electrodes and drug delivery.
- 1 week visit in 2008 at Duke University, Durham, NC, Prof. Krish Chakrabarty, digital microfluidics.
- 2 weeks visit in 2008 Faculty of EECS, UC Berkeley, CA, Prof. Luke P. Lee, PDMS based microfluidic platforms.

### *Courses taught*

At the Faculty of Information Technology, Pázmány Péter Catholic University in the curricula of Molecular bionics BSc and Info-bionics MSc.

- *World of molecules*, lectures and molecular modeling lab 2009/2010/1
- *BioMEMS and medical microdevices*, lectures 2009/2010/1

#### *Areas of research interest*

- microfluidics, MEMS devices for biological applications, digital microfluidics, complex lab-on-a-chip devices, molecular biology, molecular detection methods.

#### *Languages*

English: excellent, Russian: intermediate, Swedish: colloquial,  
Spanish: colloquial, Latin: intermediate.

#### *List of publications*

- [1] Z. Fekete, E. G. Holczer, E. Tóth, K. Iván, and P. Fürjes, “Stochastic mixing in microfluidics integrable in bioanalytical systems,” *Procedia Engineering*, vol. 25, no. 0, pp. 1229–1232, 2011.
- [2] P. Fürjes, Z. Fekete, E. G. Holczer, E. Tóth, K. Iván, and I. Bársony, “Particle Mixing by Chaotic Advection in Polymer Based Microfluidic Systems,” *Procedia Engineering*, vol. 47, no. 0, pp. 454–457, 2012.
- [3] K. Iván, N. Kirschner, M. Wittmann, P. L. Simon, V. Jakab, Z. Noszticzius, J. H. Merkin, and S. K. Scott, “Direct evidence for fixed ionic groups in the hydrogel of an electrolyte diode,” *Physical Chemistry Chemical Physics*, vol. 4, no. 8, pp. 1339–1347, Apr. 2002.
- [4] K. Iván, P. L. Simon, M. Wittmann, and Z. Noszticzius, “Electrolyte diodes with weak acids and bases. I. Theory and an approximate analytical solution,” *The Journal of Chemical Physics*, vol. 123, no. 16, pp. 164509–164509–9, Oct. 2005.
- [5] K. Iván, M. Wittmann, P. L. Simon, Z. Noszticzius, and D. Šnita, “Electrolyte diodes with weak acids and bases. II. Numerical model calculations and experiments,” *The Journal of Chemical Physics*, vol. 123, no. 16, pp. 164510–164510–7, Oct. 2005.
- [6] K. Iván, M. Wittmann, P. L. Simon, Z. Noszticzius, and J. Vollmer, “Electrolyte diodes and hydrogels: Determination of concentration and pK value of fixed acidic groups in a weakly charged hydrogel,” *Phys. Rev. E*, vol. 70, no. 6, p. 061402, Dec. 2004.
- [7] A. Laki, I. Rattalino, F. Corinto, K. Ivan, D. Demarchi, and P. Civera, “An integrated LOC hydrodynamic focuser with a CNN-based camera system for cell counting application,” in *Biomedical Circuits and Systems Conference (BioCAS), 2011 IEEE*, 2011, pp. 301–304.
- [8] A. Laki, I. Rattalino, A. Sanginario, N. Piacentini, K. Ivan, D. Lapadatu, J. Taylor, D. Demarchi, and P. Civera, “An integrated and mixed technology LOC hydrodynamic focuser for cell counting application,” in *Biomedical Circuits and Systems Conference (BioCAS), 2010 IEEE*, 2010, pp. 74–77.
- [9] M. Lei, B. Ziaie, E. Nuxoll, K. Iván, Z. Noszticzius, and R. A. Siegel, “Integration of Hydrogels with Hard and Soft Microstructures,” *Journal of Nanoscience and Nanotechnology*, vol. 7, no. 3, pp. 780–789, 2007.