Stanford



Olav Solgaard

Audrey S. Hancock Professor in the School of Engineering

Electrical Engineering

Curriculum Vitae available Online

Bio

BIO

The Solgaard group focus on design and fabrication of nano-photonics and micro-optical systems. We combine photonic crystals, optical meta-materials, silicon photonics, and MEMS, to create efficient and reliable systems for communication, sensing, imaging, and optical manipulation.

ACADEMIC APPOINTMENTS

- Professor, Electrical Engineering
- Member, Bio-X
- Affiliate, Precourt Institute for Energy
- Member, Stanford Cancer Institute
- Affiliate, Stanford Woods Institute for the Environment
- Member, Wu Tsai Neurosciences Institute

HONORS AND AWARDS

- Fellow, IEEE (2017)
- Fellow, Norwegian Academy of Technological Sciences (2010)
- Fellow, Optical Society of America (2008)
- Member, The Royal Norwegian Society of Sciences and Letters (2008)

PROGRAM AFFILIATIONS

- Stanford SystemX Alliance

PROFESSIONAL EDUCATION

- PhD, Stanford (1992)

PATENTS

- M.J.F. Digonnet, O. Kilic, W. Jo, O. Solgaard, B.H. Afshar. "United States Patent 10,495,508 Phase-front-modulation sensor", Leland Stanford Junior University, Dec 3, 2019
- J.R. Landry, I. Ryosuke, M.J. Mandella, O. Solgaard. "United States Patent 10,401,605 Structured illumination in inverted light sheet microscopy", Leland Stanford Junior University, Sep 3, 2019
- I. Ryosuke, O. Solgaard, S.S. Hamann. "United States Patent 10,310,246 Converter, illuminator, and light sheet fluorescence microscope", Leland Stanford Junior University, Jun 4, 2019
- S Manosalvas-Kjono, R Quan, O Solgaard, Z Su. "United States Patent 11,192,779 Method and apparatus for evaluating electrostatic or nonlinear devices n US Patent", Stanford, May 12, 0175

Teaching

COURSES

2026-27

- Introduction to Micro and Nano Electromechanical Systems: ENGR 240 (Win)
- Modern Optics: EE 236A (Aut)

2025-26

- Introduction to Electromagnetics and Its Applications: EE 42, ENGR 42 (Aut)
- Introduction to Micro and Nano Electromechanical Systems: ENGR 240 (Win)
- Micro and Nano Optical Device Design: EE 334 (Spr)
- Taking the Pulse of the Planet Lab: EE 115L (Win)

2024-25

- Introduction to Micro and Nano Electromechanical Systems: ENGR 240 (Win)
- Taking the Pulse of the Planet Lab: EE 115L (Win)

2023-24

- Introduction to Electromagnetics and Its Applications: EE 42, ENGR 42 (Spr)
- Introduction to Micro and Nano Electromechanical Systems: ENGR 240 (Win)
- Micro and Nano Optical Device Design: EE 334 (Aut)
- Optics and Electronics Seminar: APPPHYS 483 (Win, Spr)
- Taking the Pulse of the Planet: GEOPHYS 115 (Win)

STANFORD ADVISEES

Doctoral Dissertation Reader (AC)

Nancy Ammar, Sara Azzouz, Hamish Carr Delgado, Dominic Catanzaro, Brian Chao, Devin Dean, Sungjun Eun, Yakub Grzesik, Evan Laksono, Taewon Park, Erik Porter

Postdoctoral Faculty Sponsor

Jaekwon Lee

Doctoral Dissertation Advisor (AC)

Annie Kroo, Anna Miller, Melanie Murillo, Clarisse Woodahl

Master's Program Advisor

Fatima Alhosani, Daniel Bloch, Che Chen, Matthew Johnson, Fatumata Kaba, Matthew Morawiec, Aytan Sadirova, Phillip Spannagel, Zhen Sun

Doctoral Dissertation Co-Advisor (AC)

Simon Bongarz

Doctoral (Program)

Fatima Alhosani, Matthew Ho, Ryosuke Mashiko, Nelson Ooi, Ekin Gunes Ozaktas, Taewon Park, Jason Saunders, Samantha van Rijs

Publications

PUBLICATIONS

- **Automatic on-chip separation of partially coherent light into its mutually incoherent components** *NATURE PHOTONICS*
  Mor, P., Kroo, A. R., Valdez, C. G., Simic, M., Karnieli, A., Cavicchioli, G., Sun, Z., Grimaldi, V., Fan, S., Solgaard, O., Miller, D. A. B., Roques-Carmes, C.
  2026

- **Programmable optical filters based on feed-forward photonic meshes.** *Light, science & applications*
  Valdez, C. G., Kroo, A. R., Vlk, M., Roques-Carmes, C., Fan, S., Miller, D. A., Solgaard, O.
  2026; 15 (1)

- **Intracavity Laser Wavelength Tuning by a Programmable Forward-Only Silicon Photonics Interferometer Mesh.** *ACS photonics*
  Vlk, M., Valdez, C. G., Kroo, A. R., Roques-Carmes, C., Fan, S., Miller, D. A., Solgaard, O.
  2026; 13 (16): 4475-4483

- **IntracavityLaser Wavelength Tuning by a ProgrammableForward-Only Silicon Photonics Interferometer Mesh** *ACS PHOTONICS*
  Vlk, M., Valdez, C. G., Kroo, A. R., Roques-Carmes, C., Fan, S., Miller, D. A. B., Solgaard, O.
  2026

- **Integrated photonic polarization synthesizer and analyzer.** *Light, science & applications*
  Valdez, C. G., Miller, A. J., Kroo, A. R., Roques-Carmes, C., Miller, D. A., Solgaard, O.
  2026; 15 (1)

- **Toward quantum sensing of electron beams using solid-state spins.** *Proceedings of the National Academy of Sciences of the United States of America*
  Grzesik, J. M., Catanzaro, D., Roques-Carmes, C., Rosenthal, E. I., van de Stolpe, G. L., Karnieli, A., Scuri, G., Biswas, S., Leedle, K. J., Black, D. S., Byer, R. L., Kaminer, I., England, et al
  2026; 123 (25): e2531808123

- **Three-wave interaction grating coupler with the sub-decibel insertion loss at normal incidence** *OPTICA*
  Valdez, C. G., Bongarz, S. A., Kroo, A. R., Miller, A. J., Digonnet, M. J. F., Miller, D. A. B., Solgaard, O.
  2026; 13 (2): 180-187

- **On-Chip Laser-Driven Free-Electron Spin Polarizer** *PHYSICAL REVIEW LETTERS*
  Woodahl, C., Murillo, M., Roques-Carmes, C., Karnieli, A., Miller, D. A. B., Solgaard, O.
  2026; 136 (6)

- **On-Chip Laser-Driven Free-Electron Spin Polarizer.** *Physical review letters*
  Woodahl, C., Murillo, M., Roques-Carmes, C., Karnieli, A., Miller, D. A., Solgaard, O.
  2026; 136 (6): 063802

- **Simulation studies on overcoming two challenges in phase-modulating micromirrors**
  Leea, J., Solgaard, O.
  edited by Lyubarsky, A., Bridger, K.
  SPIE-INT SOC OPTICAL ENGINEERING.2026

- **Universal programmable and self-configuring optical filter** *OPTICA*
  Miller, D. A. B., Roques-carmes, C., Valdez, C. G., Kroo, A. R., Vlk, M., Fan, S., Solgaard, O.
  2025; 12 (9): 1417-1426

- **High-contrast nulling in photonic meshes through architectural redundancy** *OPTICS LETTERS*
  Valdez, C. G., Sun, Z., Kroo, A. R., Miller, D. A. B., Solgaard, O.
  2025; 50 (11): 3660-3663

- **Leveraging Architectural Redundancy for High Contrast Nulling with Photonic Meshes**
  Valdez, C. G., Kroo, A. R., Sun, Z., Miller, D. A. B., Solgaard, O., IEEE
  IEEE.2025

- **Interferometric Retroreflective Sensor System for Distributed Sensing**
  Kroo, A. R., Solgaard, O., IEEE
  IEEE.2025
- **A general framework for interactions between electron beams and quantum optical systems**
  Grzesik, J., Roques-Carmes, C., Karnieli, A., Black, D. S., Catanzaro, D., Solgaard, O., Fan, S., Vuckovic, J., IEEE
  IEEE.2025
- **Meta-Learning for On-chip Photonic Neural Network Training**
  Ho, M., Sun, Z., Valdez, C., Solgaard, O., IEEE
  IEEE.2025
- **Testbed design and high-contrast demonstration with the AstroPIC integrated photonic coronagraph**
  Morgan, R., Bendek, E., Belikov, R., Fogarty, K., Kroo, A. R., Valdez, C., Vlk, M., Miller, D. A. B., Solgaard, O., Sirbu, D.
  edited by Ruane, G. J., Millar-Blanchaer, M. A.
  SPIE-INT SOC OPTICAL ENGINEERING.2025
- **Enhancement of reactive oxygen species production by ultra-short electron pulses.** *Royal Society open science*
  Tye, J., Solgaard, O., England, R. J., Trapp, J. V., Fielding, A., Brown, C. P.
  2024; 11 (11): 240898
- **Moth-eye anti-reflection structures in silicon for Long Wave IR applications** *JOURNAL OF MODERN OPTICS*
  Papatzacos, P., Broaddus, P., Solgaard, O., Akram, M., Ohlckers, P.
  2024
- **Coupled Mode Design of Low-Loss Electromechanical Phase Shifters** *MICRO-SWITZERLAND*
  Abebe, N. S., Pai, S., Hwang, R. L., Broaddus, P., Miao, Y., Solgaard, O.
  2024; 4 (2): 334-347
- **High-efficiency vertically emitting coupler facilitated by three wave interaction gratings.** *Optics letters*
  Valdez, C. G., Pai, S., Broaddus, P., Solgaard, O.
  2024; 49 (9): 2373-2376
- **Subrelativistic Alternating Phase Focusing Dielectric Laser Accelerators.** *Physical review letters*
  Broaddus, P., Egenolf, T., Black, D. S., Murillo, M., Woodahl, C., Miao, Y., Niedermayer, U., Byer, R. L., Leedle, K. J., Solgaard, O.
  2024; 132 (8): 085001
- **Tunable Directional Couplers for High Contrast Optical Meshes**
  Abebe, N. S., Pai, S., Hwang, R. L., Broaddus, P., Miao, Y., Solgaard, O., IEEE
  IEEE.2024
- **AstroPIC: Near-Infrared photonic integrated circuit coronagraph architecture for the Habitable Worlds Observatory**
  Sirbu, D., Belikov, R., Fogarty, K., Valdez, C., Sun, Z., Kroo, A., Solgaard, O., Miller, D. A. B., Guyon, O.
  edited by Matsuura, S., Perrin, M. D., Coyle, L. E.
  SPIE-INT SOC OPTICAL ENGINEERING.2024
- **Scalable low-latency optical phase sensor array** *OPTICA*
  Sun, Z., Pai, S., Valdez, C., Milanizadeh, M., Melloni, A., Morichetti, F., Miller, D. A. B., Solgaard, O.
  2023; 10 (9): 1165-1172
- **Experimental evaluation of digitally verifiable photonic computing for blockchain and cryptocurrency** *OPTICA*
  Pai, S., Park, T., Ball, M., Penkovsky, B., Dubrovsky, M., Abebe, N., Milanizadeh, M., Morichetti, F., Melloni, A., Fan, S., Solgaard, O.
  2023; 10 (5): 552-560
- **Experimentally realized in situ backpropagation for deep learning in photonic neural networks.** *Science (New York, N.Y.)*
  Pai, S., Sun, Z., Hughes, T. W., Park, T., Bartlett, B., Williamson, I. A., Minkov, M., Milanizadeh, M., Abebe, N., Morichetti, F., Melloni, A., Fan, S., Solgaard, et al
  2023; 380 (6643): 398-404
- **Power monitoring in a feedforward photonic network using two output detectors.** *Nanophotonics (Berlin, Germany)*

Pai, S., Valdez, C., Park, T., Milanizadeh, M., Morichetti, F., Melloni, A., Fan, S., Solgaard, O., Miller, D. A.
2023; 12 (5): 985-991

- **Power monitoring in a feedforward photonic network using two output detectors** *NANOPHOTONICS*
  Pai, S., Valdez, C., Park, T., Milanizadeh, M., Morichetti, F., Melloni, A., Fan, S., Solgaard, O., Miller, D. A. B.
  2023
- **Integrated Amplitude and Phase Monitor for Micro-Actuators.** *Micromachines*
  Manosalvas-Kjono, S. N., Quan, R., Solgaard, O.
  2022; 13 (8)
- **Immersion graded index optics: theory, design, and prototypes.** *Microsystems & nanoengineering*
  Vaidya, N., Solgaard, O.
  2022; 8: 69
- **Acoustic Localization With an Optical Fiber Silicon Microphone System** *IEEE SENSORS JOURNAL*
  Lorenzo, S., Solgaard, O.
  2022; 22 (10): 9408-9416
- **High gradient silicon carbide immersion lens ultrafast electron sources** *JOURNAL OF APPLIED PHYSICS*
  Leedle, K. J., Niedermayer, U., Skaer, E., Urbanek, K., Miao, Y., Broaddus, P., Solgaard, O., Byer, R. L.
  2022; 131 (13)
- **Quantum Nature of Dielectric Laser Accelerators** *PHYSICAL REVIEW X*
  Adiv, Y., Wang, K., Dahan, R., Broaddus, P., Miao, Y., Black, D., Leedle, K., Byer, R. L., Solgaard, O., England, R., Kaminer, I.
  2021; 11 (4)
- **Thermally-Compensated Optical Fiber Silicon Sensor Platform** *IEEE SENSORS JOURNAL*
  Lorenzo, S., Kroo, A., Wong, Y., Solgaard, O.
  2021; 21 (21): 24121-24128
- **Electron Pulse Compression with Optical Beat Note.** *Physical review letters*
  Zhao, Z., Leedle, K. J., Black, D. S., Solgaard, O., Byer, R. L., Fan, S.
  2021; 127 (16): 164802
- **Electron Pulse Compression with Optical Beat Note** *PHYSICAL REVIEW LETTERS*
  Zhao, Z., Leedle, K. J., Black, D. S., Solgaard, O., Byer, R. L., Fan, S.
  2021; 127 (16)
- **Resonant scanning design and control for fast spatial sampling.** *Scientific reports*
  Sun, Z., Quan, R., Solgaard, O.
  2021; 11 (1): 20011
- **Low-Energy-Spread Attosecond Bunching and Coherent Electron Acceleration in Dielectric Nanostructures** *PHYSICAL REVIEW APPLIED*
  Niedermayer, U., Black, D. S., Leedle, K. J., Miao, Y., Byer, R. L., Solgaard, O.
  2021; 15 (2)
- **Optical Fiber Photonic Crystal Hydrophone for Cellular Acoustic Sensing** *IEEE ACCESS*
  Lorenzo, S., Wong, Y., Solgaard, O.
  2021; 9: 42305–13
- **Optical Fiber Photonic Crystal Hydrophone for Acoustic Bio-Sensing**
  Lorenzo, S., Wong, Y., Solgaard, O., IEEE
  IEEE.2021
- **MEMS Photonic Networks For Parallelized Matrix Multiplication Using Wavelength-Division Multiplexing**
  Pai, S., Abebe, N., Hwang, R. L., Miller, D. A. B., Solgaard, O., IEEE
  IEEE.2021
- **Wavelength-Division Multiplexed Optical Cryptocurrency**
  Pai, S., Abebe, N., Dubrovsky, M., Hwang, R. L., Karpov, M., Penkovsky, B., Miller, D. A. B., Solgaard, O., IEEE

IEEE.2021

- **Novel Materials-based Laser Acceleration**
  Deng, H., Leedle, K. J., Miao, Y., Black, D. S., Urbanek, K., McNeur, J., Kozak, M., Ceballos, A., Hommelhoff, P., Solgaard, O., Byer, R. L., Harris, J. S., IEEE
  IEEE.2021

- **Fast Spatial Sampling with Phase Controlled Resonant Scanner**
  Sun, Z., Quan, R., Solgaard, O., IEEE
  IEEE.2021

- **Operating modes of dual-grating dielectric laser accelerators** *PHYSICAL REVIEW ACCELERATORS AND BEAMS*
  Black, D. S., Zhao, Z., Leedle, K. J., Miao, Y., Byer, R. L., Fan, S., Solgaard, O.
  2020; 23 (11)

- **Conjugated MEMS Phased Arrays for Large Field of View Random Access Scanning** *IEEE PHOTONICS TECHNOLOGY LETTERS*
  Ashida, Y., Hamann, S., Landry, J., Solgaard, O.
  2020; 32 (20): 1291–94

- **Design of a multichannel photonic crystal dielectric laser accelerator** *PHOTONICS RESEARCH*
  Zhao, Z., Black, D. S., England, R., Hughes, T. W., Miao, Y., Solgaard, O., Byer, R. L., Fan, S.
  2020; 8 (10): 1586–98

- **Optical Fiber-Facet Multiplexed Monolithic Silicon Pressure Sensors**
  Lorenzo, S., Solgaard, O.
  IEEE-INST ELECTRICAL ELECTRONICS ENGINEERS INC.2020: 10598–606

- **Parallel Programming of an Arbitrary Feedforward Photonic Network** *IEEE JOURNAL OF SELECTED TOPICS IN QUANTUM ELECTRONICS*
  Pai, S., Williamson, I. A. D., Hughes, T. W., Minkov, M., Solgaard, O., Fan, S., Miller, D. A. B.
  2020; 26 (5)

- **Self-aligned concentrating immersion-lens arrays for patterning and efficiency recovery in scaffold-reinforced perovskite solar cells** *APPLIED MATERIALS TODAY*
  Printz, A. D., Zhao, O., Hamann, S., Rolston, N., Solgaard, O., Dauskardt, R. H.
  2020; 20

- **Random Access Cylindrical Lensing and Beam Steering Using a High-Speed Linear Phased Array** *IEEE PHOTONICS TECHNOLOGY LETTERS*
  Landry, J. R., Hamann, S. S., Solgaard, O.
  2020; 32 (14): 859–62

- **SPADnet: deep RGB-SPAD sensor fusion assisted by monocular depth estimation** *OPTICS EXPRESS*
  Sun, Z., Lindell, D. B., Solgaard, O., Wetzstein, G.
  2020; 28 (10): 14948–62

- **Software-Based Phase Control, Video-Rate Imaging, and Real-Time Mosaicing With a Lissajous-Scanned Confocal Microscope** *IEEE TRANSACTIONS ON MEDICAL IMAGING*
  Loewke, N. O., Qiu, Z., Mandella, M. J., Ertsey, R., Loewke, A., Gunaydin, L. A., Rosenthal, E. L., Contag, C. H., Solgaard, O.
  2020; 39 (4): 1127–37

- **Optical Fiber-Tip Monolithic Silicon Pressure Sensors** *IEEE SENSORS JOURNAL*
  Lorenzo, S., Wong, Y., Solgaard, O.
  2020; 20 (5): 2476–84

- **Gallium Oxide for High-Power Optical Applications** *ADVANCED OPTICAL MATERIALS*
  Deng, H., Leedle, K. J., Miao, Y., Black, D. S., Urbanek, K. E., McNeur, J., Kozak, M., Ceballos, A., Hommelhoff, P., Solgaard, O., Byer, R. L., Harris, J. S.
  2020

- **Surface treatments of dielectric laser accelerators for increased laser-induced damage threshold** *OPTICS LETTERS*
  Miao, Y., Black, D. S., Leedle, K. J., Zhao, Z., Deng, H., Ceballos, A., Byer, R. L., Harris, J. S., Solgaard, O.

2020; 45 (2): 391–94

- **On-chip integrated laser-driven particle accelerator.** *Science (New York, N.Y.)*
  Sapra, N. V., Yang, K. Y., Vercruysse, D. n., Leedle, K. J., Black, D. S., England, R. J., Su, L. n., Trivedi, R. n., Miao, Y. n., Solgaard, O. n., Byer, R. L., Vučković, J. n.
  2020; 367 (6473): 79–83
- **High-speed axially swept light sheet microscopy using a linear MEMS phased array for isotropic resolution.** *Journal of biomedical optics*
  Landry, J. n., Hamann, S. n., Solgaard, O. n.
  2020; 25 (10)
- **Observation of the Quantum Nature of Laser-Driven Particle Acceleration**
  Adiv, Y., Wang, K., Dahan, R., Broaddus, P., Miao, Y., Black, D., Leedle, K., Solgaard, O., England, J., Kaminer, I., IEEE
  IEEE.2020
- **Parallel Fault-Tolerant Programming and Optimization of Photonic Neural Networks**
  Pai, S., Williamson, I. A. D., Minkov, M., Hughes, T. W., Solgaard, O., Fan, S., Miller, D. A. B., IEEE
  IEEE.2020
- **Broadband Optical Fiber-Facet Silicon Pressure Sensor**
  Lorenzo, S., Wong, Y., Solgaard, O., IEEE
  IEEE.2020
- **Design of a multi-channel photonic crystal dielectric laser accelerator**
  Zhao, Z., Black, D. S., England, R., Hughes, T. W., Miao, Y., Solgaard, O., Byer, R. L., Fan, S., IEEE
  IEEE.2020
- **Net Acceleration and Direct Measurement of Attosecond Electron Pulses in a Silicon Dielectric Laser Accelerator.** *Physical review letters*
  Black, D. S., Niedermayer, U., Miao, Y., Zhao, Z., Solgaard, O., Byer, R. L., Leedle, K. J.
  2019; 123 (26): 264802
- **Net Acceleration and Direct Measurement of Attosecond Electron Pulses in a Silicon Dielectric Laser Accelerator** *PHYSICAL REVIEW LETTERS*
  Black, D. S., Niedermayer, U., Miao, Y., Zhao, Z., Solgaard, O., Byer, R. L., Leedle, K. J.
  2019; 123 (26)
- **Extended Design Space of Silicon-on-Nothing MEMS** *JOURNAL OF MICROELECTROMECHANICAL SYSTEMS*
  Wong, Y., Lorenzo, S., Miao, Y., Bregman, J., Solgaard, O.
  2019; 28 (5): 850–58
- **Matrix Optimization on Universal Unitary Photonic Devices** *PHYSICAL REVIEW APPLIED*
  Pai, S., Bartlett, B., Solgaard, O., Miller, D. A. B.
  2019; 11 (6)
- **Tunable structured illumination light sheet microscopy for background rejection and imaging depth in minimally processed tissues.** *Journal of biomedical optics*
  Landry, J. R., Itoh, R., Li, J. M., Hamann, S. S., Mandella, M., Contag, C. H., Solgaard, O.
  2019; 24 (4): 1–6
- **Tunable structured illumination light sheet microscopy for background rejection and imaging depth in minimally processed tissues** *JOURNAL OF BIOMEDICAL OPTICS*
  Landry, J. R., Itoh, R., Li, J. M., Hamann, S. S., Mandella, M., Contag, C. H., Solgaard, O.
  2019; 24 (4)
- **Laser-Driven Electron Lensing in Silicon Microstructures.** *Physical review letters*
  Black, D. S., Leedle, K. J., Miao, Y., Niedermayer, U., Byer, R. L., Solgaard, O.
  2019; 122 (10): 104801
- **Laser-Driven Electron Lensing in Silicon Microstructures** *PHYSICAL REVIEW LETTERS*
  Black, D. S., Leedle, K. J., Miao, Y., Niedermayer, U., Byer, R. L., Solgaard, O., ACHIP Collaboration
  2019; 122 (10)

- **MONOLITHIC SILICON-ON-NOTHING FIBER-BASED PRESSURE SENSORS**
  Lorenzo, S., Wong, Y., Solgaard, O., IEEE
  IEEE.2019: 1893–96
- **Linear Micromechanical Phased Arrays**
  Solgaard, O., Hamann, S. S., Landry, J. R., IEEE
  IEEE.2019: 174–75
- **High-speed random access optical scanning using a linear MEMS phased array** *OPTICS LETTERS*
  Hamann, S., Ceballos, A., Landry, J., Solgaard, O.
  2018; 43 (21): 5455–58
- **Design and Fabrication of Monolithic Photonic Crystal Fiber Acoustic Sensor**
  Wong, Y., Lorenzo, S., Solgaard, O.
  IEEE-INST ELECTRICAL ELECTRONICS ENGINEERS INC.2018: 7826–32
- **Design and Fabrication of Monolithic Photonic Crystal Fiber Acoustic Sensor.** *IEEE sensors journal*
  Wong, Y. P., Lorenzo, S., Solgaard, O.
  2018; 18 (19): 7826-7832
- **3D printed optics with nanometer scale surface roughness** *MICROSYSTEMS & NANOENGINEERING*
  Vaidya, N., Solgaard, O.
  2018; 4
- **3D printed optics with nanometer scale surface roughness.** *Microsystems & nanoengineering*
  Vaidya, N., Solgaard, O.
  2018; 4: 18
- **Elements of a dielectric laser accelerator** *OPTICA*
  McNeur, J., Kozak, M., Schoenenberger, N., Leedle, K. J., Deng, H., Ceballos, A., Hoogland, H., Ruehl, A., Hartl, I., Holzwarth, R., Solgaard, O., Harris, J. S., Byer, et al
  2018; 5 (6): 687–90
- **Large negative and positive optical Goos-Hanchen shift in photonic crystals** *OPTICS LETTERS*
  Wong, Y., Miao, Y., Skarda, J., Solgaard, O.
  2018; 43 (12): 2803–6
- **On-Chip Laser-Power Delivery System for Dielectric Laser Accelerators** *PHYSICAL REVIEW APPLIED*
  Hughes, T. W., Tan, S., Zhao, Z., Sapra, N. V., Leedle, K. J., Deng, H., Miao, Y., Black, D. S., Solgaard, O., Harris, J. S., Vuckovic, J., Byer, R. L., Fan, et al
  2018; 9 (5)
- **Phase-dependent laser acceleration of electrons with symmetrically driven silicon dual pillar gratings** *OPTICS LETTERS*
  Leedle, K. J., Black, D. S., Miao, Y., Urbanek, K. E., Ceballos, A., Deng, H., Harris, J. S., Solgaard, O., Byer, R. L.
  2018; 43 (9): 2181–84
- **Automated Cell Segmentation for Quantitative Phase Microscopy** *IEEE TRANSACTIONS ON MEDICAL IMAGING*
  Loewke, N. O., Pai, S., Cordeiro, C., Black, D., King, B. L., Contag, C. H., Chen, B., Baer, T. M., Solgaard, O.
  2018; 37 (4): 929–40
- **Time-multiplexed light field synthesis via factored Wigner distribution function** *OPTICS LETTERS*
  Hamann, S., Shi, L., Solgaard, O., Wetzstein, G.
  2018; 43 (3): 599–602
- **Variable Focusing and Steering Using High Speed MEMS Phased Array**
  Hamann, S., Solgaard, O., IEEE
  IEEE.2018: 232–33
- **Optophysiology of cardiomyocytes: characterizing cellular motion with quantitative phase imaging.** *Biomedical optics express*
  Cordeiro, C. n., Abilez, O. J., Goetz, G. n., Gupta, T. n., Zhuge, Y. n., Solgaard, O. n., Palanker, D. n.

2017; 8 (10): 4652–62

- **Monolithic Photonic Crystal Fiber Acoustic Sensor**
  Wong, Y., Solgaard, O., IEEE
  IEEE.2017: 1113–15
- **MONOLITHIC SILICON-ON-NOTHING PHOTONIC CRYSTAL PRESSURE SENSOR**
  Wong, Y., Bregman, J., Solgaard, O., IEEE
  IEEE.2017: 1963–66
- **Characterizing Cardiomyocytes Motion with Quantitative Phase Imaging**
  Cordeiro, C., Abilez, O., Gupta, T., Goetz, G., Solgaard, O., Palanker, D., IEEE
  IEEE.2017
- **Light sheet fluorescence microscopy using high-speed structured and pivoting illumination** *OPTICS LETTERS*
  Itoh, R., Landry, J. R., Hamann, S. S., Solgaard, O.
  2016; 41 (21): 5015-5018
- **Haltere-Like Optoelectromechanical Gyroscope** *IEEE SENSORS JOURNAL*
  Kilic, O., Ra, H., Akkaya, O. C., Digonnet, M. J., Solgaard, O.
  2016; 16 (11): 4274-4280
- **Design and fabrication of silicon-tessellated structures for monocentric imagers.** *Microsystems & nanoengineering*
  Wu, T., Hamann, S. S., Ceballos, A. C., Chang, C. E., Solgaard, O., Howe, R. T.
  2016; 2: 16019
- **Fast Stiffness Mapping of Cells Using High-Bandwidth Atomic Force Microscopy.** *ACS nano*
  Wang, A., Vijayraghavan, K., Solgaard, O., Butte, M. J.
  2016; 10 (1): 257-264
- **Photonic-Crystal-Based Fiber Hydrophone With Sub-100 mu Pa/root Hz Pressure Resolution** *IEEE PHOTONICS TECHNOLOGY LETTERS*
  Jan, C., Jo, W., Digonnet, M. J., Solgaard, O.
  2016; 28 (2): 123-126
- **Metal-insulator-metal waveguides for particle trapping and separation** *LAB ON A CHIP*
  Khan, S. A., Chang, C., Zaidi, Z., Shin, W., Shi, Y., Bowden, A. K., Solgaard, O.
  2016; 16 (12): 2302-2308
- **Dynamic and social behaviors of human pluripotent stem cells** *SCIENTIFIC REPORTS*
  Phadnis, S. M., Loewke, N. O., Dimov, I. K., Pai, S., Amwake, C. E., Solgaard, O., Baer, T. M., Chen, B., Pera, R. A.
  2015; 5
- **Dielectric laser acceleration of sub-100 keV electrons with silicon dual-pillar grating structures** *OPTICS LETTERS*
  Leedle, K. J., Ceballos, A., Deng, H., Solgaard, O., Pease, R. F., Byer, R. L., Harris, J. S.
  2015; 40 (18): 4344-4347
- **Single-Crystal Silicon Photonic-Crystal Fiber-Tip Pressure Sensors** *JOURNAL OF MICROELECTROMECHANICAL SYSTEMS*
  Wu, X., Jan, C., Solgaard, O.
  2015; 24 (4): 968-975
- **Optical separation of heterogeneous size distributions of microparticles on silicon nitride strip waveguides** *OPTICS EXPRESS*
  Khan, S. A., Shi, Y., Chang, C., Jan, C., Fan, S., Ellerbee, A. K., Solgaard, O.
  2015; 23 (7): 8855-8866
- **Dynamic and social behaviors of human pluripotent stem cells.** *Scientific reports*
  Phadnis, S. M., Loewke, N. O., Dimov, I. K., Pai, S., Amwake, C. E., Solgaard, O., Baer, T. M., Chen, B., Reijo Pera, R. A.
  2015; 5: 14209-?
- **Design of resonant mirrors with negative group delay** *OPTICS EXPRESS*
  Gellineau, A., Wong, Y., Solgaard, O.

2014; 22 (23): 29213-29222

- **Optical MEMS: From Micromirrors to Complex Systems** *JOURNAL OF MICROELECTROMECHANICAL SYSTEMS*
  Solgaard, O., Godil, A. A., Howe, R. T., Lee, L. P., Peter, Y., Zappe, H.
  2014; 23 (3): 517-538
- **Silicon buried gratings for dielectric laser electron accelerators** *APPLIED PHYSICS LETTERS*
  Chang, C., Solgaard, O.
  2014; 104 (18)
- **Digital quadrature amplitude modulation with optimized non-rectangular constellations for 100 Gb/s transmission by a directly-modulated laser** *OPTICS EXPRESS*
  Ling, W. A., Lyubomirsky, I., Solgaard, O.
  2014; 22 (9): 10844-10857
- **Double-Layer Silicon Photonic Crystal Fiber-Tip Temperature Sensors** *IEEE PHOTONICS TECHNOLOGY LETTERS*
  Park, B., Jung, I. W., Provine, J., Gellineau, A., Landry, J., Howe, R. T., Solgaard, O.
  2014; 26 (9): 900-903
- **Monolithic silicon waveguides in bulk silicon wafers** *Conference on Next-Generation Optical Networks for Data Centers and Short-Reach Links*
  Chang, C., Solgaard, O.
  SPIE-INT SOC OPTICAL ENGINEERING.2014
- **Detection of single nano-defects in photonic crystals between crossed polarizers** *OPTICS EXPRESS*
  Grepstad, J. O., Kaspar, P., Johansen, I., Solgaard, O., Sudbo, A.
  2013; 21 (25): 31375-31389
- **Miniature fiber acoustic sensors using a photonic-crystal membrane** *OPTICAL FIBER TECHNOLOGY*
  Jo, W., Akkaya, O. C., Solgaard, O., Digonnet, M. J.
  2013; 19 (6): 785-792
- **Engineering-reflected phase in Fabry-Perot sensors with resonant mirrors** *OPTICS LETTERS*
  Gellineau, A., Wong, Y., Solgaard, O.
  2013; 38 (23): 4992-4995
- **Fano resonances in integrated silicon Bragg reflectors for sensing applications** *OPTICS EXPRESS*
  Chang, C., Solgaard, O.
  2013; 21 (22): 27209-27218
- **Finite-size limitations on Quality Factor of guided resonance modes in 2D Photonic Crystals** *OPTICS EXPRESS*
  Grepstad, J. O., Greve, M. M., Holst, B., Johansen, I., Solgaard, O., Sudbo, A.
  2013; 21 (20): 23640-23654
- **Time-Division-Multiplexed Interferometric Sensor Arrays** *JOURNAL OF LIGHTWAVE TECHNOLOGY*
  Akkaya, O. C., Digonnet, M. J., Kino, G. S., Solgaard, O.
  2013; 31 (16): 3001-3008
- **Short-cavity multimode fiber-tip Fabry-Perot sensors** *OPTICS EXPRESS*
  Wu, X., Solgaard, O.
  2013; 21 (12): 14487-14499
- **Two-axis MEMS scanner with transfer-printed high-reflectivity, broadband monolithic silicon photonic crystal mirrors** *OPTICS EXPRESS*
  Jeong, J., Park, B., Keum, H., Kim, S., Rogers, J. A., Solgaard, O.
  2013; 21 (11): 13800-13809
- **High-Bandwidth AFM Probes for Imaging in Air and Fluid** *JOURNAL OF MICROELECTROMECHANICAL SYSTEMS*
  Vijayraghavan, K., Gellineau, A. A., Wang, A., Butte, M. J., Melosh, N. A., Solgaard, O.
  2013; 22 (3): 603-612
- **High-Bandwidth AFM Probes for Imaging in Air and Fluid.** *Journal of microelectromechanical systems : a joint IEEE and ASME publication on microstructures, microactuators, microsensors, and microsystems*

Vijayraghavan, K., Gellineau, A. A., Wang, A., Butte, M. J., Melosh, N. A., Solgaard, O.
2013; 22 (3): 603-612

- **Measurement of elastic properties in fluid using high bandwidth atomic force microscope probes** *APPLIED PHYSICS LETTERS*
  Vijayraghavan, K., Wang, A., Solgaard, O., Butte, M. J., Melosh, N. A.
  2013; 102 (10)
- **MONOLITHIC SILICON WAVEGUIDES IN STANDARD SILICON** *IEEE MICRO*
  Chang, C., Solgaard, O.
  2013; 33 (1): 32-40
- **Modeling and Demonstration of Thermally Stable High-Sensitivity Reproducible Acoustic Sensors** *Journal of Lightwave Technology*
  Akkaya, O., C., Digonnet, M., J.F., Kino, G., S., Solgaard, O.
  2013; 31 (16): 2701-2708
- **Fano resonances in integrated silicon Bragg reflectors for sensing applications** *Optics Express*
  Chang, C., M., Solgaard, O.
  2013; 21 (22): 2720927219
- **Single nano-particle sensing exploiting crossed polarizers to improve the signal-to-noise ratio**
  Grepstad, J., O., Kaspar, P., Solgaard, O., Johansen, I-, R., Sudbø, A., S.
  2013
- **High-Reflectivity, Broadband Monolithic Silicon Photonic Crystal Mirrors on Two-Axis MEMS Scanner by Transfer-Printing**
  Jeong, J-, W., Park, B., Keum, H., Kim, S., Rogers, J., A., Solgaard, O.
  2013
- **Engineering-reflected phase in Fabry–Perot sensors with resonant mirrors** *Optics Letters*
  Gellineau, A., Wong, Y., P., Solgaard, O.
  2013; 38 (23): 4992–4995
- **Detection of single nano-defects in photonic crystals between crossed polarizers** *Optics Express*
  Grepstad, J., O., Kaspar, P., Johansen, I., R., Solgaard, O., Sudbø, A.
  2013; 21 (25): 31375–31389
- **Monolithic Photonic Crystal-Based Fiber-TipFabry-Pérot Static Pressure Sensor**
  Wu, X., Jan, C., Solgaard, O.
  2013
- **Short-cavity multimode fiber-tip Fabry-Pérot sensors** *Optics Express*
  Wu, X., Solgaard, O.
  2013; 21 (6): 14487–14499
- **Double-layer silicon waveguides in standard silicon for 3D photonics**
  Chang, C., M., Solgaard, O.
  2013
- **Modeling and Demonstration of Thermally Stable High-Sensitivity Reproducible Acoustic Sensors** *JOURNAL OF MICROELECTROMECHANICAL SYSTEMS*
  Akkaya, O. C., Kilic, O., Digonnet, M. J., Kino, G. S., Solgaard, O.
  2012; 21 (6): 1347-1356
- **Split-Frame Gimbaled Two-Dimensional MEMS Scanner for Miniature Dual-Axis Confocal Microendoscopes Fabricated by Front-Side Processing** *JOURNAL OF MICROELECTROMECHANICAL SYSTEMS*
  Jeong, J., Kim, S., Solgaard, O.
  2012; 21 (2): 308-315
- **Photonic-crystal membranes for optical detection of single nano-particles, designed for biosensor application** *OPTICS EXPRESS*
  Grepstad, J. O., Kaspar, P., Solgaard, O., Johansen, I., Sudbo, A. S.
  2012; 20 (7): 7954-7965

- **Reflectivity and polarization dependence of polysilicon single-film broadband photonic crystal micro-mirrors** *OPTICS EXPRESS*
  Kim, S., Hadzialic, S., Sudbo, A. S., Solgaard, O.
  2012; 20 (6): 6306-6315
- **In vivo near-infrared dual-axis confocal microendoscopy in the human lower gastrointestinal tract** *JOURNAL OF BIOMEDICAL OPTICS*
  Piyawattanametha, W., Ra, H., Qiu, Z., Friedland, S., Liu, J. T., Loewke, K., Kino, G. S., Solgaard, O., Wang, T. D., Mandella, M. J., Contag, C. H.
  2012; 17 (2)
- **Tapping-mode force spectroscopy using cantilevers with interferometric high-bandwidth force sensors** *APPLIED PHYSICS LETTERS*
  Sarioglu, A. F., Magonov, S., Solgaard, O.
  2012; 100 (5)
- **OvercomingMultimodal Effects in Optical Fiber Tip CMOS-Compatible Fabry-Perot Sensors**
  Wu, X., Solgaard, O.
  2012
- **Enhanced scattering from nano-particles trapped in photonic crystal membranes** *International Conference on Optical MEMS and Nanophotonics (OMN)*
  Grepstad, J. O., Kaspar, P., Solgaard, O., Johansen, I., Sudbo, A. S.
  IEEE.2012: 21–22
- **Asymmetric Fano Lineshapes in Integrated Silicon Bragg Reflectors** *Conference on Lasers and Electro-Optics (CLEO)*
  Chang, C., Solgaard, O.
  IEEE.2012
- **9.6-mm diameter femtosecond laser microsurgery probe** *Conference on Lasers and Electro-Optics (CLEO)*
  Hoy, C. L., Ferhanoglu, O., Yildirim, M., Piyawattanametha, W., Ra, H., Solgaard, O., Ben-Yakar, A.
  IEEE.2012
- **Double-Layer Silicon Photonic Crystal Fiber Tip Temperature Sensor** *25th IEEE Photonics Conference (IPC)*
  Park, B., Jung, I. W., Provine, J., Howe, R. T., Solgaard, O.
  IEEE.2012: 550–551
- **Overcoming Multimodal Effects in Optical Fiber Tip CMOS-Compatible Fabry-Perot Sensors** *Conference on Lasers and Electro-Optics (CLEO)*
  Wu, X., Solgaard, O.
  IEEE.2012
- **Interdigitated Annular CMUT Arrays for Ultrasound Assisted Delivery of Fluorescent Contrast Agents** *IEEE International Ultrasonics Symposium (IUS)*
  Cristman, P., Oralkan, O., Mandella, M., Solgaard, O., Contag, C., Khuri-Yakub, B. T.
  IEEE.2012: 96–99
- **Ratiometric Molecular Microscopy: Towards Real-Time Quantitative Delineation of Brain Tumor Margins**
  Leigh, S., Y., Wang, D., Chen, Y., Mandella, M., J., Haeberle, H., Solgaard, O.
  2012
- **Multifunctional Fiber Sensors Based on Photonic Crystals**
  Solgaard, O.
  2012
- **Integrated Silicon Photonic Temperature Sensors Based onBragg Reflectors with Asymmetric Fano Lineshapes**
  Chang, C., M., Solgaard, O.
  2012
- **Optical imaging system designed for biomolecule detection using photonic crystal membranes**
  Grepstad, J., O., Kaspar, P., Solgaard, O., Johansen, I-, R., Sudbø, A., S.
  2012
- **Asymmetric Fano Lineshapes in Integrated Silicon Bragg Reflectors**
  Chang, C., M., Solgaard, O.

2012

- **Double-Layer Silicon Photonic Crystal Fiber Tip Temperature Sensor**
  Park, B., Jung, I., W., Provine, J., Howe, R., T., Solgaard, O.
  2012
- **9.6mm diameter femtosecond laser microsurgeryprobe**
  Hoy, C., L., Ferhanoglu, O., Yildirim, M., Piyawattanametha, W., Ra, H., Solgaard, O.
  2012
- **Photonic Crystal Fiber Tip Sensor for High-Temperature Measurement** *IEEE SENSORS JOURNAL*
  Park, B., Provine, J., Jung, I. W., Howe, R. T., Solgaard, O.
  2011; 11 (11): 2643-2648
- **Multilayered Monolithic Silicon Photonic Crystals** *IEEE PHOTONICS TECHNOLOGY LETTERS*
  Mallick, S. B., Jung, I. W., Meisner, A. M., Provine, J., Howe, R. T., Solgaard, O.
  2011; 23 (11): 730-732
- **High-Resolution Nanomechanical Mapping Using Interferometric-Force-Sensing AFM Probes** *JOURNAL OF MICROELECTROMECHANICAL SYSTEMS*
  Sarioglu, A. F., Liu, M., Solgaard, O.
  2011; 20 (3): 654-664
- **Optical design and imaging performance testing of a 9.6-mm diameter femtosecond laser microsurgery probe** *OPTICS EXPRESS*
  Hoy, C. L., Ferhanoglu, O., Yildirim, M., Piyawattanametha, W., Ra, H., Solgaard, O., Ben-Yakar, A.
  2011; 19 (11): 10536-10552
- **In Vivo Imaging of Human and Mouse Skin with a Handheld Dual-Axis Confocal Fluorescence Microscope** *JOURNAL OF INVESTIGATIVE DERMATOLOGY*
  Ra, H., Piyawattanametha, W., Gonzalez-Gonzalez, E., Mandella, M. J., Kino, G. S., Solgaard, O., Leake, D., Kaspar, R. L., Oro, A., Contag, C. H.
  2011; 131 (5): 1061-1066
- **Highly Sensitive Monolithic Silicon Photonic Crystal Fiber Tip Sensor for Simultaneous Measurement of Refractive Index and Temperature** *JOURNAL OF LIGHTWAVE TECHNOLOGY*
  Jung, I. W., Park, B., Provine, J., Howe, R. T., Solgaard, O.
  2011; 29 (9): 1367-1374
- **Miniature photonic-crystal hydrophone optimized for ocean acoustics** *JOURNAL OF THE ACOUSTICAL SOCIETY OF AMERICA*
  Kilic, O., Digonnet, M. J., Kino, G. S., Solgaard, O.
  2011; 129 (4): 1837-1850
- **Modeling, design, and analysis of interferometric cantilevers for time-resolved force measurements in tapping-mode atomic force microscopy** *JOURNAL OF APPLIED PHYSICS*
  Sarioglu, A. F., Solgaard, O.
  2011; 109 (6)
- **High resolution nanomechanical mapping using interferometric-force-sensing AFM probes** *Journal of Microelectromechanical Systems*
  Sarioglu, A., F., Lui, M., Solgaard, O.
  2011; 20 (3): 654-664
- **Fabry-Perot Fiber Sensors with Reproducible Displacement Sensitivities** *16th International Conference on Optical MEMS and Nanophotonics (OMN)*
  Akkaya, O. C., Kilic, O., Digonnet, M. J., Kino, G. S., Solgaard, O.
  IEEE.2011: 191–192
- **Double-Layer Silicon Photonic Crystal Fiber Tip Sensor** *16th International Conference on Optical MEMS and Nanophotonics (OMN)*
  Park, B., Jung, I. W., Provine, J., Shambat, G., Vuckovic, J., Howe, R. T., Solgaard, O.
  IEEE.2011: 97–98
- **3-D MEMS Scanning System For Dual-Axis Confocal Microendoscopy** *16th International Conference on Optical MEMS and Nanophotonics (OMN)*

Jeong, J., Mandella, M. J., Kino, G. S., Contag, C. H., Solgaard, O.
IEEE.2011: 71–72

- **3-D MEMS Scanning System For Dual-Axis Confocal Microendoscopy**
  Jeong, J., W., Mandella, M., J., Kino, G., S., Contag, C., H., Solgaard, O.
  2011
- **Time-Resolved Tapping-Mode Atomic Force Microscopy** *Scanning Probe Microscopy in Nanoscience and Nanotechnology 2*
  Sarioglu, A., F., Solgaard, O.
  Springer Verlag.2011: 1
- **Fabry-Perot Fiber Sensors with Reproducible Displacement Sensitivities**
  Akkaya, O., C., Kilic, O., Digonnet, M., J.F., Kino, G., S., Solgaard, O.
  2011
- **Spot Formation and Scanning Microscopy via Multimode Fibers**
  Boucher, K., J., Jan, C., Kahn, J., M., Wilde, J., P., Solgaard, O.
  2011
- **Frontside-only processing of 2-D MEMS scanner for miniature dual-axis confocal microendoscopes**
  Jeung, J., W., Vaithilingam, S., Solgaard, O.
  2011
- **Double-Layer Silicon Photonic Crystal Fiber Tip Sensor**
  Park, B., Jung, I., W., Provine, J., Shambat, G., Vuckovic, J., Howe, R., T., Solgaard, O.
  2011
- **Interdigitated Annular CMUT Arrays for Ultrasound Assisted Delivery of Fluorescent Contrast Agents**
  Cristman, P., Oralkan, O., Mandella, M., Solgaard, O., Contag, C., Khuri-Yakub, B., T.
  2011
- **AGILE: Axially Graded Index LEns as a non-tracking solar concentrator**
  Vaidya, N., Dauskardt, R., Solgaard, O.
  2011
- **Cortial blood flow imaging with a portable MEMS based2-photon fluorescence microendoscope**
  Piyawattanametha, W., Solgaard, O., Schnitzer, M., J.
  2011
- **Amplified spontaneous emission rejection with multi-functional MEMS tunable filter** *ELECTRONICS LETTERS*
  Jeong, J. W., Cho, J. W., Jung, I. W., Solgaard, O.
  2010; 46 (18): 1275-U57
- **Miniaturization of free space optical systems** *APPLIED OPTICS*
  Solgaard, O.
  2010; 49 (25): F18-F31
- **Displacement Sensing With a Mechanically Tunable Photonic Crystal** *IEEE PHOTONICS TECHNOLOGY LETTERS*
  Hadzialic, S., Kim, S., Sarioglu, A. F., Sudbo, A. S., Solgaard, O.
  2010; 22 (16): 1196-1198
- **Photonic Components for Future Fiber Access Networks** *IEEE JOURNAL ON SELECTED AREAS IN COMMUNICATIONS*
  Yen, S., Wong, S., Das, S., Cheng, N., Cho, J., Yamashita, S., Solgaard, O., Kazovsky, L. G.
  2010; 28 (6): 928-935
- **Multifunctional Tunable Optical Filter Using MEMS Spatial Light Modulator** *JOURNAL OF MICROELECTROMECHANICAL SYSTEMS*
  Jeong, J., Jung, I. W., Jung, H. J., Baney, D. M., Solgaard, O.
  2010; 19 (3): 610-618
- **Assessing delivery and quantifying efficacy of small interfering ribonucleic acid therapeutics in the skin using a dual-axis confocal microscope** *JOURNAL OF BIOMEDICAL OPTICS*

Ra, H., Gonzalez-Gonzalez, E., Smith, B. R., Gambhir, S. S., Kino, G. S., Solgaard, O., Kaspar, R. L., Contag, C. H.
2010; 15 (3)

- **Micromirror-scanned dual-axis confocal microscope utilizing a gradient-index relay lens for image guidance during brain surgery** *JOURNAL OF BIOMEDICAL OPTICS*
  Liu, J. T., Mandella, M. J., Loewke, N. O., Haeberle, H., Ra, H., Piyawattanametha, W., Solgaard, O., Kino, G. S., Contag, C. H.
  2010; 15 (2)
- **Two-Dimensional Photonic Crystals Fabricated in Monolithic Single-Crystal Silicon** *IEEE PHOTONICS TECHNOLOGY LETTERS*
  Hadzialic, S., Kim, S., Sudbo, A. S., Solgaard, O.
  2010; 22 (2): 67-69
- **Asymmetrical Spectral Response in Fiber Fabry-Perot Interferometers (vol 27, pg 5648, 2009)** *JOURNAL OF LIGHTWAVE TECHNOLOGY*
  Kilic, O., Digonnet, M. J., Kino, G. S., Solgaard, O.
  2010; 28 (1): 188-188
- **High Temperature Photonic Crystal Fiber Tip Sensor** *2010 IEEE Sensors Conference*
  Park, B., Provine, J., Howe, R. T., Solgaard, O., Jung, I. W.
  IEEE.2010: 970–974
- **Monolithic Silicon Photonic Crystal Fiber Tip Sensor for Refractive Index and Temperature Sensing** *Conference on Lasers and Electro-Optics (CLEO)/Quantum Electronics and Laser Science Conference (QELS)*
  Park, B., Jung, I. W., Provine, J., Howe, R. T., Solgaard, O.
  IEEE.2010
- **High-Sensitivity Thermally Stable Acoustic Fiber Sensor** *2010 IEEE Sensors Conference*
  Akkaya, O. C., Kilic, O., Digonnet, M. J., Kino, G. S., Solgaard, O.
  IEEE.2010: 1148–1151
- **Quasi-Passive and Reconfigurable Node for Optical Access Network** *Conference on Lasers and Electro-Optics (CLEO)/Quantum Electronics and Laser Science Conference (QELS)*
  Yen, S., Tendulkar, M., Jameson, J. R., Yamashita, S., Nishi, Y., Solgaard, O., Kazovsky, L. G.
  IEEE.2010
- **Surgical dual-axis confocal microscope for brain tumor resection** *IEEE Photonics Society Winter Topicals Meeting Series*
  Liu, J. T., Mandella, M. J., Loewke, N. O., Haeberle, H., Ra, H., Piyawattanametha, W., Solgaard, O., Kino, G. S., Contag, C. H.
  IEEE.2010: 76–77
- **From Bench to Bedside with Advanced Confocal Microendoscope** *IEEE Photonics Society Winter Topicals Meeting Series*
  Piyawattanametha, W., Mandella, M. J., Ra, H., Liu, J. T., Friedland, S., Qiu, Z., Kino, G. S., Wang, T. D., Contag, C. H., Solgaard, O.
  IEEE.2010: 83–84
- **From Bench to Bedside with Advanced Dual-Axes Confocal Microendoscope** *23rd IEEE International Conference on Micro Electro Mechanical Systems (MEMS 2010)*
  Piyawattanametha, W., Ra, H., Mandella, M. J., Contag, C. H., Solgaard, O.
  IEEE.2010: 27–30
- **A surgical confocal microscope utilizing a MEMS scanner and a GRIN relay lens for molecular image-guided brain tumor resection**
  Liu, J., T.C., Mandella, M., J., Loewke, N., O., Garai, E., Piyawattanametha, W., Ra, H., Solgaard, O.
  2010
- **Photonic Crystal Mirrors for Free-Space Communication and Fiber-Optic Sensors**
  Hadzialic, S., Jung, I., W., Kilic, O., Kim, S., Provine, J., Howe, R., T., Solgaard, O.
  2010
- **Quasi-Passive and Reconfigurable Node for Optical Access Network**
  Yen, S., H., Tendulkar, M., Jameson, J., R., Yamashita, S., Nishi, Y., Solgaard, O.
  2010
- **From Bench to Bedside with AdvancedDual-Axes Confocal Microendoscope**
  Piyawattanametha, W., Ra, H., Mandella, M., J., Contag, C., H., Solgaard, O.

2010

- **Miniature optical-sectioning microscopy for molecular image guidance during brain tumor resection**
  Liu, J., T.C., Mandella, M., J., Loewke, N., O., Ra, H., Solgaard, O., Kino, G., S.
  2010
- **High Temperature Photonic Crystal Fiber Tip Sensor**
  Park, B., Provine, J., Jung, I-, W., Howe, R., T., Solgaard, O.
  2010
- **From Bench to Bedside with AdvancedDual-Axes Confocal Microendoscope**
  Piyawattanametha, W., Mandella, M., J., Ra, H., Lui, J., T.C., Friedland, S., Qui, Z., Solgaard, O.
  2010
- **High-Sensitivity Thermally Stable Acoustic Fiber Sensor**
  Akkaya, O., C., Kilic, O., Digonnet, M., J.F., Kino, G., S., Solgaard, O.
  2010
- **SurgicalDual-Axis Confocal Microscope for Brain Tumor Resection**
  Lui, J., T.C., Mandella, M., J., Loewke, N., O., Haeberle, H., Ra, H., Piyawattanametha, W., Solgaard, O.
  2010
- **Monolithic Silicon Photonic Crystal Fiber Tip Sensor forRefractive Index and Temperature Sensing**
  Park, B., Jung, I, W., Provine, J., Howe, R., T., Solgaard, O.
  2010
- **Asymmetrical Spectral Response in Fiber Fabry-Perot Interferometers** *JOURNAL OF LIGHTWAVE TECHNOLOGY*
  Kilic, O., Digonnet, M. J., Kino, G. S., Solgaard, O.
  2009; 27 (24): 5648-5656
- **A Large-Area High-Reflectivity Broadband Monolithic Single-Crystal-Silicon Photonic Crystal Mirror MEMS Scanner With Low Dependence on Incident Angle and Polarization** *IEEE JOURNAL OF SELECTED TOPICS IN QUANTUM ELECTRONICS*
  Jung, I. W., Mallick, S. B., Solgaard, O.
  2009; 15 (5): 1447-1454
- **Introduction to the Issue on Nanophotonics and Optical MEMS** *IEEE JOURNAL OF SELECTED TOPICS IN QUANTUM ELECTRONICS*
  Peter, Y., He, S., Martin, O. J., Sasaki, M., Solgaard, O.
  2009; 15 (5): 1307-1309
- **3-D Near-Infrared Fluorescence Imaging Using an MEMS-Based Miniature Dual-Axis Confocal Microscope** *IEEE JOURNAL OF SELECTED TOPICS IN QUANTUM ELECTRONICS*
  Piyawattanametha, W., Ra, H., Mandella, M. J., Loewke, K., Wang, T. D., Kino, G. S., Solgaard, O., Contag, C. H.
  2009; 15 (5): 1344-1350
- **High-Reflectivity Broadband Photonic Crystal Mirror MEMS Scanner With Low Dependence on Incident Angle and Polarization** *JOURNAL OF MICROELECTROMECHANICAL SYSTEMS*
  Jung, I. W., Kim, S., Solgaard, O.
  2009; 18 (4): 924-932
- **In vivo brain imaging using a portable 2.9 g two-photon microscope based on a microelectromechanical systems scanning mirror** *OPTICS LETTERS*
  Piyawattanametha, W., Cocker, E. D., Burns, L. D., Barretto, R. P., Jung, J. C., Ra, H., Solgaard, O., Schnitzer, M. J.
  2009; 34 (15): 2309-2311
- **In vivo brain imaging using a portable 2.9 g two-photon microscope based on a microelectromechanical systems scanning mirror** *OPTICS LETTERS*
  Piyawattanametha, W., Cocker, E. D., Burns, L. D., Barretto, R. P., Jung, J. C., Ra, H., Solgaard, O., Schnitzer, M. J.
  2009; 34 (15): 2309-2311
- **Vertical Mirror Fabrication Combining KOH Etch and DRIE of (110) Silicon** *JOURNAL OF MICROELECTROMECHANICAL SYSTEMS*
  Lee, D., Yu, K., Krishnamoorthy, U., Solgaard, O.

2009; 18 (1): 217-227

- **Higher harmonics and time-varying force detection in dynamic force microscopy** *Handbook of Nanotechnology*
  Quate, C., Sahin, O., Solgaard, O., Giessibl, F., J.
  Springer Verlag.2009; 3: 1
- **Photonic Crystal Fiber Tip Sensor for Precision Temperature Sensing** *22nd Annual Meeting of the IEEE-Photonics-Society*
  Jung, I. W., Park, B., Provine, J., Howe, R. T., Solgaard, O.
  IEEE.2009: 761–762
- **Sequential in vivo Molecular Imaging with a Dual-Axes Confocal Microscope** *Conference on Lasers and Electro-Optics/Quantum Electronics and Laser Science Conference (CLEO/QELS 2009)*
  Ra, H., Gonzalez, E., Piyawattanametha, W., Mandella, M. J., Kaspar, R., Contag, C. H., Kino, G. S., Solgaard, O.
  IEEE.2009: 1–2
- **A CMOS Compatible Low Temperature Process for Photonic CrystalMEMS Scanner**
  Takahashi, K., Jung, I., W., Higo, A., Mita, Y., Fujita, H., Toshiyoshi, H., Solgaard, O.
  2009
- **Optomechanical fiber gyroscope**
  Kilic, O., Akkaya, O., C., Digonnet, M., Kino, G., Solgaard, O.
  2009
- **Photonic Crystal Fiber Tip Sensorfor Precision Temperature Sensing**
  Jung, I., W., Park, B., Provine, J., Howe, R., T., Solgaard, O.
  2009
- **In vivo Clinical and Intravital Imaging with MEMS Based Dual-Axes Confocal Microscopes**
  Piyawattanametha, W., Ra, H., Mandella, M., J., Liu, J., T, Gonzalez, E., Kaspar, R., Solgaard, O.
  2009
- **Tunable Optical Bandpass Filter with High-Quality Vertical MirrorsMicroassembled on Movable MEMS Platforms**
  Jeung, J., W., Jung, I., W., Baney, D., M., Solgaard, O.
  2009
- **Sequential in vivo Molecular Imaging with a Dual-Axes Confocal Microscope**
  Ra, H., Gonzalez, E., Piyawattanametha, W., Mandella, M., J., Kaspar, R., Contag, C., H., Solgaard, O.
  2009
- **Monolithic Silicon Photonic Crystal Slab Fiber Tip Sensor**
  Jung, I., W., Park, B., Provine, J., Howe, R., T., Solgaard, O.
  2009
- **Interferometric Force Sensing AFM Probes ForNanomechanical Mapping of Material Properties**
  Sarioglu, F., Liu, M., Solgaard, O.
  2009
- **Fiber-Optical Acoustic Sensor Based on a Photonic-Crystal Diaphragm**
  Kilic, O., Digonnet, M., J.F., Kino, G., S., Solgaard, O.
  2009
- **Analysis of guided-resonance-based polarization beam splitting in photonic crystal slabs** *JOURNAL OF THE OPTICAL SOCIETY OF AMERICA A-OPTICS IMAGE SCIENCE AND VISION*
  Kilic, O., Fan, S., Solgaard, O.
  2008; 25 (11): 2680-2692
- **Pull-In Analysis of Torsional Scanners Actuated by Electrostatic Vertical Combdrives** *JOURNAL OF MICROELECTROMECHANICAL SYSTEMS*
  Lee, D., Solgaard, O.
  2008; 17 (5): 1228-1238

- **Controlling uncoupled resonances in photonic crystals through breaking the mirror symmetry** *OPTICS EXPRESS*
  Kilic, O., Digonnet, M., Kino, G., Solgaard, O.
  2008; 16 (17): 13090-13103
- **Cantilevers with integrated sensor for time-resolved force measurement in tapping-mode atomic force microscopy** *APPLIED PHYSICS LETTERS*
  Sarioglu, A. F., Solgaard, O.
  2008; 93 (2)
- **Miniaturized probe for femtosecond laser microsurgery and two-photon imaging** *OPTICS EXPRESS*
  Hoy, C. L., Durr, N. J., Chen, P., Piyawattanametha, W., Ra, H., Solgaard, O., Ben-Yakar, A.
  2008; 16 (13): 9996-10005
- **Three-dimensional in vivo imaging by a handheld dual-axes confocal microscope** *OPTICS EXPRESS*
  Ra, H., Piyawattanametha, W., Mandella, M. J., Hsiung, P., Hardy, J., Wang, T. D., Contag, C. H., Kino, G. S., Solgaard, O.
  2008; 16 (10): 7224-7232
- **Scalable optical switches with large port count based on a waveguide grating router and passive couplers** *IEEE PHOTONICS TECHNOLOGY LETTERS*
  Joe, I., Solgaard, O.
  2008; 20 (5-8): 508-510
- **Micro and Nano Electromechanical Systems** *National Nanotechnology Infrastructure Network (NNIN) Open Textbook on Nanotechnology (33 pages), http://www.nano.umn.edu/nnin_opentext/contents.jsp*
  Howe, R., T., Maharbiz, M., M., Muhlstein, C., L., Solgaard, O.
  2008: 1
- **Large-Area High-Reflectivity Broadband Monolithic Silicon Photonic Crystal Mirror MEMS Scanner** *IEEE/LEOS International Conference on Optical MEMS and Nanophotonics*
  Jung, I. W., Mallick, S. B., Solgaard, O.
  IEEE.2008: 76–77
- **Large-Area Monolithic Photonic Crystal Mirrors with High Reflectivity in the 1250-1650nm Band Patterned by Optical Lithography** *IEEE/LEOS International Conference on Optical MEMS and Nanophotonics*
  Jung, I. W., Mallick, S. B., Solgaard, O.
  IEEE.2008: 86–87
- **Two-Photon Luminescence Imaging Using a MEMS-Based Miniaturized Probe** *Conference on Lasers and Electro-Optics/Quantum Electronics and Laser Science Conference (CLEO/QELS 2008)*
  Hoy, C., Durr, N., Chen, P., Smith, D. K., Larson, T., Piyawattanametha, W., Ra, H., Korgel, B., Sokolov, K., Solgaard, O., Ben-Yakar, A.
  IEEE.2008: 951–952
- **Photonic-crystal-diaphragm-based fiber-tip hydrophone optimized for ocean acoustics** *19th International Conference on Optical Fibre Sensors*
  Kilic, O., Digonnet, M., Kino, G., Solgaard, O.
  SPIE-INT SOC OPTICAL ENGINEERING.2008
- **Double-layered Monolithic Silicon Photonic Crystals** *Conference on Lasers and Electro-Optics/Quantum Electronics and Laser Science Conference (CLEO/QELS 2008)*
  Mallick, S. B., Kim, S., Hadzialic, S., Sudbo, A., Solgaard, O.
  IEEE.2008: 857–858
- **Interface Quality Control of Monolithic Photonic Crystals by Hydrogen Annealing** *Conference on Lasers and Electro-Optics/Quantum Electronics and Laser Science Conference (CLEO/QELS 2008)*
  Kim, S., Kant, R., Hadzialic, S., Howe, R. T., Solgaard, O.
  IEEE.2008: 316–317
- **MEMS based Dual-Axes Confocal Clinical Endoscope for Real Time in vivo Imaging** *IEEE/LEOS International Conference on Optical MEMS and Nanophotonics*
  Piyawattanametha, W., Mandella, M. J., Ra, H., Liu, J. T., Garai, E., Kino, G. S., Solgaard, O., Contag, C. H.
  IEEE.2008: 42–43

- **Three-dimensional in-vivo imaging with a miniature dual-axes confocal fluorescence microscope**
  Piyawattanametha, W., Mandella, M., J., Ra, H., Du, C., Contag, C., H., Kino, G., S., Solgaard, O.
  2008
- **Double-layered Monolithic Silicon Photonic Crystals**
  Mallick, S., Basu, Kim, S., Hadzialic, S., Sudbø, A., Solgaard, O.
  2008
- **Large-Area Monolithic Photonic Crystal Mirrors with High Reflectivity in the 1250-1650nm Band Patterned by Optical Lithography**
  Jung, I., W., Mallick, S., B., Solgaard, O.
  2008
- **Microelectromechanical Systems for Lightwave Communication** *Optical Fiber Telecommunications, A: Components and Subsystems*
  Wu, M., C., Solgaard, O., Ford, J., E.
  edited by Kaminow, I., P., Li, T., Willner, A., E.
  Academic Press.2008: 713–758
- **Displacement sensing with a mechanically tunable photonic crystal**
  Hadzialic, S., Kim, S., Sudbø, A., Solgaard, O.
  2008
- **Monolithic photonic crystals**
  Hadzialic, S., Kim, S., Mallick, S., Basu, Sudbø, A., Solgaard, O.
  2008
- **Two-Photon Luminescence Imaging Using a MEMS-Based Miniaturized Probe**
  Hoy, C., Durr, N., Chen, P., Smith, D., K., Larson, T., Piyawattanametha, W., Solgaard, O.
  2008
- **Interface Quality Control of Monolithic Photonic Crystals by Hydrogen Annealing**
  Kim, S., Kant, R., Hadzialic, S., Howe, R., T., Solgaard, O.
  2008
- **MEMS based Dual-Axes Confocal Clinical Endoscope for Real Time in vivo Imaging**
  Piyawattanametha, W., Mandella, M., J., Ra, H., Liu, J., T.C., Garai, E., Kino, G., S., Solgaard, O.
  2008
- **Photonic Microsystems - Micro and Nanotechnology Applied to Optical Devices and Systems**
  Solgaard, O.
  Springer Verlag.2008
- **In vivo Intravital Imaging with a Dual-Axes Confocal Microscope in Skin**
  Ra, H., Piyawattanametha, W., Gonzalez, E., Kaspar, R., Mandella, M., J., Contag, C., H., Solgaard, O.
  2008
- **Large-Area High-Reflectivity Broadband Monolithic Silicon Photonic Crystal Mirror MEMS Scanner**
  Jung, I., W., Mallick, S., B., Solgaard, O.
  2008
- **Photonic-crystal-diaphragm-based fiber-tip hydrophone optimized for ocean acoustics**
  Kilic, O., Digonnet, M., Kino, G., Solgaard, O.
  2008
- **Reconfigurable optical wavelength multiplexer using a MEMS tunable blazed grating** *JOURNAL OF LIGHTWAVE TECHNOLOGY*
  Antoine, C., Li, X., Wang, J., Solgaard, O.
  2007; 25 (10): 3100-3107
- **External fibre Fabry-Perot acoustic sensor based on a photonic-crystal mirror** *18th International Conference on Optical Fibre Sensors*
  Kilic, O., Digonnet, M., Kino, G., Solgaard, O.
  IOP PUBLISHING LTD.2007: 3049–54

- **An atomic force microscope tip designed to measure time-varying nanomechanical forces** *NATURE NANOTECHNOLOGY*
  Sahin, O., Magonov, S., Su, C., Quate, C. F., Solgaard, O.
  2007; 2 (8): 507-514
- **Two-dimensional MEMS scanner for dual-axes confocal microscopy** *JOURNAL OF MICROELECTROMECHANICAL SYSTEMS*
  Ra, H., Piyawattanametha, W., Taguchi, Y., Lee, D., Mandella, M. J., Solgaard, O.
  2007; 16 (4): 969-976
- **Fiber-optic confocal microscope using a MEMS scanner and miniature objective lens** *OPTICS EXPRESS*
  Shin, H., Pierce, M. C., Lee, D., Ra, H., Solgaard, O., Richards-Kortum, R.
  2007; 15 (15): 9113-9122
- **Introduction to the issue on optical micro- and nanosystems** *IEEE JOURNAL OF SELECTED TOPICS IN QUANTUM ELECTRONICS*
  Talghader, J. J., Solgaard, O., Lin, L. Y.
  2007; 13 (2): 145-146
- **Single-crystal-silicon continuous membrane deformable mirror array for adaptive optics in space-based telescopes** *IEEE JOURNAL OF SELECTED TOPICS IN QUANTUM ELECTRONICS*
  Woong-Jung, I., Peter, Y., Carr, E., Wang, J., Solgaard, O.
  2007; 13 (2): 162-167
- **Superresolution digital image enhancement by subpixel image translation with a scanning micromirror** *IEEE JOURNAL OF SELECTED TOPICS IN QUANTUM ELECTRONICS*
  Yu, K., Park, N., Lee, D., Solgaard, O.
  2007; 13 (2): 304-311
- **Superresolution digital image enhancement by subpixel image translation with a scanning micromirror** *IEEE JOURNAL OF SELECTED TOPICS IN QUANTUM ELECTRONICS*
  Yu, K., Park, N., Lee, D., Solgaard, O.
  2007; 13 (2): 304-311
- **Miniature near-infrared dual-axes confocal microscope utilizing a two-dimensional microelectromechanical systems scanner** *OPTICS LETTERS*
  Liu, J. T., Mandella, M. J., Ra, H., Wong, L. K., Solgaard, O., Kino, G. S., Piyawattanametha, W., Contag, C. H., Wang, T. D.
  2007; 32 (3): 256-258
- **Portable forms of fiber-optic one- and two-photon fluorescence microendoseopy towards imaging in freely moving mice** *51st Annual Meeting of the Biophysical-Society*
  Cocker, E. D., Flusberg, B. A., Piyawattanametha, W., Jung, J. C., Baretto, R. P., Ko, T. H., Ra, H., Lee, D., Solgaard, O., Schnitzer, M. J.
  CELL PRESS.2007: 154A–154A
- **A portable two-photon fluorescence microendoscope based on a two-dimensional scanning mirror** *IEEE/LEOS International Conference on Optical MEMS and Nanophotonics*
  Piyawattanametha, W., Cocker, E. D., Barretto, R. P., Jung, J. C., Flusberg, B. A., Ra, H., Solgaard, O., Schnitzer, M. J.
  IEEE.2007: 6–7
- **An external cavity tunable laser with a low-loss narrowband MEMS tunable blazed grating** *20th Annual Meeting of the IEEE-Lasers-and-Electro-Optics-Society*
  Antoine, C., Li, X., Sesko, D., Solgaard, O.
  IEEE.2007: 834–835
- **Vortex generation and pixel calibration using a spatial light modulator for maskless lithography** *IEEE/LEOS International Conference on Optical MEMS and Nanophotonics*
  Jung, I. W., Wang, J., Solgaard, O.
  IEEE.2007: 147–148
- **Pull-in analysis of scanners actuated by electrostatic vertical combdrives** *IEEE/LEOS International Conference on Optical MEMS and Nanophotonics*
  Lee, D., Solgaard, O.
  IEEE.2007: 85–86

- **Displacement sensing with a mechanically tunable photonic crystal** *20th Annual Meeting of the IEEE-Lasers-and-Electro-Optics-Society*
  Hadzialic, S., Kim, S., Sudbo, A., Solgaard, O.
  IEEE.2007: 345–346
- **Large-stroke self-aligned vertical comb drive actuated micromirror arrays for adaptive optics applications** *Conference on MEMS Adaptive Optics*
  Carr, E., Olivier, S., Solgaard, O.
  SPIE-INT SOC OPTICAL ENGINEERING.2007
- **Monolithic photonic crystals** *20th Annual Meeting of the IEEE-Lasers-and-Electro-Optics-Society*
  Hadzialic, S., Kim, S., Mallick, S. B., Sudbo, A., Solgaard, O.
  IEEE.2007: 341–342
- **Reflectance and fluorescence imaging with a MEMS dual-axes confocal microscope** *Conference on MOEMS and Miniaturized Systems VI*
  Ra, H., Piyawattanametha, W., Taguchi, Y., Solgaard, O.
  SPIE-INT SOC OPTICAL ENGINEERING.2007
- **Three-dimensional In vivo real time imaging by a miniature dual-axes confocal microscope based on a two-dimensional mems scanner** *14th International Conference on Solid-State Sensors, Actuators and Microsystems/21st European Conference on Solid-State Transducers*
  Piyawattanametha, W., Ra, H., Mandella, M. J., Liu, J. T., Wong, L. K., Du, C. B., Wang, T. D., Contag, C. H., Kino, G. S., Solgaard, O.
  IEEE.2007
- **Single-film Broadband Photonic Crystal Micro-mirror with Large Angular Range and Low Polarization Dependence** *Conference on Lasers and Electro-Optics/Quantum Electronics and Laser Science Conference*
  Kim, S., Hadzialic, S., Sudbo, A., Solgaard, O.
  IEEE.2007: 1255–1256
- **High reflectivity broadband photonic crystal mirror MEMS scanner** *14th International Conference on Solid-State Sensors, Actuators and Microsystems/21st European Conference on Solid-State Transducers*
  Jung, I. W., Kim, S., Solgaard, O.
  IEEE.2007
- **Compact optical design for dual-axes confocal endoscopic microscopes** *Conference on Three-Dimensional and Multidimensional Microscopy - Image Acquisition and Processing XIV*
  Mandella, M. J., Liua, J. T., Piyawattanametha, W., Ra, H., Hsiung, P., Wong, L. K., Solgaard, O., Wang, T. D., Contag, C. H., Kino, G. S.
  SPIE-INT SOC OPTICAL ENGINEERING.2007
- **Three-Dimensional in vivo Reflectance and Fluorescence Imaging by a Handheld Dual-Axes Confocal Microscope** *Conference on Lasers and Electro-Optics/Quantum Electronics and Laser Science Conference*
  Ra, H., Piyawattanametha, W., Mandella, M. J., Liu, J. T., Wong, L. K., Wang, T. D., Contag, C. H., Kino, G. S., Solgaard, O.
  IEEE.2007: 795–796
- **Reflectance and fluorescence imaging with a MEMS dual-axes confocal microscope (invited talk)**
  Ra, H., Piyawattanametha, W., Taguchi, Y., Lee, D., Solgaard, O.
  2007
- **Three-Dimensional in vivo Reflectance and Fluorescence Imaging by a Handheld Dual-Axes Confocal Microscope**
  Ra, H., Piyawattanametha, W., Mandella, M., J., Liu, J., T.C., Wong, L., K., Wang, T., D., Solgaard, O.
  2007
- **A compact 15-mm wide two-photon microscope for imaging and femtosecond laser microsurgery**
  Hoy, C., L., Durr, N., J., Douglass, S., Mallick, S., Solgaard, O., Ben-Yakar, A.
  2007
- **A Portable Two-photon Fluorescence Microendoscope Based on a Two-dimensional Scanning Mirror**
  Piyawattananmetha, W., Crocker, E., D, Barretto, R., P.J., Jung, J., C., Flusberg, B., A., Ra, H., Solgaard, O.
  2007
- **Vortex Generation and Pixel Calibration Using a Spatial Light Modulators for Maskless Lithography**
  Jung, I., W., Wang, J, S., Solgaard, O.

2007

- **Compact optical design for a dual-axes confocal endoscopic microscope**
  Mandella, M., J., Liu, J., T.C., Piyawattanametha, W., Ra, H., Hsiung, P., Wong, L., K., Solgaard, O.
  2007
- **Large-Stroke Self-Aligned Vertical Comb Drive Actuated Micromirror Arrays for Adaptive Optics Applications**
  Carr, E., Olivier, S., Solgaard, O.
  2007
- **Three-Dimensional In Vivo Real Time Imaging By A Miniature Dual-Axes Confocal Microscope Based on a Two-Dimensional MEMS Scanner**
  Piyawattanametha, W., Ra, H., Mandella, M., J., Liu, J., T.C., Wong, L., K., Du, C., B., Solgaard, O.
  2007
- **High Reflectivity Broadband Photonic Crystal Mirror MEMS Scanner**
  Jung, I., W., Kim, S., Solgaard, O.
  2007
- **MEMS Based Dual-axes Confocal Microscope for in-vivo Imaging**
  Piyawattanametha, W., Ra, H., Mandella, M., J., Liu, J., T.C., Wong, L., K., Hsiung, P., Solgaard, O.
  2007
- **An External Cavity Tunable Laser with a Low-Loss Narrowband MEMS Tunable Blazed Grating**
  Antoine, C., Li, X., Sesko, D., Solgaard, O.
  2007
- **Displacement Sensing with a Mechanically Tunable Photonic Crystal**
  Hadzialic, S., Kim, S., Sudbø, A., Solgaard, O.
  2007
- **Optical Bandpass Filter with Tunable Chromatic Dispersion and Optical Bandwidth Using a Variable MEMS Reflector**
  Yu, K., Lee, H., Park, N., Lee, D., Solgaard, O.
  2007
- **Single-film Broadband Photonic Crystal Micro-mirror with Large Angular Range and Low Polarization Dependence**
  Kim, S., Hadzialic, S., Sudbo, A., Solgaard, O.
  2007
- **Toward portable two-photon fluorescence micro-endoscopy using a two-dimensional microelectromechanical (MEMS) scanning mirror**
  Piyawattanametha, W., Flusberg, B., A., Baretto, R., P.J., Jung, J., C., Ko, T., H., Cocker, E., D., Solgaard, O.
  2007
- **Pull-in Analysis of Scanners Actuated by Electrostatic Vertical Combdrives**
  Lee, D., Solgaard, O.
  2007
- **Monolithic Photonic Crystals**
  Hadzialic, S., Kim, S., Mallick, S., Basu, Sudbø, A., Solgaard, O.
  2007
- **Optical MEMS Based on High-Reflectivity Photonic Crystals**
  Solgaard, O.
  2007
- **Algorithms for the synthesis of complex-value spectral filters with an array of micromechanical mirrors** *OPTICS EXPRESS*
  Lacolle, M., Belikov, R., Sagberg, H., Solgaard, O., Sudbo, A. S.
  2006; 14 (26): 12590-12612
- **Tunable optical bandpass filter with variable-aperture MEMS reflector** *JOURNAL OF LIGHTWAVE TECHNOLOGY*
  Yu, K., Lee, D., Park, N., Solgaard, O.

2006; 24 (12): 5095-5102

- **Micromachined bubble-jet cell sorter with multiple operation modes** *13th International Conference on Solid-State Sensors, Actuators and Microsystems*
  Chen, C. C., Wang, J. S., Solgaard, O.
  ELSEVIER SCIENCE SA.2006: 523–29
- **Single fiber confocal microscope with a two-axis gimbaled MEMS scanner for cellular imaging** *OPTICS EXPRESS*
  Carlson Maitland, K., Shin, H. J., Ra, H., Lee, D., Solgaard, O., Richards-Kortum, R.
  2006; 14 (19): 8604-8612
- **Micromachined Fourier transform spectrometer on silicon optical bench platform** *13th International Conference on Solid-State Sensors, Actuators and Microsystems*
  Yu, K., Lee, D., Krishnamoorthy, U., Park, N., Solgaard, O.
  ELSEVIER SCIENCE SA.2006: 523–530
- **Fast-scanning two-photon fluorescence imaging based on a microelectromechanical systems two-dimensional scanning mirror** *OPTICS LETTERS*
  Piyawattanametha, W., Barretto, R. P., Ko, T. H., Flusberg, B. A., Cocker, E. D., Ra, H., Lee, D., Solgaard, O., Schnitzer, M. J.
  2006; 31 (13): 2018-2020
- **High fill-factor two-axis gimbaled tip-tilt-piston micromirror array actuated by self-aligned vertical electrostatic combdrives** *JOURNAL OF MICROELECTROMECHANICAL SYSTEMS*
  Jung, I. W., Krishnamoorthy, U., Solgaard, O.
  2006; 15 (3): 563-571
- **Tunable blazed gratings** *JOURNAL OF MICROELECTROMECHANICAL SYSTEMS*
  Li, X., Antoine, C., Lee, D., Wang, J., Solgaard, O.
  2006; 15 (3): 597-604
- **Tunable wavelength demultiplexer and OCDMA code hopping using a 10-mu s-tuning MEMS-actuated Gires-Tournois filter** *IEEE PHOTONICS TECHNOLOGY LETTERS*
  Ebrahimi, P., Yu, K., Hauer, M. C., Willner, A. E., Solgaard, O.
  2006; 18 (9-12): 1398-1400
- **Microoptical characterization of piezoelectric vibratory microinjections in Drosophila embryos for genome-wide RNAi screen** *JOURNAL OF MICROELECTROMECHANICAL SYSTEMS*
  Zhang, X. J., Scott, M. P., Quate, C. F., Solgaard, O.
  2006; 15 (2): 277-286
- **Air-bridged photonic crystal slabs at visible and near-infrared wavelengths** *PHYSICAL REVIEW B*
  Crozier, K. B., Lousse, V., Kilic, O., Kim, S., Fan, S. H., Solgaard, O.
  2006; 73 (11)
- **Automated MEMS-based Drosophila embryo injection system for high-throughput RNAi screens** *LAB ON A CHIP*
  Zappe, S., Fish, M., Scott, M. P., Solgaard, O.
  2006; 6 (8): 1012-1019
- **Photonic Crystals as Angle-Insensitive Broadband Mirrors**
  Blad, J., Sudbø, A., Solgaard, O.
  2006
- **A reconfigurable optical demultiplexer based on a MEMS deformable blazed grating**
  Antoine, C., Li, X., Wang, J, S., Solgaard, O.
  2006
- **MEMS Based Dual-axes Confocal Reflectance Handheld Microscope for in vivo Imaging**
  Piyawattanametha, W., Liu, J., T.C., Mandella, M., J., Ra, H., Wong, L., K., Hsiung, P., Solgaard, O.
  2006
- **External Fiber Fabry-Perot Acoustic Sensor Based on Photonic Crystal Mirror**

Kilic, O., Digonnet, M., Kino, G., Solgaard, O.
2006

- **High Capacity Optical Packet Switch Based on a Waveguide Grating Router Operated over Multiple FSRs**
  Joe, I., S., Solgaard, O.
  2006
- **Superresolution Image Enhancement in Digital Photomicrography by Subpixel Translation using a Scanning Micromirror**
  Yu, K., Park, N., Lee, D., Solgaard, O.
  2006
- **Micromechanical Diffractive Optical Filters for Spectroscopy**
  Lacolle, M., Sagberg, H., Johansen, I., R., Løvhaugen, O., Sudbø, A., Solgaard, O.
  2006
- **Single-Crystal-Silicon Continuous Membrane Deformable Mirror Array for Adaptive Optics**
  Jung, I., W., Peter, Y. A., Carr, E., Wang, J, S., Solgaard, O.
  2006
- **Micromirror-based scan range enhancement in Fourier-domain optical coherence tomography**
  Yu, K., Park, N., Lee, D., Solgaard, O.
  2006
- **Spatial Light Modulators for Maskless Lithography**
  Jung, I., W., Wang, J, S., Solgaard, O.
  2006
- **Dual quarter-wave retardation based polarization beam splitting in photonic crystal slabs**
  Kilic, O., Fan, S., Solgaard, O.
  2006
- **Dual-Axes Confocal Fluorescence Microscopy with a Two-Dimensional MEMS Scanner**
  Ra, H., Piyawattanametha, W., Taguchi, Y., Solgaard, O.
  2006
- **Single Fiber Confocal Microscope Using a Two-Axis Microscanner for Cellular Imaging**
  Carlson, K., Shin, H., J., Ra, H., Lee, D., Solgaard, O., Richards-Kortum, R.
  2006
- **Coupled Torsional Cantilevers for label-free single-molecule bio-detection and nanomaterials characterization**
  Sahin, O., Person, H., H.J., Quate, C., F., Solgaard, O.
  2006
- **Higher-Harmonic Force Detection in Dynamic Force Microscopy** *Handbook of Nanotechnology*
  Quate, C., Sahin, O., Solgaard, O., Giessibl, F., J.
  Springer Verlag.2006; 2: 717–736
- **High-sensitivity interferometric schemes for ML2 micromirror calibrations**
  Wang, J., S., Solgaard, O., Neureuther, A., R.
  2006
- **Optical MEMS for Light Wave Communication** *(Invited Paper) Journal of Lightwave Technology*
  Wu, M., Solgaard, O., Ford, J.
  2006; 24 (12): 4433-4454.
- **Large-Stroke Self-Aligned Vertical Comb Drive Actuators for Adaptive Optics Applications**
  Carr, E., Olivier, S., Solgaard, O.
  2006
- **Compact Laser Scanning Distance Sensor with a Two-axis Gimbaled Microscanner for Volumetric Imaging**
  Yu, K., Park, N., Lee, D., Solgaard, O.

2006

- **Fast-scanning Two-photon Fluorescence Imaging Using a Microelectromechanical Systems (MEMS) Two-dimensional Scanning Mirror**
  Piyawattanametha, W., Barretto, R., P.J., Ko, T., H., Flusberg, B., A., Cocker, E., D., Ra, H., Solgaard, O.
  2006
- **Photonic Crystals as Angle-Insensitive Broadband Mirrors**
  Blad, J., Sudbø, A., Solgaard, O.
  2006
- **A reconfigurable optical demultiplexer based on a MEMS deformable blazed grating**
  Antoine, C., Li, X., Wang, J, S., Solgaard, O.
  2006
- **MEMS Based Dual-axes Confocal Reflectance Handheld Microscope for in vivo Imaging**
  Piyawattanametha, W., Liu, J., T.C., Mandella, M., J., Ra, H., Wong, L., K., Hsiung, P., Solgaard, O.
  2006
- **External Fiber Fabry-Perot Acoustic Sensor Based on Photonic Crystal Mirror**
  Kilic, O., Digonnet, M., Kino, G., Solgaard, O.
  2006
- **Reconfigurable near-infrared optical filter with a micromechanical diffractive Fresnel lens** *IEEE PHOTONICS TECHNOLOGY LETTERS*
  Lacolle, M., Sagberg, H., Johansen, I. R., Lovhaugen, O., Solgaard, O., Sudbo, A. S.
  2005; 17 (12): 2622-2624
- **Effects of through-focus symmetry in maskless lithography using micromirror arrays** *49th International Conference on Electron, Ion, and Photon Beam Technology and Nanofabrication*
  Wang, J. S., Hafeman, S., Neureuther, A. R., Solgaard, O.
  A V S AMER INST PHYSICS.2005: 2738–42
- **Microoptical characterization and modeling of positioning forces on drosophila embryos self-assembled in two-dimensional arrays** *JOURNAL OF MICROELECTROMECHANICAL SYSTEMS*
  Zhang, X. J., Chen, C. C., Bernstein, R. W., Zappe, S., Scott, M. P., Solgaard, O.
  2005; 14 (5): 1187-1197
- **Displacement sensing using evanescent tunneling between guided resonances in photonic crystal slabs** *JOURNAL OF APPLIED PHYSICS*
  Suh, W., Solgaard, O., Fan, S.
  2005; 98 (3)
- **Micro-optical characterization of fluidic self-assembly of Drosophila embryos through surface tension: Principle, simulation and experiments** *International Conference on Optical MEMS and Their Applications*
  Zhang, X. J., Chen, C. C., Scott, M. P., Solgaard, O.
  OPTICAL SOC JAPAN.2005: 352–57
- **Vertical Combdrives - Design and Implementation** *MEMS/NEMS Handbook*
  Krishnamoorthy, U., Solgaard, O.
  Springer-Verlag New York Inc..2005: 393–420
- **Near-field sensor using photonic crystal slabs** *Conference on Lasers and Electro-Optics (CLEO)*
  Suh, W., Solgaard, O., Fan, S.
  OPTICAL SOC AMERICA.2005: 837–839
- **High-resolution microelectromechanical scanners for miniaturized dual-axes confocal microscopes** *Conference on MOEMS Display and Imaging Systems III*
  Ra, H., Jung, I. W., Lee, D., Krishnamoorthy, U., Yu, K., Solgaard, O.
  SPIE-INT SOC OPTICAL ENGINEERING.2005: 132–135
- **Micromachined Fourier transform spectrometer on silicon optical bench platform** *13th International Conference on Solid-State Sensors, Actuators and Microsystems*
  Yu, K., Lee, D., Krishnamoorthy, U., Park, N., Solgaard, O.

IEEE.2005: 1250–1254

- **Silicon masking layers for fabrication of high aspect ratio MEMS** *10th IEEE/LEOS International Conference on Optical MEMs and Their Applications*
  Lee, D., Solgaard, O.
  IEEE.2005: 85–86
- **Summary of adaptive optics at Stanford** *4th International Workshop on Adaptive Optics for Industry and Medicine*
  Lu, P., Peter, Y. A., Carr, E., Krishnamoorty, U., Jung, I. W., Solgaard, O., Byer, R.
  SPRINGER-VERLAG BERLIN.2005: 53–59
- **Design and operation of a micromachined bubble-jet cell sorter** *13th International Conference on Solid-State Sensors, Actuators and Microsystems*
  Chen, C. C., Wang, J. S., Zappe, S., Zhang, X. J., Solgaard, O.
  IEEE.2005: 441–444
- **Excitation of non-degenerate resonances through breaking of mirror symmetry in photonic crystal slabs** *Conference on Lasers and Electro-Optics (CLEO)*
  Kilic, O., Kim, S., Digonnet, M., Kino, G., Solgaard, O.
  OPTICAL SOC AMERICA.2005: 828–830
- **Micromachined silicon diffractive optical force encoders: Principles and applications in biology** *8th International Conference on Miniaturized Systems for Chemistry and Life Sciences*
  Zhang, X. J., Zappe, S., Chen, C. C., Scott, M. P., Solgaard, O.
  ROYAL SOC CHEMISTRY.2005: 518–20
- **Near-Field Sensor Using Photonic Crystal Slabs**
  Suh, W., Solgaard, O., Fan, S.
  2005
- **Excitation of Non-Degenerate Resonances through Breaking of Mirror Symmetry in Photonic Crystal Slabs**
  Kilic, O., Kim, S., Digonnet, M., Kino, G., Solgaard, O.
  2005
- **Design and Operation of a Micromachined Bubble-Jet Cell Sorter**
  Chen, C, C., Wang, J, S., Zappe, S., Zhang, X., Solgaard, O.
  2005
- **Silicon Masking Layers for Fabrication of High Aspect Ratio MEMS**
  Lee, D., Solgaard, O.
  2005
- **A Micro-Mechanical Fresnel Lens for Spectral Filtering**
  Lacolle, M., Sagberg, H., Lee, D., Solgaard, O., Johansen, I, R., Løvhaugen, O.
  2005
- **Reconfigurable Near-Infrared Optical Filter with Micromechanical Diffractive Fresnel Lens** *IEEE Photonics Technology Letters*
  Lacolle, M., Sagberg, H., Johansen, I., R., Løvhaugen, O., Solgaard, O., Sudbo, A.
  2005; 17 (12): 2622-2624
- **A wavelength selective switch with flat passband using a free-space grating and MEMS phase-shifters**
  Yu, K., Park, N., Lee, D., Solgaard, O.
  2005
- **Micromachined Fourier Transform Spectrometer on Silicon Optical Bench Platform**
  Yu, K., Lee, D., Krishnamoorthy, U., Park, N., Solgaard, O.
  2005
- **High-resolution microelectromechanical scanners for miniaturized dual-axes confocal microscopes**
  Ra, H-, J., Jung, I, W., Lee, D., Krishnamoorthy, U., Yu, K., Solgaard, O.
  2005

- **Understanding Through-Focus Symmetry in Maskless Lithography Using Micromirror Arrays**
  Wang, J., S., Hafeman, S., Neureuther, A., R., Solgaard, O.
  2005
- **Scalable optical switch fabric for avionic networks**
  Joe, I., S., Solgaard, O.
  2005
- **Photonic crystal slabs demonstrating strong broadband suppression of transmission in the presence of disorders** *OPTICS LETTERS*
  Kilic, O., Kim, S., Suh, W., Peter, Y. A., Sudbo, A. S., Yanik, M. F., Fan, S. H., Solgaard, O.
  2004; 29 (23): 2782-2784
- **Analysis of resonant frequency of fast scanning micromirror with vertical combdrives** *IEICE TRANSACTIONS ON ELECTRONICS*
  Wada, H., Lee, D. S., Zappe, S., Solgaard, O.
  2004; E87C (11): 2006-2008
- **Fabrication method for elastomer spatial light modulators for short wavelength maskless lithography** *12th International Conference on Solid-State Sensors, Actuators and Microsystems (TRANSDUCERS 03)*
  Wang, J. S., Jung, I. W., Solgaard, O.
  ELSEVIER SCIENCE SA.2004: 528–35
- **High-resolution imaging of elastic properties using harmonic cantilevers** *12th International Conference on Solid-State Sensors, Actuators and Microsystems (TRANSDUCERS 03)*
  Sahin, O., Yaralioglu, G., Grow, R., Zappe, S. F., Atalar, A., Quate, C., Solgaard, O.
  ELSEVIER SCIENCE SA.2004: 183–90
- **Characterization of fluidic microassembly for immobilization and positioning of Drosophila embryos in 2-D arrays** *12th International Conference on Solid-State Sensors, Actuators and Microsystems (TRANSDUCERS 03)*
  Bernstein, R. W., Zhang, X. J., Zappe, S., Fish, M., Scott, M., Solgaard, O.
  ELSEVIER SCIENCE SA.2004: 191–96
- **Single-crystalline silicon micromirrors actuated by self-aligned vertical electrostatic combdrives with piston-motion and rotation capability** *12th International Conference on Solid-State Sensors, Actuators and Microsystems (TRANSDUCERS 03)*
  Lee, D., Krishnamoorthy, U., Yu, K., Solgaard, O.
  ELSEVIER SCIENCE SA.2004: 423–28
- **High-resolution imaging of elastic properties using harmonic cantilevers** *12th International Conference on Solid-State Sensors, Actuators and Microsystems (TRANSDUCERS 03)*
  Sahin, O., Yaralioglu, G., Grow, R., Zappe, S. F., Atalar, A., Quate, C., Solgaard, O.
  ELSEVIER SCIENCE SA.2004: 183–90
- **Characterization of fluidic microassembly for immobilization and positioning of Drosophila embryos in 2-D arrays** *12th International Conference on Solid-State Sensors, Actuators and Microsystems (TRANSDUCERS 03)*
  Bernstein, R. W., Zhang, X. J., Zappe, S., Fish, M., Scott, M., Solgaard, O.
  ELSEVIER SCIENCE SA.2004: 191–96
- **Lithography process for trench pattern above large cavity to fabricate fast scanning micromirror** *IEICE TRANSACTIONS ON ELECTRONICS*
  Wada, H., Lee, D., Zappe, S., Krishnamoorthy, U., Solgaard, O.
  2004; E87C (8): 1395-1398
- **Tunable optical transversal filters based on a Gires-Tournois interferometer with MEMS phase shifters** *IEEE JOURNAL OF SELECTED TOPICS IN QUANTUM ELECTRONICS*
  Yu, K., Solgaard, O.
  2004; 10 (3): 588-597
- **Introduction to the issue on optical microsystems** *IEEE JOURNAL OF SELECTED TOPICS IN QUANTUM ELECTRONICS*
  Solgaard, O., Talghader, J., Toshiyoshi, H., Kopola, H.
  2004; 10 (3): 433-434
- **Micromechanical gratings for visible and near-infrared spectroscopy** *IEEE JOURNAL OF SELECTED TOPICS IN QUANTUM ELECTRONICS*

Sagberg, H., Lacolle, M., Johansen, I. R., Lovhaugen, O., Belikov, R., Solgaard, O., Sudbo, A. S.
2004; 10 (3): 604-613

- **Angular and polarization properties of a photonic crystal slab mirror** *LEOS Topical Meeting on Photonic Crystals and Holey Fibers*
  Lousse, V., Suh, W., Kilic, O., Kim, S., Solgaard, O., Fan, S. H.
  OPTICAL SOC AMER.2004: 1575–82
- **Resonant harmonic response in tapping-mode atomic force microscopy** *PHYSICAL REVIEW B*
  Sahin, O., Quate, C. F., Solgaard, O., Atalar, A.
  2004; 69 (16)
- **Snap down voltage of a fast-scanning micromirror with vertical electrostatic combdrives** *JAPANESE JOURNAL OF APPLIED PHYSICS PART 2-LETTERS & EXPRESS LETTERS*
  Wada, H., Lee, D., Zappe, S., Krishnamoorthy, U., Solgaard, O.
  2004; 43 (2B): L284-L286
- **Bonding of two silicon layers above a gap to fabricate a fast scanning micromirror** *JAPANESE JOURNAL OF APPLIED PHYSICS PART 2-LETTERS & EXPRESS LETTERS*
  Wada, H., Lee, D., Zappe, S., Krishnamoorthy, U., Solgaard, O.
  2004; 43 (1A-B): L50-L52
- **Automated MEMS Based Fruit Fly Embryo Injection System for Genome-Wide High-Throughput RNAi Screens**
  Zappe, S., Fish, M., Scott, M., P., Solgaard, O.
  2004
- **Mechanically switchable photonic crystal structures based on coupled photonic crystal slabs** *Conference on Photonic Crystal Materials and Devices II*
  Suh, W., Yanik, M. F., Solgaard, O., Fan, S. H.
  SPIE-INT SOC OPTICAL ENGINEERING.2004: 299–306
- **Variable bandwidth optical filters with vertical micromirrors and silicon optical bench alignment technology** *17th Annual Meeting of the IEEE-Lasers-and-Electro-Optics-Society*
  Yu, K., Lee, D., Solgaard, O.
  IEEE.2004: 531–532
- **Tunable optical wavelength deinterleaver based on tunable MEMS blazed gratings** *17th Annual Meeting of the IEEE-Lasers-and-Electro-Optics-Society*
  Li, X., Lee, D., Belikov, R., Yu, K., Solgaard, O.
  IEEE.2004: 320–321
- **Micro-Optical Characterization and Modeling of Microfluidic Self-Assembly in Biology**
  Zhang, X., Chen, C., C., Scott, M., P., Solgaard, O.
  2004
- **Interference-Based Optical MEMS Filters**
  Solgaard, O., Belikov, R., Yu, K.
  2004
- **Tunable external cavity laser with a stationary deformable MEMS grating.**
  Belikov, R., Antoine-Snowden, C., Solgaard, O.
  2004
- **Ultrasonic Microinjection Characterized by Integrated Micro-optical Force Encoder**
  Zhang, X., Zappe, S., F., Quate, C., F., Scott, M., P., Solgaard, O.
  2004
- **Variable Bandwidth Optical Filters with Vertical Micromirrors and Silicon Optical Bench Alignment Technology**
  Yu, K., Lee, D., Solgaard, O.
  2004

- **A 10-ms-tuning MEMS-Actuated Gires-Tournois Filter for use as a Tunable Wavelength Demultiplexer and a TunableOCDMA Encoder/ Decoder**
  Ebrahimi, P., Kargar, M., Hauer, M., C., Willner, A., E., Yu, K., Solgaard, O.
  2004
- **Micromachined Silicon Diffractive Optical Force Encoders: Principles and Applications in Biology**
  Zhang, X., Zappe, S., Chen, C., C., Scott, M., P., Solgaard, O.
  2004
- **Vertical micromirror fabricated in (110) silicon device layer by combination of KOH and DRIE etch**
  Lee, D., Yu, K., Krishnamoorthy, U., Solgaard, O.
  2004
- **A Transmissive Interferometric Light Modulator based on Silicon Nitride Double-Half-Wave Filter Structure**
  Kato, T., Solgaard, O.
  2004
- **Two-Axis Gimbaled Microscanner in Double SOI Layers Actuated by Self-Aligned Vertical Electrostatic Combdrive**
  Lee, D., Solgaard, O.
  2004
- **Surface Micromachined Elastomer Spatial Light modulators for Extreme Ultra violet Radiation**
  Wang, J., S., Chen, Y., Solgaard, O.
  2004
- **High Fill-Factor Two-Axis Gimbaled Tip-Tilt-Piston Micromirror Array Actuated by Self-Aligned Vertical Electrostatic Combdrives**
  Jung, I., W., Krishnamoorthy, U., Solgaard, O.
  2004
- **Tunable Optical Wavelength Deinterleaver based on Tunable MEMS Blazed Gratings**
  Li, X., Lee, D., Belikov, R., Yu, K., Solgaard, O.
  2004
- **Mechanically switchable photonic crystal structures based on coupled photonic crystal slabs**
  Suh, W., Yanik, M., F., Solgaard, O., Fan, S.
  2004
- **Two-Dimensional Photonic Crystals at Visible Wavelengths**
  Crozier, K., B., Kim, S., Kilic, O., Suh, W., Fan, S., Solgaard, O.
  2004
- **The torque of high speed scanning micromirrors with vertical combdrives** *JAPANESE JOURNAL OF APPLIED PHYSICS PART 2-LETTERS & EXPRESS LETTERS*
  Wada, H., Lee, D., Zappe, S., Solgaard, O.
  2003; 42 (12A): L1449-L1451
- **Scaling Internet routers using optics** *SIGCOMM 2003 Conference*
  Keslassy, I., Chuang, S. T., Yu, K., Miller, D., Horowitz, M., Solgaard, O., McKeown, N.
  ASSOC COMPUTING MACHINERY.2003: 189–200
- **Self-aligned vertical electrostatic combdrives for micromirror actuation** *JOURNAL OF MICROELECTROMECHANICAL SYSTEMS*
  Krishnamoorthy, U., Lee, D., Solgaard, O.
  2003; 12 (4): 458-464
- **Optical wavelength filtering by diffraction from a surface relief (vol 28, pg 447, 2003)** *OPTICS LETTERS*
  Belikov, R., Solgaard, O.
  2003; 28 (12): 1055-1055
- **Displacement-sensitive photonic crystal structures based on guided resonance in photonic crystal slabs** *APPLIED PHYSICS LETTERS*
  Suh, W., Yanik, M. F., Solgaard, O., Fan, S. H.

2003; 82 (13): 1999-2001

- **Optical wavelength filtering by diffraction from a surface relief** *OPTICS LETTERS*
  Belikov, R., Solgaard, O.
  2003; 28 (6): 447-449
- **Configurable spectral filter with an array of diffraction gratings** *IEEE/LEOS International Conference on Optical MEMS*
  Sagberg, H., Lacolle, M., Johansen, I. R., Lovhaugen, O., Solgaard, O., Sudbo, A. S.
  IEEE.2003: 30–31
- **Harmonic Cantilevers for Nanomechanical Sensing of Elastic Properties**
  Sahin, O., Yaralioglu, G., Grow, R., Zappe, S., F., Atalar, A., Quate, C., Solgaard, O.
  2003
- **Elastomer Spatial Light Modulators for Extreme Ultraviolet Lithography**
  Wang, J., S., Jung, I., W., Solgaard, O.
  2003
- **Microoptical phased arrays for spatial and spectral switching**
  Solgaard, O., Yu, K., Krishnamoorthy, U., Li, K., Heritage, J., P.
  2003
- **Optical Microphone Based on a Modulated Diffractive Lens** *IEEE Photonics Technology Letters*
  Sagberg, H., Sudbo, A., Solgaard, O., Bakke, K., A. Hestnes, Johansen, I., R.
  2003; 15 (10): 1431-1433
- **Characterization of Drosophila Embryos Immobilized by Fluidic Microassembly**
  Bernstein, R., W., Zhang, X., Zappe, S., Fish, M., Scott, M., Solgaard, O.
  2003
- **Tunable bandwidth optical filter based on MEMS Gires#Tournois Interferometer**
  Yu, K., Lee, D., Krishnamoorthy, U., Solgaard, O.
  2003
- **Optical MEMS - Fabrication, Scaling and Design of Microoptical Devices and Systems**
  Solgaard, O.
  2003
- **MOEMS Spatial Light Modulator Development at the Center for Adaptive Optics**
  Krulevitch, P., Bierden, P., Bifano, T., Carr, E., Dimas, C., Dyson, H., Solgaard, O.
  2003
- **Microfluidic Switch for Embryo and Cell Sorting**
  Chen, C., C., Zappe, S., Sahin, O., Zappe, X., F., Furlong, E., E. M., Fish, M., Solgaard, O.
  2003
- **High-Resolution, High-Speed Microscanner in Single-Crystalline Silicon Actuated by Self-Aligned Dual-Mode Vertical Electrostatic Combdrive with Capability for Phased Array Operation**
  Lee, D., Krishnamoorthy, U., Yu, K., Solgaard, O.
  2003
- **Configurable spectral filter with an array of diffraction gratings**
  Sagberg, H., Lacolle, M., Sudbo, A., S., Solgaard, O.
  2003
- **Femtosecond Direct Space-to-Time Pulse Shaping with MEMS Micromirror Arrays**
  Belikov, R., Antoine-Snowden, C., Solgaard, O.
  2003
- **MEMS optical wavelength deinterleaver with continuously variable channel spacing and center wavelength** *IEEE Photonics Technology Letters*

Yu, K., Solgaard, O.
2003; 15 (3): 425-427

- **Tunable Wavelength Multiplexer/Demultiplexer using a MEMS Gires-Tournois Interferometer**
  Yu, K., Lee, D., Solgaard, O.
  2003
- **Harmonic Cantilevers for Nanomechanical Sensing of Elastic Properties**
  Sahin, O., Yaralioglu, G., Grow, R., Zappe, S., F., Atalar, A., Quate, C., Solgaard, O.
  2003
- **Elastomer Spatial Light Modulators for Extreme Ultraviolet Lithography**
  Wang, J., S., Jung, I., W., Solgaard, O.
  2003
- **Microoptical phased arrays for spatial and spectral switching**
  Solgaard, O., Yu, K., Krishnamoorthy, U., Li, K., Heritage, J., P.
  2003
- **Optical Microphone Based on a Modulated Diffractive Lens** *IEEE Photonics Technology Letters*
  Sagberg, H., Sudbo, A., Solgaard, O., Bakke, K., A. Hestnes, Johansen, I., R.
  2003; 15 (10): 1431-1433
- **Characterization of Drosophila Embryos Immobilized by Fluidic Microassembly**
  Bernstein, R., W., Zhang, X., Zappe, S., Fish, M., Scott, M., Solgaard, O.
  2003
- **Tunable bandwidth optical filter based on MEMS Gires#Tournois Interferometer**
  Yu, K., Lee, D., Krishnamoorthy, U., Solgaard, O.
  2003
- **Optical MEMS - Fabrication, Scaling and Design of Microoptical Devices and Systems**
  Solgaard, O.
  2003
- **MOEMS Spatial Light Modulator Development at the Center for Adaptive Optics**
  Krulevitch, P., Bierden, P., Bifano, T., Carr, E., Dimas, C., Dyson, H., Solgaard, O.
  2003
- **Microfluidic Switch for Embryo and Cell Sorting**
  Chen, C., C., Zappe, S., Sahin, O., Zappe, X., F., Furlong, E., E. M., Fish, M., Solgaard, O.
  2003
- **High-Resolution, High-Speed Microscanner in Single-Crystalline Silicon Actuated by Self-Aligned Dual-Mode Vertical Electrostatic Combdrive with Capability for Phased Array Operation**
  Lee, D., Krishnamoorthy, U., Yu, K., Solgaard, O.
  2003
- **Configurable spectral filter with an array of diffraction gratings**
  Sagberg, H., Lacolle, M., Sudbo, A., S., Solgaard, O.
  2003
- **Femtosecond Direct Space-to-Time Pulse Shaping with MEMS Micromirror Arrays**
  Belikov, R., Antoine-Snowden, C., Solgaard, O.
  2003
- **MEMS optical wavelength deinterleaver with continuously variable channel spacing and center wavelength** *IEEE Photonics Technology Letters*
  Yu, K., Solgaard, O.
  2003; 15 (3): 425-427

- **Optical characterization of high speed scanning micromirrors with vertical combdrives** *JAPANESE JOURNAL OF APPLIED PHYSICS PART 2-LETTERS & EXPRESS LETTERS*
  Wada, H., Lee, D., Yu, K., Krishnamoorthy, U., Solgaard, O.
  2002; 41 (10B): L1169-L1171
- **Process for high speed micro electromechanical systems (MEMS) scanning mirrors with vertical comb drives** *JAPANESE JOURNAL OF APPLIED PHYSICS PART 2-LETTERS & EXPRESS LETTERS*
  Wada, H., Lee, D., Krishnamoorthy, U., Zappe, S., Solgaard, O.
  2002; 41 (8A): L899-L901
- **Dual-mode micromirrors for optical phased array applications** *Transducers 2001 Conference/Eurosensor XVth Conference*
  Krishnamoorthy, U., Li, K., Yu, K., Lee, D., Heritage, J. P., Solgaard, O.
  ELSEVIER SCIENCE SA.2002: 21–26
- **Coherent micromirror arrays** *OPTICS LETTERS*
  Li, K. B., Krishnamoorthy, U., Heritage, J. P., Solgaard, O.
  2002; 27 (5): 366-368
- **Introduction to the issue on optical MEMS** *IEEE JOURNAL OF SELECTED TOPICS IN QUANTUM ELECTRONICS*
  Solgaard, O., Ford, J. E., Fujita, H., Herzig, H. P.
  2002; 8 (1): 1-3
- **Microoptical phased arrays for spatial and spectral switching** *Conference on Design, Test, Integration, and Packaging of MEMS/MOEMS 2002*
  Solgaard, O., Yu, K., Krishnamoorthy, U., Li, K. B., Heritage, J. P.
  SPIE-INT SOC OPTICAL ENGINEERING.2002: 1–9
- **High Speed MEMS Scanning Mirror with Vertical Comb Drive**
  Wada, H., Lee, D., Yu, K., Krishnamoorthy, U., Zappe, S., Solgaard, O.
  2002
- **Microoptical phased arrays for spatial and spectral switching**
  Solgaard, O., Yu, K., Krishnamoorthy, U., Li, K., Heritage, J., P.
  2002
- **Positioning and Immobilization of Drosophila Embryos in 2#D Arrays for Drug Injection**
  Bernstein, R., W., Zhang, X., J., Zappe, S., Fish, M., Scott, M., Solgaard, O.
  2002
- **Segmented Deformable Micromirror for Free-Space Optical Communication**
  Peter, Y., A., Carr, E., Solgaard, O.
  2002
- **Dual mode micromirrors for optical phased array applications** *Sensors and Actuators: A. Physical*
  Krishnamoorthy, U., Li, K., Yu, K., Lee, D., Heritage, J., P., Solgaard, O.
  2002; A97-98: 21-26
- **Micromachined Hollow Needle with Integrated Pressure Sensor for Precise, Calibrated Injection into Cells and Embryos**
  Zappe, S., Zhang, X., J., Jung, I., W., Bernstein, R., W., Furlong, E., E. M., Fish, M., Solgaard, O.
  2002
- **Dynamic Diffractive Optical Elements based on MEMS Technology**
  Solgaard, O.
  2002
- **Micromirror Array Phase Modulator for Ultrashort Optical Pulse Shaping**
  Li, K., Krishnamoorthy, U., Heritage, J., P., Solgaard, O.
  2002
- **Optical Communication with Coherent MEMS Arrays**
  Solgaard, O.

2002

- **Tunable Chromatic Dispersion Compensators Using MEMS Gires-Tournois Interferometers**
  Yu, K., Solgaard, O.
  2002
- **MEMS Switchable WDM De interleaver Based on a Gires-Tournois Interferometer**
  Yu, K., Solgaard, O.
  2001
- **Effects of Mirror Surface Deformation in Optical Delay Lines Based on Resonant-Scanning Micromirrors**
  Cornett, K., T., Walker, B., Carr, E., J., Heritage, J., P., Solgaard, O.
  2001
- **Phased Arrays of Micromirrors for Programmable Shaping of Ultrashort Pulses**
  Li, K., Krishnamoorthy, U., Heritage, J., P., Solgaard, O.
  2001
- **Self-Aligned Vertical Combdrive Actuators for Optical Scanning Micromirrors**
  Krishnamoorthy, U.
  2001
- **Dual Mode Micromirrors for Optical Phased Arrays Applications**
  Krishnamoorthy, U., Li, K., Yu, K., Lee, D., Heritage, J., P., Solgaard, O.
  2001
- **Narrow-band light emission in semiconductor-fibre asymmetric waveguide coupler** *ELECTRONICS LETTERS*
  Mao, E., Yankelevich, D. R., Lin, C. C., Solgaard, O., Knoesen, A., Harris, J. S.
  2000; 36 (16): 1378-1379
- **Scalable optical cross-connect switch using micromachined mirrors** *IEEE PHOTONICS TECHNOLOGY LETTERS*
  Hagelin, P. M., Krishnamoorthy, U., Heritage, J. P., Solgaard, O.
  2000; 12 (7): 882-884
- **Free space communication link using a grating light modulator** *10th International Conference on Solid-State Sensors and Actuators*
  Pedersen, D., Solgaard, O.
  ELSEVIER SCIENCE SA.2000: 6–10
- **Wavelength-selective semiconductor in-line fibre photodetectors** *ELECTRONICS LETTERS*
  Mao, E., Yankelevich, D. R., Lin, C. C., Solgaard, O., Knoesen, A., Harris, J. S.
  2000; 36 (6): 515-516
- **Low Power Wireless Readout of Autonomous Sensor Wafer using MEMS Grating Light Modulator**
  Krueger, M., V.P., Guddal, M., H., Belikov, R., Bhatnagar, A., Solgaard, O., Spanos, C.
  2000
- **Micro-electro- mechanical systems spatial light modulator development**
  Olivier, S., S., Bierden, P., A., Bifano, T., G., Bishop, D., J., Carr, E., Cowan, W., D., Solgaard, O.
  2000
- **Surface-micromachined mirrors for scalable fiber optic switching applications**
  Krishnamoorthy, U., Hagelin, P., M., Heritage, J., P., Solgaard, O.
  2000
- **A raster-scanning full-motion video display using polysilicon micromachined mirrors** *Sensors & Actuators A*
  Conant, R., A., Hagelin, P., M., Krishnamoorthy, U., Hart, M., Solgaard, O., Lau, K., Y.
  2000; 83 (1-3): 291-296
- **Compact Optical Delay Line Based on Scanning Surface Micromachined Polysilicon Micromirrors**
  Cornett, K., T., Heritage, J., P., Solgaard, O.

2000

- **Miniature variable optical delay using silicon micromachined scanning mirrors**
  Cornett, K., T., Hagelin, P., M., Heritage, J., P., Solgaard, O., Everett, M.
  2000
- **GaAs AlGaAs multiple-quantum-well in-line fiber intensity modulator** *APPLIED PHYSICS LETTERS*
  Mao, E., Coldren, C. W., Harris, J. S., Yankelevich, D. R., Solgaard, O., Knoesen, A.
  1999; 75 (3): 310-312
- **Optical raster-scanning displays based on surface-micromachined polysilicon mirrors** *IEEE JOURNAL OF SELECTED TOPICS IN QUANTUM ELECTRONICS*
  Hagelin, P. M., Solgaard, O.
  1999; 5 (1): 67-74
- **Free-Space Communication Link Using a Grating Light Modulator**
  Pedersen, D., R., Solgaard, O.
  1999
- **Integrated Micromachined Scanning Display Systems**
  Hagelin, P., M., Krishnamoorthy, U., Conant, R., Muller, R., S., Lau, K., Solgaard, O.
  1999
- **Micromachined grating light modulators for wireless sensor networks**
  Pedersen, D., R., Solgaard, O.
  1999
- **Robustness and Reliability of Micromachined Scanning Mirrors**
  Conant, R., A., Nee, J., Hart, M., Solgaard, O., Lau, K., Y., Muller, R., S.
  1999
- **Static and Dynamic Characterization of Polysilicon Surface-Micromachined Actuators**
  Laible, V., Hagelin, P., M., Solgaard, O., Obermeier, E.
  1999
- **A GaAs/AlGaAs narrow bandwidth in-line fiber filter**
  Mao, E., Coldren, C., W., Harris, J., S., Yankelevich, D., R., Solgaard, O., Knoesen, A.
  1999
- **Free-Space Communication Link Using a Grating Light Modulator**
  Pedersen, D., R., Solgaard, O.
  1999
- **Integrated Micromachined Scanning Display Systems**
  Hagelin, P., M., Krishnamoorthy, U., Conant, R., Muller, R., S., Lau, K., Solgaard, O.
  1999
- **Micromachined grating light modulators for wireless sensor networks**
  Pedersen, D., R., Solgaard, O.
  1999
- **Polysilicon optical microscanners for laser scanning displays** *9th International Conference on Solid-State Sensors and Actuators*
  Kiang, M. H., Solgaard, O., Lau, K. Y., Muller, R. S.
  ELSEVIER SCIENCE SA.1998: 195–99
- **Electrostatic combdrive-actuated micromirrors for laser-beam scanning and positioning** *JOURNAL OF MICROELECTROMECHANICAL SYSTEMS*
  Kiang, M. H., Solgaard, O., Lau, K. Y., Muller, R. S.
  1998; 7 (1): 27-37

- **Electrostatic Combdrive-Actuated Micromirrors for Laser-Beam Scanning and Positioning** *IEEE Journal of MicroElectroMechanical Systems (JMEMS)*
  Kiang, M, H., Solgaard, O., Lau, K., Y., Muller, R., S.
  1998; 7 (1): 27-37
- **In-line fiber-optic filter using GaAs ARROW waveguide**
  Mao, E., Coldren, C., Harris, J., S., Yankelevich, D., Solgaard, O., Knoesen, A.
  1998
- **Micromachined Mirrors in a Raster Scanning Display System**
  Hagelin, P., Cornett, K., Solgaard, O.
  1998
- **Polysilicon optical microscanners for laser scanning displays**
  Kiang, M., H, Solgaard, O., Lau, K., Y., Muller, R., S.
  1998
- **Compact 2D laser beam scanner with fan laser array and Si micromachined microscanner** *ELECTRONICS LETTERS*
  Francis, D. A., Kiang, M. H., Solgaard, O., Lau, K. Y., Muller, R. S., Chang-Hasnain, C. J.
  1997; 33 (13): 1143-1145
- **Micromachined microscanners for optical scanning**
  Kiang, M, H., Solgaard, O., Muller, R., S., Lau, K., Y.
  1997
- **Actuated polysilicon micromirrors for raster-scanning displays** *9th International Conference on Solid-State Sensors and Actuators*
  Kiang, M. H., Francis, D. A., CHANGHASNAIN, C. J., Solgaard, O., Lau, K. Y., Muller, R. S.
  IEEE.1997: 323–326
- **Micromachined microscanners for optical scanning** *Conference on Miniaturized Systems with Micro-Optics and Micromechanics II*
  Kiang, M. H., Solgaard, O., Muller, R. S., Lau, K. Y.
  SPIE - INT SOC OPTICAL ENGINEERING.1997: 82–90
- **High-Resolution Silicon Surface Micromachined Displays**
  Solgaard, O.
  1997
- **Actuated Polysilicon Micromirrors for Raster-Scanning Displays**
  Kiang, M., H., Francis, D., A., Chang-Hasnain, C., J., Solgaard, O., Lau, K., Y., Muller, R., S.
  1997
- **Compact 2D laser beam scanner with fan laser array and Si micromachined microscanner** *Electronics Letters (UK), IEE*
  Francis, D., A., Kiang, M., H., Solgaard, O., Lau, K., Y., Muller, R., S., Chang-Hasnain, C., J.
  1997; 33 (13): 1143-5
- **Micromachined polysilicon microscanners for barcode readers** *IEEE PHOTONICS TECHNOLOGY LETTERS*
  Kiang, M. H., Solgaard, O., Muller, R. S., Lau, K. Y.
  1996; 8 (12): 1707-1709
- **Linear microvibromotor for positioning optical components** *JOURNAL OF MICROELECTROMECHANICAL SYSTEMS*
  Daneman, M. J., Tien, N. C., Solgaard, O., Pisano, A. P., Lau, K. Y., Muller, R. S.
  1996; 5 (3): 159-165
- **Surface-micromachined mirrors for laser-beam positioning** *SENSORS AND ACTUATORS A-PHYSICAL*
  Tien, N. C., Solgaard, O., Kiang, M. H., Daneman, M., Lau, K. Y., Muller, R. S.
  1996; 52 (1-3): 76-80
- **Laser-to-fiber coupling module using a micromachined alignment mirror** *IEEE PHOTONICS TECHNOLOGY LETTERS*
  Daneman, M. J., Solgaard, O., Tien, N. C., Lau, K. Y., Muller, R. S.
  1996; 8 (3): 396-398

- **Silicon-micromachined micromirrors with integrated high-precision actuators for external-cavity semiconductor lasers** *IEEEPhotonics Techn. Letters*
  Kiang, M, H., Solgaard, O., Muller, R., S., Lau, K., Y.
  1996; 8 (1): 95-97
- **Silicon-micromachined micromirrors with integrated high-precision actuators for external-cavity semiconductor lasers** *IEEE PHOTONICS TECHNOLOGY LETTERS*
  Kiang, M. H., Solgaard, O., Muller, R. S., LAU, R. Y.
  1996; 8 (1): 95-97
- **Actuation of polysilicon surface-micromachined mirrors** *Conference on Miniaturized Systems with Micro-Optics and Micromechanics*
  Tien, N. C., Kiang, M. H., Daneman, M. J., Solgaard, O., Lau, K. Y., Muller, R. S.
  SPIE - INT SOC OPTICAL ENGINEERING.1996: 53–59
- **Surface-micromachined electrostatic-comb driven scanning micromirrors for barcode scanners** *IEEE 9th Annual International Workshop on Micro Electro Mechanical Systems - An Investigation of Micro Structures, Sensors, Actuators, Machines and Systems*
  Kiang, M. H., Solgaard, O., Muller, R. S., Lau, K. Y.
  I E E E.1996: 192–197
- **Surface-micromachined electrostatic-comb driven scanning micromirrors for barcode scanners**
  Kiang, M, H., Solgaard, O., Muller, R., S., Lau, K., Y.
  1996
- **Design and Fabrication of High-Performance Silicon Micromachined Resonant Microscanners for Optical Scanning Applications**
  Kiang, M, H., Solgaard, O., Muller, R., S., Lau, K., Y.
  1996
- **Linear Microvibromotor for Positioning Optical Components** *IEEE Journal of MicroElectroMechanical Systems (JMEMS)*
  Daneman, M., J., Tien, N., C., Solgaard, O., Pisano, A., P., Lau, K., Y., Muller, R., S.
  1996; 5 (3): 159-165
- **Actuated Micromachined Microreflector with Two Degrees of Freedom for Integrated Optical Systems**
  Daneman, M., Tien, N., C., Solgaard, O., Lau, K., Y., Muller, R., S.
  1996
- **Surface-Micromachined Mirrors for Laser-Beam Positioning** *Sensors and Actuators A (Physical)*
  Tien, N., C., Solgaard, O., Kiang, M., H., Daneman, M., Lau, K., Y., Muller, R., S.
  1996; A52 (13): 76-80
- **High-Precision Silicon Micromachined Micromirrors for Laser Beam Scanning and Positioning**
  Kiang, M, H., Solgaard, O., Muller, R., S., Lau, K., Y.
  1996
- **Actuation of polysilicon surface-micromachined mirrors**
  Tien, N., C., Kiang, M-, H., Daneman, M., Solgaard, O., Lau, K., Y., Muller, R., S.
  1996
- **Linear Vibromotor-Actuated Micromachined microreflector for Integrated Optical Systems**
  Daneman, M., Tien, N., C., Solgaard, O., Lau, K., Y., Muller, R., S.
  1996
- **Laser-to-fiber Coupling Module Using a Micromachined Alignment Mirror** *IEEE Photonics Technology Letters*
  Daneman, M., Solgaard, O., Tien, N., C., Lau, K., Y., Muller, R., S.
  1996; 8 (3): 396-398
- **OPTICAL-TRANSMISSION OF NARROW-BAND MILLIMETER-WAVE SIGNALS** *IEEE TRANSACTIONS ON MICROWAVE THEORY AND TECHNIQUES*
  GEORGES, J. B., CUTRER, D. M., Solgaard, O., Lau, K. Y.
  1995; 43 (9): 2229-2240

- **High-precision Si-micromachined micromirrors with on-chip actuation for external cavity semiconductor lasers**
  Kiang, M, H., Solgaard, O., Daneman, M., Tien, N., C., Muller, R., S., Lau, K., Y.
  1995
- **Linear microvibromotor for positioning optical components** *8th IEEE International Workshop on Micro Electro Mechanical Systems (MEMS)*
  Daneman, M. J., Tien, N. C., Solgaard, O., Pisano, A. P., Lau, K. Y., Muller, R. S.
  IEEE.1995: 55–60
- **OPTOELECTRONIC PACKAGING USING SILICON SURFACE-MICROMACHINED ALIGNMENT MIRRORS** *IEEE PHOTONICS TECHNOLOGY LETTERS*
  Solgaard, O., Daneman, M., Tien, N. C., Friedberger, A., Muller, R. S., Lau, K. Y.
  1995; 7 (1): 41-43
- **Precision and performance of polysilicon micromirrors for hybrid integrated optics** *Conference on Miniaturized Systems with Micro-Optics and Micromechanics/Laser Diode Optics II/Optical Engineering for Data Storage and Laser Imaging*
  Solgaard, O., Tien, N. C., Daneman, M., Kiang, M. H., Friedberger, A., Muller, R. S., Lau, K. Y.
  SPIE - INT SOC OPTICAL ENGINEERING.1995: 99–109
- **Surface-micromachined active optical bench for optoelectronic integration and packaging**
  Solgaard, O., Daneman, M., Tien, N., C., Muller, R., S., Lau, K., Y.
  1995
- **Linear Microvibromotor for Positioning Optical Elements**
  Daneman, M., Tien, N., C., Solgaard, O., Pisano, A., P., Lau, K., Y., Muller, R., S.
  1995
- **Optical Transmission of Narrowband Millimeter-Wave Signals** *IEEE Transactions on Microwave Theory and Techniques*
  Georges, J., B., Cutrer, D., Solgaard, O., Lau, K., Y.
  1995; 43 (9): 2229-2240
- **Precision and performance of polysilicon micromirrors for hybrid integrated optics**
  Solgaard, O., Tien, N., C., Daneman, M., Kiang, M., H., Friedberger, A., Muller, R., S.
  1995
- **Polysilicon-micromachined optical devices**
  Tien, N., C., Daneman, M., Kiang, M, H., Solgaard, O., Lau, K., Y., Muller, R., S.
  1995
- **Optoelectronic packaging using silicon surface-micromachined alignment mirrors** *IEEEPhotonics Techn. Letters*
  Solgaard, O., Daneman, M., Tien, N., C., Friedberger, A., Muller, R., S., Lau, K., Y.
  1995; 7 (1): 41-43
- **Surface-micromachined mirrors for laser-beam positioning**
  Tien, N., C., Solgaard, O., Kiang, M., H., Daneman, M., Muller, R., S., Lau, K., Y.
  1995
- **Integrated Laser to Fiber Coupling Module Using a Micromachined Alignment Mirror**
  Daneman, M., Solgaard, O., Tien, N., C., Muller, R., S., Lau, K., Y.
  1995
- **TRANSMISSION OF 300 MBIT/S BPSK AT 39 GHZ USING FEEDFORWARD OPTICAL MODULATION** *ELECTRONICS LETTERS*
  GEORGES, J. B., Park, J., Solgaard, O., Pepeljugoski, P., Sayed, M., Lau, K. Y.
  1994; 30 (2): 160-161
- **STABLE PICOSECOND PULSE GENERATION AT 46GHZ BY MODELOCKING OF A SEMICONDUCTOR-LASER OPERATING IN AN OPTOELECTRONIC PHASELOCKED LOOP** *ELECTRONICS LETTERS*
  GEORGES, J. B., BUCKMAN, L., VASSILOVSKI, D., Park, J., Kiang, M. H., Solgaard, O., Lau, K. L.
  1994; 30 (1): 69-71
- **Stable Picosecond Pulse Generation at 46 GHz by Mode-Locking of a Semiconductor Laser Operating in an Optoelectronic Phase-Locked Loop** *Electronics Letters*

Georges, J., B., Buckman, L., A., Vassilovski, D., Park, J., Kiang, M., H., Solgaard, O.
1994; 30 (1): 69-71

- **IMPACT-ACTUATED LINEAR MICROVIBROMOTOR FOR MICRO-OPTICAL SYSTEMS ON SILICON** *1994 IEEE International Electron Devices Meeting*
  Tien, N. C., Daneman, M., Solgaard, O., Lau, K. Y., Muller, R. S.
  IEEE.1994: 924–926
- **High Data Rate Millimeter Wave Subcarrier Transmission Using Feedforward Optical Modulation**
  Georges, J., B., Park, J., Solgaard, O., Cutrer, D., Pepeljugoski, P., Lau, K., Y.
  1994
- **Impact-actuated linear microvibromotor for micro- optical systems on silicon**
  Tien, N., C., Daneman, M., Solgaard, O., Lau, K., Y., Muller, R., S.
  1994
- **Transmission of 300 Mb/s BPSK at 39 GHz Using Feedforward Optical Modulation** *Electronics Letters*
  Georges, J., B., Park, J., Solgaard, O., Pepeljugoski, P., Sayed, M., Lau, K., Y.
  1994; 30 (2): 160-161
- **Stable Picosecond Pulse Generation at 46 GHz by Passive Mode-Locking of a Semiconductor Laser Operating in an Optoelectronic Phase-Locked Loop**
  Buckman, L., A., Georges, J., B., Vassilovski, D., Park, J., Solgaard, O., Lau, K., Y.
  1994
- **Micromachined alignment mirrors for opto-electronic packaging**
  Solgaard, O., Daneman, M., Tien, N., C., Friedberger, A., Muller, R., S., Lau, K., Y.
  1994
- **OPTICAL FEEDBACK STABILIZATION OF THE INTENSITY OSCILLATIONS IN ULTRAHIGH-FREQUENCY PASSIVELY MODELOCKED MONOLITHIC QUANTUM-WELL LASERS** *IEEE PHOTONICS TECHNOLOGY LETTERS*
  Solgaard, O., Lau, K. Y.
  1993; 5 (11): 1264-1267
- **PULSE BUILDUP IN PASSIVELY MODE-LOCKED MONOLITHIC QUANTUM-WELL SEMICONDUCTOR-LASERS** *APPLIED PHYSICS LETTERS*
  Solgaard, O., Kiang, M. H., Lau, K. Y.
  1993; 63 (15): 2021-2023
- **MILLIMETER-WAVE, MULTIGIGAHERTZ OPTICAL MODULATION BY FEEDFORWARD PHASE NOISE COMPENSATION OF A BEAT NOTE GENERATED BY PHOTOMIXING OF 2 LASER-DIODES** *IEEE PHOTONICS TECHNOLOGY LETTERS*
  Solgaard, O., Park, J., GEORGES, J. B., Pepeljugoski, P. K., Lau, K. Y.
  1993; 5 (5): 574-577
- **Optical Feedback Stabilization of the Intensity Oscillations in Ultra-high Frequency, Passively Modelocked, Monolithic, Quantum Well Lasers** *Photonics Techn. Lett.*
  Solgaard, O., Lau, K., Y.
  1993; 5 (11): 1264-1267
- **Millimeter wave optical transmission using a tunable laser beatnote source with feedforward compensation**
  Solgaard, O., Park, J., Georges, J., B., Pepeljugoski, P., Lau, K., Y.
  1993
- **Dynamics of pulse build-up in QW lasers passively mode-locked at millimeter wave frequencies**
  Kiang, M., H., Solgaard, O., Lau, K., Y.
  1993
- **Pulse buildup in passively mode-locked quantum-well semiconductor lasers** *Applied Physics Letters*
  Solgaard, O., Kiang, M., H., Lau, K., Y.
  1993; 15 (63): 2021-2023

- **Millimeter-Wave Frequency, Multi-Gigahertz Optical Modulation by Feedforward Phase Noise Compensation of a Beat Note Generated by Photomixing of Two Laser Diodes** *IEEEPhotonics Techn. Letters*
  Solgaard, O., Park, J., Georges, J., B., Pepeljugoski, P., Lau, K., Y.
  1993; 5 (5): 574-577
- **HIGH-FREQUENCY ATTENUATED TOTAL INTERNAL-REFLECTION LIGHT-MODULATOR** *APPLIED PHYSICS LETTERS*
  Solgaard, O., Ho, F., Thackara, J. I., Bloom, D. M.
  1992; 61 (21): 2500-2502
- **DEFORMABLE GRATING OPTICAL MODULATOR** *OPTICS LETTERS*
  Solgaard, O., SANDEJAS, F. S., Bloom, D. M.
  1992; 17 (9): 688-690
- **A deformable grating optical modulator** *Optics Letters*
  Solgaard, O., Sandejas, F., S. A., Bloom, D., M.
  1992; 17 (9): 688-690
- **An Attenuated Internal Reflection Modulator** *Applied Physics Letters*
  Solgaard, O., Ho, F., Thackara, J., I., Bloom, D., M.
  1992; 21 (61): 2500-2502
- **Deformable grating optical modulator**
  Sandejas, F., Solgaard, O., Bloom, D., M.
  1992
- **ALL-SILICON INTEGRATED OPTICAL MODULATOR** *IEEE JOURNAL ON SELECTED AREAS IN COMMUNICATIONS*
  Solgaard, O., Godil, A. A., HEMENWAY, B. R., Bloom, D. M.
  1991; 9 (5): 704-710
- **High Speed Attenuated Internal reflection Modulators**
  Solgaard, O., Ho, F., Thackara, J., I., Bloom, D., M.
  1991
- **PIGTAILED SINGLE-MODE FIBER OPTIC LIGHT-MODULATOR IN SILICON** *IEEE PHOTONICS TECHNOLOGY LETTERS*
  Solgaard, O., Godil, A. A., HEMENWAY, B. R., Bloom, D. M.
  1990; 2 (9): 640-642
- **A POLARIZATION-INDEPENDENT SILICON LIGHT-INTENSITY MODULATOR FOR 1.32-MU-M FIBER OPTICS** *IEEE PHOTONICS TECHNOLOGY LETTERS*
  HEMENWAY, B. R., Solgaard, O., Godil, A. A., Bloom, D. M.
  1990; 2 (4): 262-264
- **A SMALL-AREA LIGHT-INTENSITY MODULATOR IMPLEMENTED IN SILICON**
  HEMENWAY, B. R., Solgaard, O., Bloom, D. M.
  IEEE-INST ELECTRICAL ELECTRONICS ENGINEERS INC.1989: 2614–14
- **ALL-SILICON INTEGRATED OPTICAL MODULATOR FOR 1.3-MU-M FIBER-OPTIC INTERCONNECTS** *APPLIED PHYSICS LETTERS*
  HEMENWAY, B. R., Solgaard, O., Bloom, D. M.
  1989; 55 (4): 349-350
- **Bulk piezoresistors for stable pressure sensors**
  Jakobsen, H., Solgaard, O.
  1986