Lorand Kelemen

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EDUCATION

University of Szeged, Hungary
Ph.D. in Multidisciplinary medical science **2002**
Dissertation: "Light-induced reactions of proteins monitored by Fourier-transform infrared spectroscopy"

Jozsef Attila University (presently: University of Szeged), Szeged, Hungary
Diploma in physics major **1994**
Diploma Thesis: "Laser-assisted pyrolitic liquid phase deposition"

WORKING EXPERIENCE

József Attila University, Research Group on Laser Physics **1994 - 1995**
Junior researcher

Biological Research Centre of the Hung. Acad. of Sci. **1995 - 1997**
Junior research fellow

Biological Research Centre of the Hung. Acad. of Sci. **2002 - 2017**
Research fellow

Biological Research Centre of the Hung. Acad. of Sci. **2017 -**
Senior research fellow

AWARDS, FELLOWSHIPS

Postdoctoral Fellowship, Oklahoma State University, Dept. of Physics **2002 - 2004**

Award for Young Scientists of the Hungarian Academy of Sciences **2002**

Bolyai János Research Fellowship **September 2013 - August 2016**

LONG TERM PROFESSIONAL VISITS

Stillwater, OK, USA **June 2002 – March 2004**
Oklahoma State University, Dept of Physics, postdoctoral fellowship

Stillwater, OK, USA **November 1998 – November 1999**
Oklahoma State University, Dept of Physics, visiting scholar

TEACHING EXPERIENCE

"Contemporary Experimental Biology" Postgradual Education Program **2014 - 2015**
Lecturer, Course title: Micro- and nanotechnology for cell biophysics
BRC, Szeged, Hungary

School of Biophotonics 2013 **17-30 June, 2013**

Invited lecturer, Kosice, Slovakia

GRANT SUPPORTS

Femtobiology **2005 - 2008**
Consortium member, NKFP1-007/2005, 35.000.000 HUF

FEASIBLE **2014 –2017**
Consortium member, CONCERT-Japan research grant to prepare Lab-On-a-Chip systems, OTKA NN 114692, 30.918.000 HUF

Elastic microtools for optical manipulation of biological objects **2019 –2021**
Slovakian-Hungarian mobility grant by the Hungarian Academy of Sciences, NKM2018-56, 1.818.000 HUF

Personalized medicine through 3D printing of biomedical structures **2017 –2021**
EU - Hungarian Ministry of Finance, GINOP-2.3.3-15-2016-00040, 52.620.000 HUF

CONFERENCE ORGANIZATION

Optical Micro-Manipulation by Nonlinear Nanophotonics **October 5-8, 2010, Visegrád**
EU program COST MP0604,

Special Session "Hybrid Femtosecond Laser Microfabrication" **May 26-29, 2015., Fukuoka, Japan**
7th International Congress on Laser Advanced Materials Processing conference

XXVI Congress of the Hungarian Biophysical Society **August 22-25, 2017., Szeged, Hungary**

MEMBERSHIPS

Hungarian Biophysical Society **2000-present**

Board member between 2016 and 2023

Secretary of the Membrane section from 2015

SCIENTOMETRIC PARAMETERS

Number of in extenso publication in periodicals: 44

Number of in extenso publication as book chapters: 2

Number of independent/total citations: 1074/1453

Hirsch index: 17

FIELD OF EXPERTISE

Laser-assisted microfabrication, micromanipulation, optical tweezers, microfluidics, two-photon polymerization, Fourier-transformed infrared spectroscopy

SELECTED PUBLICATIONS

Fekete, T.; Mészáros, M.; Szegletes, Zs.; Vizsnyiczai, G.; Zimányi, L.; Deli, M. A.; Veszelka, Sz.; **Kelemen, L**.: Optically Manipulated Microtools to Measure Adhesion of the Nanoparticle-Targeting Ligand Glutathione to Brain Endothelial Cells, *ACS Appl. Mater. Interf.* **13**:39018-39029 (2021)

Kubackova, J.; Slaby, C.; Horvath, D.; Hovan, A.; Ivanyi, G. T.; Vizsnyiczai, G.; **Kelemen, L**.; Zoldak, G.; Tomori, Z.; Bano, G.: Assessing the Viscoelasticity of Photopolymer Nanowires Using a Three-Parameter Solid Model for Bending Recovery Motion, *Nanomater* **11**:2961 (2021)

Grexa, I.; Fekete, T.; Molnar, J.; Molnar, K.; Vizsnyiczai, G.; Ormos, P.; **Kelemen, L**.: Single-Cell Elasticity Measurement with an Optically Actuated Microrobot, *Micromachines* **11**:882 (2020)

Vizsnyiczai, G.; Búzás, A.; Aekbote, B. L.; Fekete, T.; Grexa, I.; Ormos, P.; **Kelemen, L**.: Multiview microscopy of single cells through microstructure-based indirect optical manipulation, *Biomed Opt Express* **11**:945-962 (2020)

Kelemen, L.; Lepera, E.; Horvath, B.; Ormos, P.; Osellame, R.; Vazquez, R. M.: Direct writing of optical microresonators in a lab-on-a-chip for label-free biosensing, *Lab Chip* **19**:1985-1990 (2019)

Aekbote, B. L.; Fekete, T.; Jacak, J.; Vizsnyiczai, G.; Ormos, P.; **Kelemen, L**.: Surface-modified complex SU-8 microstructures for indirect optical manipulation of single cells, *Biomed Opt Express* **7**:45-56 (2016)