

# **DEMETRI PSALTIS**

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## ACADEMIC POSITIONS

- Professor and Director of Optics Laboratory, EPFL, 2007- present.
- Dean of School of Engineering, EPFL 2007 - 2016
- Director, DARPA Center for Optofluidic Integration, 2004 to 2008.
- *Thomas G. Myers*, Professor of Electrical Engineering, California Institute of Technology, 1996 – 2008.
- Visiting Professor, Electrical and Computer Engineering, Massachusetts Institute of Technology 2003-2004.
- Director, National Science Foundation Center for Neuromorphic Systems Engineering, California Institute of Technology, 1996 – 1999.
- Professor of Electrical Engineering, California Institute of Technology, 1990 – 1996.
- Executive Officer, Computation and Neural Systems, California Institute of Technology, 1992 – 1996.
- Visiting Professor of Electrical Engineering, Stanford University, 1991.
- Visiting Professor at the National Technical University of Athens, 1991.
- Associate Professor of Electrical Engineering, California Institute of Technology, 1985-1990.
- Assistant Professor of Electrical Engineering, California Institute of Technology, 1980-1985.
- Visiting Assistant Professor of Electrical Engineering, Carnegie-Mellon University, 1979 -1980.
- Research Associate, Carnegie-Mellon University, 1977-1979.
- Research Assistant, Carnegie-Mellon University, 1975-1977.

## OTHER POSITIONS

- Defitech Foundation Board member, 2018-.
- SPIE Board member, 2014-2017.
- Campus Biotech Board member, 2014-2017.
- Wyss Institute Board member, 2014-2017
- Ondax Chairman of the board, 2000-2006.

## EDUCATION

- B.Sc. Electrical Engineering, Carnegie-Mellon University, 1974.
- B.Sc. Economics, Carnegie-Mellon University, 1974.
- M.Sc. Electrical Engineering, Carnegie-Mellon University, 1975.
- Ph.D. Electrical Engineering, Carnegie-Mellon University, 1977.

## RESEARCH INTERESTS

- Optical Imaging and Holography.
- Biophotonics.
- Optofluidics.
- Energy.

## HONORS

- 2016 OSA – Joseph Fraunhofer Award/Robert M. Burley Prize
- 2012 EOS Fellow.
- 2012 OSA – Emmett N. Leith Medal.
- 2006 SPIE Dennis Gabor Award.
- 2005 IEEE Fellow.
- 2003 Photorefractive Conference '03 Best Application Conference Prize.
- 2003 Humboldt Research Award for Senior U. S. Scientists.
- 2002 NASA Space Act Award.
- 1990 International Commission of Optics (ICO) Prize for contributions in Optical Information Processing
- 1989 Optical Society of America, Fellow.
- 1986 Society of Photo-optical Instrumentation Engineers, Fellow.

## ***PUBLICATIONS***

## ONLINE PROFILE LINK

- [Google Scholar](#)

## JOURNAL ARTICLES

**2022**

1. “Roadmap on wavefront shaping and deep imaging in complex media” ; Sylvain Gigan, Ori Katz, Hilton Barbosa de Aguiar, Esben Andresen, Alexandre Aubry, Jacopo Bertolotti, Emmanuel Bossy, Dorian Bouchet, Josh Brake, Sophie Brasselet, Yaron Bromberg, Hui Cao, Thomas Chaigne, Zhongtao Cheng<sup>11</sup>, Won-Shik Choi, Tomas Cizmar, Meng Cui, Vincent Curtis, Hugo Defienne, Matthias Hofer, Ryoichi Horisaki, Roarke Horstmeyer, Na Ji, Aaron LaViolette, Jerome Mertz, Christophe Moser, Allard P. Mosk, Nicolas Pégard, Rafael Piestun, Sébastien Popoff, Dave Phillips, D Psaltis, Babak Rahmani, Herve Rigneault, Stefan Rotter, Lei Tian, Ivo M Vellekoop, Laura Waller, Lihong V Wang, Timothy Weber, Sheng Xiao, Chris Xu, Alexey Yamilov, Changhui Yang and Hasan Yilmaz ; Journal of Physics : Photonics (2022)

2. "Learning to image and compute with multimode optical fibers"; Babak Rahmani, Ilker Oguz, Ugur Tegin, Jih-Liang Hsieh, Demetri Psaltis, Christophe Moser; *Nanophotonics* (2022)
3. "Optical diffraction tomography using nearl in-line holography with a broadband LED source"; Ahmed Bassam Ayoub, Abhijit Roy, Demetri Psaltis; *Applied Sciences* 12 (3), 951 (2022)
4. "MaxwellNet: Physics-driven deep neural network training based on Maxwell's equations"; Joowon Lim, Demetri Psaltis; *APL Photonics* 7 (1), 011301 (2022)
5. "Photonic waveguide bundles using 3D laser writing and deep neural network image reconstruction"; Giulia Panusa, Niyazi Ulas Dinç, Demetri Psaltis; *Optics Express* 30 (2), 2564-2577 (2022)

## 2021

1. "Ultrafast nonlinear imaging and spectroscopy IX"; Zhiwen Liu, Demetri Psaltis, Kebin Shi; *Proc. Of SPIE Vol 11825*, 1182501-1 (2021)
2. "Tomographic diffraction microscopy of birefringence"; Amirhossein Saba, Joowon Lim, Ahmed Bassam Ayoub, Elizabeth E. Antoine, Demetri Psaltis; *Digital Holograph and Three Dimensional Imaging, DM6E.5* (2021)
3. "Direct (3+1)D laser writing of graded-index optical elements"; Xavier Porte, Niyazi Ulas Dinc, Johnny Moughames, Giulia Panusa, Caroline Juliano, Muamer Kadic, Christophe Moser, Daniel Brunner, Demetri Psaltis ; *Optica Vol.8*, Issue 10, pp. 1281-1287 (2021)
4. "High speed, complex wavefront shaping using the digital micro-mirror device"; Ahmed Bassam Ayoub, Demetri Psaltis; *Scientific Reports* 11 (1), 1-10 (2021)
5. "Scalable optical learning operator"; U Tegin, M Yildirim, I Oguz, C Moser, D Psaltis; *Nature Computational Science* 1, 542-549 (2021)
6. "Reusability report: Predicting spatiotemporal nonlinear dynamics in multimode fibre optics with a recurrent neural network"; Ugur Tegin, Niyazi Ulas Dinc, Christophe Moser, Demetri Psaltis; *Nature Machine Intelligence*, 1-5 (2021)
7. "Competitive photonic neural networks"; Daniel Brunner, Demetri Psaltis; *Nature Photonics* 15 (5), 323-324 (2021)
8. "A membrane-less electrolyzer with porous walls for high throughput and pure hydrogen production"; Pooria Hadikhani, S. Mohammad H. Hashemi, Steven A. Schenk, Demetri Psaltis; *Sustainable Energy & Fuels* (2021)
9. "Predicting optical transmission through complex scattering media from reflection patterns with deep neural networks"; Kyriakos Skarsoulis, Eirini Kakkava, Demetri Psaltis; *Optics Communications*, 126968 (2021)
10. "Polarization-sensitive optical diffraction tomography"; Amirhossein Saba, Joowon Lim, Ahmed B. Ayoub, Elizabeth Antoine, Demetri Psaltis; *Optica* 8 (3), 402-408 (2021)
11. "3D reconstruction of weakly scattering objects from 2D intensity-only measurements using the Wolf transform "; Ahmed B. Ayoub, Joowon Lim, Elizabeth Antoine, Demetri Psaltis; *Optics Express*, Vol.29, 3976-3984 (2021)

## 2020

1. "Inference in artificial intelligence with deep optics and photonics"; Gordon Wetzstein, Aydogan Ozcan, Sylvain Gigan, Shanhui Fan, Dirk Englund, Marin Soljacic, Cornelia Denz, David A.B. Miller, Demetri Psaltis; *Nature* 588, 39-47 (2020)

2. "Single-mode output by controlling the spatiotemporal nonlinearities in mode-locked femtosecond multimode fiber lasers"; Ugur Tegin, Babak Rahmani, Eirini Kakkava, Demetri Psaltis, Christophe Moser; *Advanced Photonics*, 2(5), 056005 (2020)
3. "Optical neural networks : The 3D connection"; Niyazi Ulas Dinc, Demetri Psaltis, Daniel Brunner; *Photoniques*, 34-38 (2020)
4. "Fabrication of sub-micron polymer waveguides through two-photon polymerization in polydimethylsiloxanein"; Giulia Panusa, Ye Pu, Jieping Wang, Christophe Moser, Demetri Psaltis; *Polymers* 12 (11), 2485 (2020)
5. "The impact of surfactants on the inertial separation of bubbles in microfluidic electrolyzers"; Pooria Hadikhani, S. Mohammad H. Hashemi, Demetri Psaltis ; *Journal of the Electrochemical Society*, Volume 167, Number 13 (2020)
6. "Fluorescence-based and fluorescent label-free characterization of polymer nanoparticle decorated T cells"; Tanja Thomsen, Ahmed B. Ayoub, Demetri Psaltis, Harm-Anton Klok; *Biomacromolecules* (2020)
7. "3D printed computer generated volume holograms"; Niyazi Ulas Dinc, Joowon Lim, Eirini Kakkava, Christophe Moser, Demetri Psaltis; *Liquid Crystals XXIV* 11472, 1147201 (2020)
8. "All-fiber spatiotemporally mode-locked laser with multimode fiber-based filtering"; Ugur Tegin, Babak Rahmani, Eirini Kakkava, Demetri Psaltis, Christophe Moser; *Optics Express* 28 (16), 23433-23438 (2020)
9. "Actor neural networks for the robust control of partially measured nonlinear systems showcased for image propagation through diffuse media"; Babak Rahmani, Damien Loterie, Eirini Kakkava, Navid Borhani, Ugur Tegin, Demetri Psaltis, Christophe Moser; *Nature Machine Intelligence* 2 (7), 403-410 (2020)
10. "Computer generated optical volume elements by additive manufacturing"; Niyazi Ulas Dinc, Joowon Lim, Eirini Kakkava, Chirstophe Moser, Demetri Psaltis; *Nanophotonics* (2020)
11. "Additive micro-manufacturing of crack-free PDCs by two-photon polymerization of a single, Low shrinkage preceramic resin"; Georgia Konstantinou, Eirini Kakkava, Lorenz Hagelüken, Pradeep Vallachira Warriam Sasikumar, Jieping Wang, Malgorzata Grazyna Makowska, Gurdial Blugan, Nikolas Nianias, Federica Marone, Helena Van Swygenhoven, Jürgen Brugger, Demetri Psaltis, Chirstophe Moser; *Additive Manufacturing*, 101343 (2020)
12. "Deep learning-based image classification through a multimode fiber in the presence of wavelength drift"; Eirini Kakkava, Navid Borhani, Babak Rahmani, Ugur Tegin, Christophe Moser, Demetri Psaltis; *Applied Sciences* 10 (11), 3816 (2020)
13. "In vitro cytocompatibility assessment of TI-modified, Silicon-oxycarbide-based, polymer-derived, ceramic-implantable electrodes under pacing conditions"; Pradeep Vallachira Warriam Sasikumar, Eike Müller, Pierrick Clement, Jongmoon Jang, Eirini Kakkava, Giulia Panusa, Demetri Psaltis, Katharina Maniura-Weber, Markus Rottmar, Juergen Brugger, Gurdial Blugan; *ACS Applied Materials & Interfaces* 12 (15), 17244-17253 (2020)
14. "Computational optical imaging goes viral"; Keisuke Goda, Gabriel Popescu, Kevin K Tsia, Demetri Psaltis; *APL Photonics* 5 (3), 030401 (2020)
15. "Three-dimensional tomography of red blood cells using deep learning"; Joowon Lim, Ahmed B Ayoub, Demetri Psaltis; *Advanced Photonics* 2 (2), 026001 (2020)
16. "Controlling spatiotemporal nonlinearities in multimode fibers with deep neural networks"; Ugur Tegin, Babak Rahmani, Eirini Kakkava, Navid Bohrani, Christophe Moser, Demetri Psaltis; *APL Photonics* 5 (3), 030804 (2020)
17. "The potentials of additive manufacturing for mass production of electrochemical energy systems"; Mohammad Hashemi, Ugljesa Babic, Pooria Hadikhani, Demetri Psaltis; *Current Opinion in Electrochemistry* (2020)
18. "Three-dimensional optical diffraction tomography with lippmann-schwinger model"; Than-an Pham, Emmanuel Soubies, Ahmed Ayoub, Joowon Lim, Demetri Psaltis, Michael Unser; *IEEE Transactions on Computational Imaging* 6, 727-738 (2020)
19. "Microfluidic-based linear-optics label-free imager"; Eitan Edri, Pooria Hadikhani, Hagay Shpaysman, Zeev Zalevsky, Demetri Psaltis; *Lab on a Chip* (2020)

## 2019

1. "Imaging hair cells through laser-ablated cochlear bone"; Marilisa Romito, Ye Pu, Konstantina M. Stankovic, Demetri Psaltis; *Biomedical Optics Express* 10 (11), 5974-5988 (2019)
2. "High-fidelity optical diffraction tomography of multiple scattering samples"; Joowon Lim, Ahmed B. Ayoub, Elizabeth E. Antoine, Demetri Psaltis; *Light: Science & Applications* 8, Article number: 82 (2019)
3. "Imaging through multimode fibers using deep learning: The effects of intensity versus holographic recording of the speckle pattern"; Eirini Kakkava, Babak Rahmani, Navid Borhani, Ugur Tegin, Damien Loterie, Georgia Konstantinou, Christophe Moser, Demetri Psaltis; *Optical Fiber Technology* 52, 101985 (2019)
4. "A method for assessing the fidelity of optical diffraction tomography reconstruction methods using structured illumination"; Ahmed B. Ayoub, Than-an Pham, Joowon Lim, Michael Unser, Demetri Psaltis; *Optics Communications*, 124486 (2019)
5. "Learning from doplet flows in microfluidic channels using deep neural networks"; Pooria Hadikhani, Navid Borhani, SMH Hashemi, Demetri Psaltis; *Scientific reports* 9 (1), 8114 (2019)
6. "Spatiotemporal self-similar fiber laser"; Ugur Tegin, Eirini Kakkava, Babak Rahmani, Demetri Psaltis, Christophe Moser; *Optica* 6, 1412-1415 (2019)
7. "A versatile and membrane-less electrochemical reactor for the electrolysis of water and brine"; S. Mohammad H. Hashemi; Petr Karnakov, Pooria Hadikhani, Enrico Chinello, Sergey Litvinov, Christophe Moser, Petros Koumoutsakos, Demetri Psaltis ; *Energy & Environmental Science* (2019)
8. "Digital staining through the application of deep neural networks to multi-modal multi-photon microscopy"; Navid Borhani, Andrew J. Bower, Stephen A. Boppart, Demetri Psaltis; *Biomedical Optics Express* 10(3), 1339-1350 (2019)
9. "Selective femtosecond laser ablation via two-photon fluorescence imaging through a multimode fiber"; Eirini Kakkava, Marilisa Romito, Donald B. Conkey, Damien Loterie, Konstantina M. Stankovic, Christophe Moser, Demetri Psaltis; *Biomedical Optics Express*, 10(2):423-433 (2019)
10. "Raman imaging through multimode sapphire fiber"; Sunan Deng, Damien Loterie, Georgia Konstantinou, Demetri Psaltis, Christophe Moser; *Optics express* 27(1), 1090-1098 (2019)

## 2018

1. "Photoinitiator-free multi-photon fabrication of compact optical waveguides in polydimethylsiloxane"; Giulia Panusa, Ye Pu, Jieping Wang, Christophe Moser, Demetri Psaltis; *Optical Materials Express* 9(1):128-138 (2018)
2. "Multimode optical fiber transmission with a deep learning network"; Babak Rahmani, Damien Loterie, Georgia Konstantinou, Demetri Psaltis, Christophe Moser; *Light: Science and Applications*, 7(69) (2018)
3. "Polymer derived silicon oxycarbide ceramic monoliths: Microstructure development and associated materials properties"; PVW Sasikumar, Gurdial Blugan, Nicola Casati, Eirini Kakkava, Giulia Panusa, Demetri Psaltis, Jakob Kuebler; *Ceramics International* (2018)
4. "Learning to see through multimode fibers"; N Borhani, E Kakkava, C Moser, D Psaltis; *Optica* 5(8), pp. 960-966 (2018)
5. "Learning tomography assessed using Mie theory"; Joowon Lim, Alexandre Goy, Morteza H. Shoreh, Michael Unser, Demetri Psaltis; *Phys. Rev. Applied*, 9, 034027 (2018)
6. "Inertial manipulation of bubbles in rectangular microfluidic channels"; Pooria Hadikhani, S. Mohammad H. Hashemi, Gioele Balestra, Lailai Zhu, Miguel A. Modestino, François Gallaire, Demetri Psaltis; *Lab on a Chip*, DOI: 10.1039/c7lc01283g (2018)
7. "Versatile reconstruction framework for diffraction tomography with intensity measurements and multiple scattering"; Than-An Pham, Emmanuel Soubies, Alexandre Goy, Joowon Lim, Ferréol Soulez, Demetri Psaltis, Michael Unser, *Optics Express* 26(3), 2749-2763 (2018)

8. "Single-photon three-dimensional microfabrication through a multimode optical fiber", Paul Delrot, Damien Loterie, Demetri Psaltis, Christophe Moser, Optics Express 26 (2), 1766-1778 (2018)

## 2017

1. "A 21.5% Efficient Stand-Alone Solar Chloralkali Generator Employing a Microtracking Solar Concentrator"; Enrico Chinello, Miguel A. Modestino, Laurent Coulot, Mathieu Ackermann, Florian Gerlich, Demetri Psaltis, Christophe Moser (2017); Global Challenges, 1700095
2. "High power, ultrashort pulse control through a multi-core fiber for ablation"; Donald B. Conkey, Eirini Kakkava, Thomas Lanvin, Damien Loterie, Nicolino Stasio, Edgar E. Morales-Delgado, Christophe Moser, Demetri Psaltis; Optics Express, Vol. 25, 10, pp. 11491-11502
3. "Three-dimensional microfabrication through a multimode optical fiber"; Edgar E. Morales-Delgado, Loic Urio, Donald B. Conkey, Nicolino Stasio, Demetri Psaltis, Christophe Moser; Optics Express, Vol. 25, 6, pp. 7031-7045
4. "Bend translation in multimode fiber imaging"; Damien Loterie, Demetri Psaltis, Christophe Moser; Optics Express, Vol 25, 6, pp. 6263-6273
5. "Membrane-less micro fuel cell based on two-phase flow"; S.Mohammad H.Hashemi, Matthias Neuenschwander, Pooria Hadikhani, Miguel A. Modestino, Demetri Psaltis; Journal of Power Sources, Vol 348, pp. 212-218

## 2016

1. "The potential for microfluidics in electrochemical energy systems"; Miguel A. Modestino, David Fernandez Rivas, S. Mohammad H. Hashemi, Han Gardeniers and Demetri Psaltis; Energy & Environmental Science, Vol 9, pp 3381-3391
2. "Solar-to-hydrogen production at 14,2% efficiency with silicon photovoltaics and earth abundant electrocatalysts"; Jan-Willem Schüttauf, Miguel A. Modestino, Enrico Chinello, David Lambelet, Antonio Delfino, Didier Dominé, Antonin Faes, Matthieu Despeisse, Julien Bailat, Demetri Psaltis, Christophe Moser, Christophe Ballif; Journal of the Electrochemical Society, Vol 163, Issue 10, F1177-F1181
3. "Inkjet printing of viscous monodisperse microdroplets by laser-induced flow focusing"; Paul Derlot, Miguel A. Modestino, François Gallaire, Demetri Psaltis, Christophe Moser; Physical Review Applied, Vol 6, Issue 2, 024003
4. "Calibration-free imaging through a multicore fiber using speckle scanning microscopy", Nicolino Stasio, Christophe Moser and Demetri Psaltis; Optics Letters, Vol 41, Issue 13, 3078-3081
5. "Surgical anatomy of the human round window region: implication for cochlear endoscopy through the external auditory canal", Takeshi Fujita, Jung E. Shin, MaryBeth Cunnane, Kyoko Fujita, Simon Henein, Demetri Psaltis, Konstantina M. Stankovic, Otology & Neurology, 1
6. "Optical Computing: Past and Future", Ravi Athale and Demetri Psaltis, Optics & Photonics News, volume 27, June
7. "Optofluidics of plants", Demetri Psaltis, Andreas E. Vasdekis, Jae-Woo Choi, APL Photonics, 1, 020901
8. "Lensless two-photon imaging through a multicore fiber with coherence-gated digital phase", Donald Conkey, Nicolino Stasio, Marilisa Romito, Edgar E. Morales-Delgado, Christophe Moser, Demetri Psaltis; Journal of Biomedical Optics, 21, 045002
9. "Hollow Mesoporous Plasmonic Nanoshells for Enhanced Solar Vapor Generation"; Marcin S. Zielinski, Jae-Woo Choi, Thomas La Grange, Miguel A. Modestino, S. Mohammad H. Hashemi, Ye Pu, Susanne Birkhold, Jeffrey A. Hubbell, Demetri Psaltis; Nano Letters; 16, 2159-2167
10. "Human audiometric thresholds do not predict specific cellular damage in the inner ear"; Lukas D. Landegger, Demetri Psaltis,, Konstantina M. Stankovic; Hearing Research, Vol 335, 83-93

11. "Optical tomographic image reconstruction based on beam propagation and sparse regularization"; Ulugbek S. Kamilov, Ioannis N. Papadopoulos, Morteza H. Shoreh, Alexandre Goy, Cedric Vonesh, Michael Unser, Demetri Psaltis, IEEE Transactions on Computational Imaging, Vol 2, no.1, 59-70
12. "Imaging with Multimode Fibers"; Demetri Psaltis, Christophe Moser, Optics & Photonics News; Vol 27, January
13. "STED imaging of green fluorescent nanodiamonds containing nitrogen-vacancy-nitrogen centers"; Gregoire P. J. Laporte, Demetri Psaltis, Biomedical Optics Express; vol 7, issue 1, 34-44

## 2015

1. "Confocal microscopy through a multimode fiber using optical correlation"; Damien Loterie, Sebastianus A. Gooden, Demetri Psaltis, Christophe Moser, Optics Letters; vol 40, issue 24, 5754-5757
2. "Two-photon imaging through a multimode fiber"; Edgar E. Morales-Delgado, Demetri Psaltis, Christophe Moser; Optics Express; vol23, Issue 25, 32158-32170
3. "Light control in a multicore fibers using the memory effect"; Nicolino Stasio, Donald Conkey, Christophe Moser, Demetri Psaltis; Optics Express, Vol 23, Issue, 30532-30544
4. "Towards new applications using capillary waveguides"; Nicolino Stasio, Atsushi Shibukawa, Ioannis N. Papadopoulos, Salma Farahi, Olivier Simandoux, Jean-Pierre Huignard, Emmanuel Bossy, Christophe Moser, Demetri Psaltis; Biomedical Optics Express, Vol6, Issue 12, 4619-4631
5. "Enhanced resolution in a multimode fiber imaging system"; G.P.J. Laporte, N. Stasio, C. Moser, D. Psaltis; Optics Express, Vol 23, Issue 21, 27484-27493
6. "Digital confocal microscopy through a multimode fiber"; D. Loterie, S. Farahi, I. N. Papadopoulos, A. Goy, D. Psaltis, C. Moser; Optics Express, Vol23, Issue 18, 23845-23858.
7. "Subsurface ablation of atherosclerotic plaque ultrafast laser pulses"; T. Lanvin, S. D.B. Conkey, A. Frobert, J. Valentin, J-J Goy, S. Cook, M-N Giraud, D. Psaltis; Biomed. Opt. Express6(7), 2552-2561.
8. "Learning Approach to Optical Tomography", M.H. Shoreh, U.S. Kamilov, I. N. Papadopoulos, A. Goy, C. Vonesch, M. Unser, D. Psaltis; Optica Volume 2, Issue 6, pp 517-522
9. "Isotropic inverse-problem approach for two-dimensional phase unwrapping"; Ulugbek S. Kamilov, Ioannis N. Papadopoulos, Morteza H. Shoreh, Demetri Psaltis, Michael Unser; Journal of the Optical Society of America; A32(6); 1092-1100
10. "Vapor-fed microfluidic hydrogen generator", Miguel A. Modestino, Mikael Dumortier, S. Mohammad H. Hashemi, Sophia Haussener, Christophe Moser, Demetri Psaltis; Lab on a Chip; 15; 2287-2296
11. "A membrane-less electrolyzer for hydrogen production across the pH scale"; S. Mohammad H. Hashemi, Miguel A. Modestino, Demetri Psaltis; Energy and Environmental Science, 2015, 8, 2003-2009
12. "Delivery of focused short pulses through a multimode fiber", Morales-Delgado Edgar E, Farahi Salma, Papadopoulos Ioannis N., Psaltis Demetri Moser Christophe; Optics Express, Vol23 Issue7, pp.9109-9120
13. "Optical-resolution photoacoustic imaging through thick tissue with a thin capillary as a dual optical-in acoustic-out waveguide", O. Simandoux, N. Stasio, J. Gateau, J-P Huignard, C. Moser, D. Psaltis and E. Bossy, arXiv:1502.02213 (physics.optics), Feb. 2015
14. "Improving the quality of filament-impaired images in Kerr media by statistical averaging", A. S. Goy, K. G. Makris and D. Psaltis, Optics Express, Vol.23, Iss1, pp.431-444

## 2014

1. "Resolution enhancement in nonlinear scanning microscopy through post-detection digital computation", G.P.J. Laporte, N. Stasio, C.J.R. Sheppard and D. Psaltis, Optica, Vol.1, Issue6, pp.455-460, December 2014
2. "Design and cost considerations for practical solar-hydrogen generators", Rodriguez Claudia, Modestino Miguel, Moser Christophe, Psaltis D, Energy & environmental science, October 2014
3. "A micropillar array for sample concentration via in plane evaporation", Choi JW, Hosseini Hashemi SM, Erickson D, Psaltis K, Biomicrofluidics 8,no.4 (2014): 044108, July 2014
4. "Superhydrophobic bulls-eye for surface-enhanced Raman scattering", Song W, Psaltis D, Crozier K, Lab on a Chip, DOI 10.1039/C4LC00477A, August 2014
5. "Modified McCannel Iridoplasty Simulation Basal Iridectomy for Silicone Oil Tamponade in Aphakia and Partial Aniridia", Thommen F, Gallaire F, Psaltis D, Wolfensberger T.J., Klin Monatsbl Augenheilkd,231:4, pp. 418-420, April 2014
6. "Solar thermal harvesting for enhanced photocatalytic reactions", Hashemi SMH, Choi JW, Psaltis D, Physical Chemistry Chemical Physics, Vol.16, pp. 5137-5141, February 2014
7. "Imaging blood cells through scattering biological tissue using speckle scanning microscopy", Yang X, Pu Y, Psaltis D, Optics Express, Vol22, pp3405-3413, January 2014

## 2013

1. "Double-helix enhanced axial localization in STED nanocopy", Laporte GPJ, Conkey DB, Vasdekis A, Piestun R, Psaltis D, Optics Express, Vol.21, pp. 30984-30992, December 2013
2. "Dynamic bending compensation while focusing through a multimode fiber", Farahi S, Ziegler D, Papadopoulos IN, Psaltis D, Moser C, Optics Express, Vol. 21, pp 22504-22514, September 2013
3. "Increasing the imaging capabilities of multimode fibers by exploiting the properties of highly scattering media", Papadopoulos IN, Farahi S, Moser C, Psaltis D, Optics Letters, Vol. 38, pp 2776-2778, August 2013
4. "Imaging in focusing Kerr media using reverse propagation", Goy A, Psaltis D, Photonics Research, Vol1, pp 96-101, August 2013
5. "Vesicle photonics", Vasdekis A, Scott EA, Roke S, Hubbell JA, Psaltis D, Annual Review of Materials Research, Vol. 43, August 2013
6. "Multiple contrast metrics from the measurements of a digital confocal microscope" Goy A, Unser M, Psaltis D, Biomedical Optics Express, Vol. 4, pp 1091-1103, July 2013
7. "Optical-resolution photoacoustic microscopy by use of a multimode fiber", Papadopoulos IN, Simandous O, Farahi S, Huignard JP, Bossy E, Psaltis D, Moser C, Applied Physics Letters, Vol 102, Art 211106, May 2013
8. "Optofluidic tunable color filters and spectroscopy based on liquid-crystal microflows", Cuennet J, Vasdekis AE, Psaltis D, Lab on a chip, Vol 13, pp 2721-2726, May 2013
9. "Electrically tunable optofluidic light switch for reconfigurable solar lighting", Song WZ, Psaltis D, Lab on a Chip, Vol. 13, pp. 2708-2713, April 2013
10. "Two photon microscopy of the mouse cochlea in situ for cellular diagnosis", Yang X, Pu Y, Hsieh CL, Ong C, Psaltis D, Stankovich K, Journal of Biomedical Optics, Vol 3, Issue 3, pp 31104, March 2013
11. "Seeing through turbidity with harmonic holography", Pu Y, Psaltis D, Applied Optics, Vol 52, pp 567-578, February 2013
12. "High-resolution, lensless endoscope based on digital scanning through a multimode optical fiber" Papadopoulos IN, Farahi S, Moser C, Psaltis D, Biomedical Optics Express, Vol 4, pp. 260-270, Jan. 2013

## 2012



- 1 "Imaging: the fog clears" Psaltis D, Papadopoulos IN, Nature, Vol. 491, pp. 197-198, November 2012
- 2 "Digital confocal microscope", Goy A, Psaltis D, Optics Express, Vol. 20, pp. 22720-22727, September 2012
- 3 "Precision intracellular delivery based on optofluidic polymersome rupture" Vasdekis AE, Evan S, O'Neil C, Psaltis D, Hubbell J, ACS Nano, Vol. 6, pp. 7850-7857, August 2012
- 4 "Holographic coherent anti-Stokes Raman scattering bio-imaging", Shi K, Edwards PS, Hu J, Xu Q, Wang Y, Psaltis D, Liu Z, Biomedical Optics Express, Vol. 3, pp. 1744-1749, July 2012
- 5 "Elastomer based tunable optofluidic devices", Song W, Vasdekis AE, Psaltis D, Lab on a Chip, Vol. 1, pp.3590-3597, June 2012
- 6 "Focusing and scanning light through a multimode optical fiber using digital phase conjugation" Papadopoulos IN, Farahi S, Moser C, Psaltis D, Optics Express, Vol. 20, pp. 10583-10590, April 2012
- 7 "Three-dimensional scanning microscopy through thin turbid media" Yang X, Hsieh CL, Pu Y, Psaltis D, Optics Express, Vol. 20, pp. 2500-2506, January 2012

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6. Marilisa Romito, *Biomedical optical techniques for intracochlear cellular imaging*, 2019, Engineer, Philip Morris Int., Switzerland
7. Morteza Hasani, *3D Reconstruction of Optical diffraction tomography based on a neural network model*, 2018
8. Mohammad Hashemi, *Microfluidic energy conversion devices*, 2017, Postdoctoral ETHZ Zürich
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11. Grégoire Laporte, *Nanoscopy in nonlinear scanning fluorescence imaging systems*, 2016, R&D Optical Engineer, Synova SA, Switzerland
12. Xin Yang, *Optical Microscopy for Imaging Through Scattering Media*, 2014, Associate Product Manager, Olympus, Japan
13. Julien Cuennet *Integration of liquid crystals molecules in optofluidics*, 2013
14. Ioannis Papadopoulos, *Dynamic control of light transmission through multimode fibers*, 2013, Postdoctoral, Charité University Hospital Berlin, Germany
15. Alexandre Goy, *Imaging and Microscopy in Linear and Nonlinear Media Using Digital Holography*, 2013, Postdoctoral Associate, Massachusetts Institute of Technology, USA
16. Wuzhou Song, *Development of Elastomeric Optofluidic Devices for Lasing and Sensing*, 2012, Assistant Professor, Huazhong University of Science and Technology, China

17. Chia-Lung Hsieh, *Imaging with Second-Harmonic Generation Nanoparticles*, Assistant research fellow, Institute of Atomic and Molecular Sciences, Academia Sinica, Taiwan, 2011
18. Jae-Woo Choi *Surface optofluidic implementations towards the development of a biosensor*, 2011, associate Director of Computer Vision on Data Science team at Wayfair, Boston, USA
19. Jim Adleman, *Plasmonic Nanoparticles for Optofluidic Systems*, 2009 , Electrical Engineer, SPAWAR Systems Center Pacific, San Diego, USA
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21. Mankei Tsang, *Classical and quantum nonlinear optical information processing*, 2006, Assistant professor, National University of Singapore, Singapore.
22. Martin Centurion, *Study of the nonlinear propagation of femtosecond laser pulses*, 2006, Assistant Professor, University of Nebraska-Lincoln, Lincoln, Nebraska, USA
23. Hung-Te Hsieh, *Operation of Holographic Elements with Broadband Light Sources*, 2005, Senior Physicist, Wyatt Technology Corp., Santa Barbara, California, USA
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Professor, University of California Santa Cruz, Santa Cruz, CA.
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Professor, Duke University, Durham, North Carolina.
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