

## Alborz Feizi

Development Engineer / HHMI Project Mentor

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### Education

#### Departmental Scholar: Joint M.S./B.S., Bioengineering

University of California, Los Angeles

Sep 2010 – Sep 2016

- *Thesis title: Portable, Cost-effective, and Rapid Yeast Cell Concentration and Viability Measurement using Lensless On-chip Microscopy and Support Vector Machine Classification (Advisor: Prof. Aydogan Ozcan)*
  - *Relevant coursework: advanced anatomy and physiology, computer science, biocompatibility, biomedical transducers, system integration in medicine, minimally invasive surgical tools, photonics in biomedical applications, energy-tissue interaction, and magnetic resonance imaging*
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### Journal Publications

1. Y. Rivenson, Y. Wu, H. Wang, Y. Zhang, **A. Feizi**, and A. Ozcan, "Sparsity-based multi-height phase recovery in holographic microscopy," *Scientific Reports* (2016)  
DOI:10.1038/srep37862
2. **A. Feizi**, Y. Zhang, A. Greenbaum, A. Guziak, M. Luong, R. Chan, B. Berg, H. Ozkan, W. Luo, M. Wu, Y. Wu, and A. Ozcan, "Rapid, portable and cost-effective yeast cell viability and concentration analysis using lensfree on-chip microscopy and machine learning," *Lab on a Chip* (2016)  
DOI:10.1039/C6LC00976J
3. Z. Nemeth, E. Csizmadia, L. Vikstrom, M. Li, K. Bisht, **A. Feizi**, S. Otterbein, B. Zuckerbraun, D. Costa, J. Fillinger, P. Pandolfi, B. Dome, L. Otterbein, and B. Wegiel, "Alterations of Tumor Microenvironment by Carbon Monoxide Impedes Lung Cancer Growth," *Oncotarget* (2016)  
DOI:10.18632/oncotarget.8081
4. W. Luo, Y. Zhang, Z. Gorocs, **A. Feizi**, and A. Ozcan, "Propagation phasor approach for holographic image reconstruction," *Scientific Reports* (2016)  
DOI: 10.1038/srep22738
5. W. Luo, Y. Zhang, **A. Feizi**, Z. Gorocs, and A. Ozcan, "Pixel super-resolution using wavelength scanning," *Light: Science & Applications* (Nature Publishing Group) (2015)  
DOI:10.1038/lsa.2016.60
6. E. McLeod, U. Dincer, M. Veli, Y. Ertas, C. Nguyen, W. Luo, A. Greenbaum, **A. Feizi**, and A. Ozcan, "High-Throughput and Label-Free Single Nanoparticle Sizing Based on Time-Resolved On-Chip Microscopy," *ACS Nano* (2015)  
DOI:10.1021/acsnano.5b00388
7. A. Greenbaum, Y. Zhang, **A. Feizi**, P. Chung, W. Luo, S. Kandukuri, and A. Ozcan, "Wide-field computational imaging of pathology slides using lens-free on-chip microscopy," *Science Translational Medicine* (2014)  
DOI:10.1126/scitranslmed.3009850
8. A. Greenbaum, **A. Feizi**, N. Akbari, and A. Ozcan, "Wide-field computational color imaging using pixel super-resolved on-chip microscopy," *Optics Express* (2013)  
DOI:10.1364/OE.21.012469
9. A. Greenbaum, N. Akbari, **A. Feizi**, W. Luo, and A. Ozcan, "Field-Portable Pixel Super-Resolution Colour Microscope," *PLoS ONE* (2013)  
DOI:10.1371/journal.pone.0076475

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 Patents

1. A. Ozcan, **A. Feizi**, and A. Greenbaum, "System and Method for Rapid, Portable and Cost-effective Yeast Cell Viability and Concentration Analysis Using Lensfree On-chip Microscopy and Machine Learning," UCLA Case No. 2017-093
2. **A. Feizi**, A. Kaboodrangi, A. Banda, I. Kassam, J. Hrabia, M. Teng, O. Yang, P. Krogstad, G. Saddik, and D. DiCarlo, "Method and Device for Continuous Non-Invasive Blood Pressure Measurement," UCLA Case No. 2015-899
3. A. Ozcan, A. Greenbaum, Y. Zhang, **A. Feizi**, and W. Luo, "Device and Method for Iterative Phase Recovery Based on Pixel Super-Resolved On-Chip Holography," Application No.: PCT/US2015/043266

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 Conferences/Posters

## (\*) Oral Presentation by A. Feizi

1. **A. Feizi\***, Y. Zhang, A. Greenbaum, A. Guziak, M. Luong, R. Chan, B. Berg, W. Luo, M. Wu, Y. Wu, and A. Ozcan, "Yeast viability and concentration measurement using lens-free on-chip microscopy and machine learning," SPIE Photonics West, January 28, 2017, The Moscone Center, San Francisco, CA, USA
2. **A. Feizi\***, Y. Zhang, A. Greenbaum, R. Chan, B. Berg, P. Chung, M. Wu, H. Ozkan, and A. Ozcan, "Portable and cost-effective yeast viability analysis using lens-free on-chip microscopy and machine learning," SPIE Photonics Europe, April 3-7, 2016, Square – Brussels Meeting Centre, Brussels, Belgium
3. W. Luo, Z. Göröcs, Y. Zhang, **A. Feizi**, A. Greenbaum, and A. Ozcan, "Wavelength Scanning Achieves Pixel Super-Resolution in Holographic on-Chip Microscopy," SPIE Photonics West, February 13-18, 2016, The Moscone Center, San Francisco, CA, USA
4. Y. Zhang, A. Greenbaum, **A. Feizi**, P-L. Chung, W. Luo, S. Kandukuri, and A. Ozcan, "Computational Imaging of Pathology Slides Using Wide-Field On-Chip Microscopy," BMES (Biomedical Engineering Society) Annual Meeting, October 7-10, 2015, Tampa, Florida, USA
5. N. Zsuzsanna, E. Csizmadia, L. Vikstrom, M. Li, K. Bisht, **A. Feizi**, D. Gallo, L. Otterbein, J. Fillinger, B. Dome, D. Costa, and B. Wegiel, "Carbon Monoxide Targets Notch1 and MAPK-ERK1/2 Signaling Pathways to Block Growth of Lung Carcinoma," AACR 106<sup>th</sup> Annual Meeting, April 18-22, 2015, Philadelphia, PA, USA
6. **A. Feizi\***, A. Kaboodrangi, A. Banda, I. Kassam, J. Hrabia, and M. Teng, "A Novel Method for Continuous and Non-Invasive Blood Pressure Monitoring," 16<sup>th</sup> Annual UC Systemwide Bioengineering Symposium, June 22-24, 2015, University of California, Santa Cruz, CA, USA
7. **A. Feizi**, A. Greenbaum, Y. Chan, B. Berg, Y. Zhang, H. Ozkan, P. Chung, M. Wu, and A. Ozcan, "Portable and Cost-effective Cell Viability Analysis Using Lensfree On-Chip Imaging," 16<sup>th</sup> Annual UC Systemwide Bioengineering Symposium, June 22-24, 2015, University of California, Santa Cruz, USA
8. **A. Feizi\***, B. Berg, Y. Chan, P. Chung, M. Wu, A. Greenbaum, Y. Zhang, H. Ozkan, and A. Ozcan, "Portable Cell Counting Based on Lens-free On-chip Imaging," 1<sup>st</sup> Annual Presentation and Demo Day of the HHMI Undergraduate Research, Training and Innovation Program for Translational Biophotonics and Telemedicine Technologies, June 4, 2015, California Nanosystems Institute, University of California, Los Angeles, USA
9. **A. Feizi\***, Y. Zhang, A. Greenbaum, P. Chung, W. Luo, S. Kandukuri, and A. Ozcan, "Wide-field Imaging of Pathology Slides using Lens-free On-chip Microscopy," 1<sup>st</sup> Annual Presentation and Demo Day of the HHMI Undergraduate Research, Training and Innovation Program for Translational Biophotonics and Telemedicine Technologies, June 4, 2015, California Nanosystems Institute, University of California, Los Angeles, USA
10. N. Eshraghi, E. Lester, L. Huey, C. Hamad, D. Johnk, J. Kim, A. Loftin, A. Khahera, S. McCormack, **A. Feizi**, J. Yasmeh, N. Dillard, B. Shea, M. Khalique, N. Vu, A. Palosaari, I. Dey, M. Lai, E. Jung, K. Le, A. Namavar, and N. Afsar-manesh, "Advancing and Inspiring the Future of Medicine: THINQ," UCLA Science Poster Day 2015, May 12, 2015, University of California, Los Angeles, USA

11. **A. Feizi**, B. Berg, Y. Chan, P. Chung, M. Wu, A. Greenbaum, Y. Zhang, H. Ozkan, and A. Ozcan, "Automated Portable Cell Viability Analyzer Using Lensfree On-Chip Imaging," UCLA Science Poster Day 2015, May 12, 2015, University of California, Los Angeles, USA
12. **A. Feizi**, A. Greenbaum, Y. Zhang, P. Chung, W. Luo, S. Kandukuri, and A. Ozcan, "Wide-field Color Imaging of Pathology Slides Using Lensfree Microscopy," UCLA Science Poster Day 2015, May 12, 2015, University of California, Los Angeles, USA
13. E. McLeod, T. Dincer, M. Veli, Y. Ertas, C. Nguyen, W. Luo, A. Greenbaum, **A. Feizi**, A. Ozcan, "Field-Portable Nanoparticle and Virus Sizing Enabled by On-Chip Microscopy and Vapor-Condensed Nanolenses," CLEO: Science and Innovations, May 10-15, 2015, San Jose, CA, USA
14. Y. Zhang, A. Greenbaum, **A. Feizi**, P. Chung, W. Luo, S. R. Kandukuri, and A. Ozcan, "Wide-field Imaging of Pathology Slides using Lensfree On-chip Microscopy," CLEO: Science and Innovations, May 10-15, 2015, San Jose, CA, USA
15. Y. Zhang, A. Greenbaum, **A. Feizi**, and A. Ozcan, "Pathology slide imaging using wide-field lensfree microscopy," SPIE Photonics West, February 8, 2015, The Moscone Center, San Francisco, USA
16. A. Greenbaum, **A. Feizi**, N. Akbari, and A. Ozcan, "Computational Lensfree Color Microscopy for Wide Field-of-view Imaging," SPIE Photonics West, February 1-6, 2014, The Moscone Center, San Francisco, USA
17. A. Greenbaum, **A. Feizi**, N. Akbari, and A. Ozcan, "Spectral Demultiplexing in Computational On-chip Microscopy," 14<sup>th</sup> Annual UC Systemwide Bioengineering Symposium, June 19-21, 2013, University of California, San Diego, USA
18. A. Greenbaum, N. Akbari, **A. Feizi**, and A. Ozcan, "Field-Portable Lensfree Holographic Color Microscope for Telemedicine Applications," IEEE Global Humanitarian Technology Conference, October 20-23, 2013, San Jose Airport Garden Hotel, Silicon Valley, USA

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## Awards

- Nancy D. and Aaron S. Cohen Engineering Scholarship: Feb 2016
- HHMI Undergraduate Research Day at UCLA Best Oral Presentation Award: May 2015
- SPIE Travel Scholarship to attend SPIE Photonics Europe 2016: May 2015
- UCLA Bioengineering Senior Design Best Diagnostic Solution: March 2015
- SPIE Education Scholarship in Optical Science and Engineering: May 2014
- Monte and Ruthellen Toole Scholarship in Engineering Award: Jan 2014
- UCLA Scholarship Recognition Award: Jun 2010