

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.