



Zoltán S. Göröcs Ph.D.

Address:
3780 Keystone Avenue #206
Los Angeles CA 90034
USA

Phone: +1(310)4059490
E-mail: zoli.gorocs@gmail.com

Personal Data

Nationality: Hungarian

Date of Birth: 29th April 1980

Place of Birth: Salgótarján, Hungary

Career History

- | | |
|--------------|---|
| 2011-present | Postdoctoral scholar at the University of California Los Angeles Nano/Bio Photonics Lab. PI: Dr. Aydogan Ozcan <ul style="list-style-type: none">- Optical design for Cellphone based microscopy systems- Created an ultra large field of view fluorescent imaging system utilizing a conventional flatbed scanner- Enhanced several scalar diffraction based digital holographic reconstruction algorithms |
| 2009-2011 | Research Fellow at the Computer and Automation Research Institute of the Hungarian Academy of Sciences <ul style="list-style-type: none">- Designed and built a color digital holographic video microscope.- Developed algorithms for the microscope, including reconstruction, automatic object detection, and twin image elimination algorithms. |
| 2006-2007 | Research Intern at TOSHIBA Research and Development Center, Mechanical Systems Laboratory, Kawasaki, Japan: <ul style="list-style-type: none">- Developed a Rigorous Coupled Wave Analysis algorithm in Matlab.- Helped in the computer simulations of the optical behavior of the HD-DVD disk.- Designed broadband form birefringent wave retarders. |
| 2003-2011 | Ph.D. Student at Budapest University of Technology and Economics: <ul style="list-style-type: none">- Responsible for the computer simulations of a phase encrypted holographic data storage system.- Optical laboratory experience: Holographic system construction. |

Education, Degrees

- | | |
|-----------|--|
| 2011 | Ph.D. in Physics at Budapest University of Technology and Economics |
| 1998–2003 | Budapest University of Technology and Economics
Faculty of Natural Sciences
Physics Engineering (Optics) |
| 2003 | Graduated (M.Sc in Physics Engineering) |

Language Knowledge

- | | |
|-----------|-----------------|
| Hungarian | Native language |
| English | Fluent |
| German | Basic Level |

Publications

- Z. Göröcs**, and A. Ozcan, “*Biomedical imaging and sensing using flatbed scanners*”
Lab on a Chip 14 (17), 3248-57. DOI: 10.1039/c4lc00530a (2014)
- Z. Göröcs**, Y. Ling, M. Dai Yu, D. Karahalios, K. Mogharabi, K. Lu, Q. Wei, and A. Ozcan,
“*Gigapixel fluorescent imaging over an ultra-large field-of-view using a flatbed scanner,*”
Lab on a Chip DOI:10.1039/C3LC51005K (2013)
- Q. Wei, H. Qi, W. Luo, D. Tseng, S. Jung Ki, Z. Wan, **Z. Göröcs**, L.A. Bentolila, T. Wu, Ren Sun, and
A. Ozcan, “*Fluorescent Imaging of Single Nanoparticles and Viruses on a Smart-Phone,*”
ACS Nano 7 (10), pp 9147–9155 DOI:10.1021/nn4037706 (2013)
- Z. Göröcs**, and A. Ozcan, “*On-Chip Biomedical Imaging,*”
IEEE Reviews in Biomedical Engineering DOI: 10.1109/RBME.2012.2215847 (2012)
- A. Greenbaum, W. Luo, T-W. Su, **Z. Göröcs**, L. Xue, S.O. Isikman, A.F. Coskun, O. Mudanyali, and A. Ozcan,
“*Imaging without lenses: achievements and remaining challenges of wide-field on-chip microscopy,*”
Nature Methods DOI:10.1038/nmeth.2114 (2012)
- M. Z. Kiss, B. J. Nagy, P. Lakatos, **Z. Göröcs**, Sz. Tökés, B. Wittner, L. Orzó
“*Special multicolor illumination and numerical tilt correction in volumetric digital holographic
microscopy*”
Optics Express 22 (7), pp 7559-73 DOI: 10.1364/OE.22.007559. (2014)
- L. Orzó, **Z. Göröcs**, A. Fehér, and S. Tokés.
“*In-line hologram segmentation for volumetric samples*”
Applied Optics, 52(1):A45–A55, (2013)
- M.Z. Kiss, **Z. Göröcs**, and S. Tokés.
“*Self-referenced digital holographic microscopy.*”
Cellular Nanoscale Networks and Their Applications (CNNA), 2012, pages 1–4. IEEE, (2012)
- Zoltán Göröcs**, Tamás Sarkadi, Gábor Erdei, and Pál Koppa
“*Hologram positioning servo for phase-encoded holographic data storage systems*”
Applied Optics, Vol. 49, Issue 4, pp. 611-618 (2010)
- Zoltán Göröcs**; Márton Kiss; Veronika Tóth; László Orzó; Szabolcs Tokés
“*In-line color digital holographic microscope for water quality measurements*”
International Conference on Laser Applications in Life Sciences (LALS-2010),
Oulu, Finland (2010)
- Zoltán Göröcs**; Márton Kiss; Veronika Tóth; László Orzó; Szabolcs Tokés
“*Multicolor digital holographic microscope (DHM) for biological purposes*”
Photonics West, San Francisco, California, USA, 23-28 January 2010. Proc.of SPIE 7568
- Orzo, L.; **Gorocs, Z.**; Sztamari, I.; Tokes, S.
“*GPU implementation of volume reconstruction and object detection in Digital Holographic Microscopy*” 12th
International Workshop on Cellular Nanoscale Networks and Their Applications (CNNA), Berkeley, CA, p. 1-4
DOI:10.1109/CNNA.2010.5430246 (2010)
- Z. Göröcs**, G. Erdei, T. Sarkadi, F. Ujhelyi, J Remenyi, P Koppa, E. Lorintz
“*Hybrid multinary modulation using a phase modulating spatial light modulator and a low pass spatial
filter*”;
Optics Letters 32, p. 2336-2338, (2007)
- Z. Gorocs**, G. Erdei, T. Sarkadi, F. Ujhelyi, J Remenyi, P Koppa, E. Lorintz
“*Application of phase-SLM and low-pass Fourier filtering to generate spatial patterns simultaneously
modulated in phase and amplitude*”;
CLEO 2007 Conference on Lasers and Electro optics, International Quantum electronics Conference, Munich,
Germany 17-22 June 2007
- F. Ujhelyi, M. Lovasz, **Z. Gorocs**, A. Suto, P Koppa, G. Erdei, E. Lorintz
“*Phase coded polarization holographic system demonstration*”;
Conference on Holography, Varna, Bulgaria, 21-25 May 2005; Proc.of SPIE 6225
- Pal Maak, **Zoltan Gorocs**, Istvan Frigyes, Laszlo Jakab, Peter Richter,
“*Continuously variable pulse true-time delay system incorporating an acousto-optic Bragg cell and an
electro-optic modulator*”;
Optical Engineering 43(05), p. 1238-1243, Donal F. O'Shea; Ed.; May 2004

**Scholarships,
Internships**

2004 november ATHENS scholarship at the Ecole Nationale Supérieure des Télécommunications. Course: Image Processing. Professor: Florence TUPIN

2006 – 2007 1 year research internship at the TOSHIBA Research and Development Center, Mechanical Systems Laboratory, Kawasaki, Japan

Awards, Honors

2002 Won 3rd prize at the Students Scientific Conference at the Budapest University of Technology and Economics, Section: Optics

2003 Taken part at the National Students Scientific Conference at the University of Miskolc, Section: Optics

Research experience

Optics: Acousto-Optics, Interference, Heterodyning, Electro-Optics, Optical Signal Processing, Holography, Digital Holography
Image processing, Form Birefringence, Microscopy
Rigorous Coupled Wave Analysis.

Computer skills

Pascal, Delphi, C, MATLAB, Zemax, FRED, RSoft, MSOffice...