



Jelena Vuckovic

Professor of Electrical Engineering and, by courtesy, of Applied Physics

 Curriculum Vitae available Online

Bio

BIO

Jelena Vuckovic is a Professor of Electrical Engineering and by courtesy of Applied Physics at Stanford, where she leads the Nanoscale and Quantum Photonics Lab. She is also a faculty member of the Ginzton Lab, Bio-X and the Pulse Institute at Stanford. Upon receiving her PhD degree in Electrical Engineering from the California Institute of Technology (Caltech) in 2002, she worked as a postdoctoral scholar at Stanford. In 2003, she joined the Stanford Electrical Engineering Faculty, first as an assistant professor (until 2008), then an associate professor with tenure (2008-2013), and finally as a professor of electrical engineering (since 2013). As a Humboldt Prize recipient, she has also held a visiting position at the Institute for Physics of the Humboldt University in Berlin, Germany (since 2011). In 2013, she was appointed as a Hans Fischer Senior Fellow at the Institute for Advanced Studies of the Technical University in Munich, Germany.

In addition to the Humboldt Prize (2010) and the Hans Fischer Senior Fellowship (2013), Vuckovic has received many awards including the Marko V. Jaric award for outstanding achievements in physics (2012), the DARPA Young Faculty Award (2008), the Chambers Faculty Scholarship at Stanford (2008), the Presidential Early Career Award for Scientists and Engineers (PECASE in 2007), the Office of Naval Research Young Investigator Award (2006), the Okawa Foundation Research Grant (2006), and the Frederic E. Terman Fellowship at Stanford (2003). She is a Fellow of the American Physical Society (APS) and of the Optical Society of America (OSA).

Vuckovic is a member of the scientific advisory board of the Max Planck Institute for Quantum Optics - MPQ (in Munich, Germany) and of the scientific advisory board of the Ferdinand Braun Institute (in Berlin, Germany). She is also a member of the editorial advisory board of Nature Quantum Information and ACS Photonics, and was on the editorial board of the New Journal of Physics.

ACADEMIC APPOINTMENTS

- Professor, Electrical Engineering
- Professor (By courtesy), Applied Physics
- Member, Bio-X

HONORS AND AWARDS

- Fellow, Optical Society of America (OSA) (2015)
- Fellow, American Physical Society (APS) (2015)
- Hans Fischer Senior Fellow, Institute for Advanced Studies, Technical University Munich, Germany (2013)
- Marko V. Jaric Award, for outstanding achievements in physics (2012)
- Humboldt Prize (Humboldt Research Award), Alexander von Humboldt Foundation, Germany (2010)

- Teaching Excellence Award, Society of Women Engineers, Stanford University (2009)
- Chambers Faculty Scholar, Stanford University (2008)
- Young Faculty Award, DARPA (2008)
- Presidential Early Career Award for Scientists and Engineers (PECASE), United States (2007)
- Research Grant Recipient, Okawa Foundation, Japan (2006)
- Young Investigator Award, Office of Naval Research (2006)
- Frederick E. Terman Fellow, Stanford University (2003)

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- scientific advisory board member, Max Planck Institute for Quantum Optics (MPQ) in Garching, Germany (2015 - present)
- scientific advisory board member, Ferdinand Braun Institute, Berlin, Germany (2015 - present)
- Editorial Advisory Board Member, Nature Quantum Information (2014 - present)
- Editorial Board Member, New Journal of Physics (2014 - 2014)
- Editorial Advisory Board Member, ACS Photonics (2014 - present)
- Topical Editor, Nanophotonics (2012 - present)

PROFESSIONAL EDUCATION

- PhD, California Institute of Technology (Caltech) (2002)

LINKS

- My web page: <http://web.stanford.edu/~jela/>
- Nanoscale and quantum photonics lab: <http://nqp.stanford.edu/>
- Google Scholar Citations: <http://scholar.google.com/citations?user=-afJI14AAAAJ&hl=en>

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

nanophotonics, quantum optics, nonlinear optics, optoelectronics, cavity QED

Teaching

COURSES

2016-17

- Introduction to Electromagnetics and Its Applications: EE 42 (Win)
- Optical Micro- and Nano-Cavities: EE 340 (Spr)

2015-16

- Optical Micro- and Nano-Cavities: EE 340 (Spr)

2014-15

- Engineering Electromagnetics: EE 142 (Win)
- Optical Micro- and Nano-Cavities: EE 340 (Spr)

2013-14

- Engineering Electromagnetics: EE 141 (Win)
- Introduction to Nanophotonics and Nanostructures: EE 136 (Spr)

STANFORD ADVISEES

Postdoctoral Faculty Sponsor

Marina Radulaski, Tomas Sarmiento Suarez, Shuo Sun

Doctoral Dissertation Advisor (AC)

Jingyuan Linda Zhang

Publications

PUBLICATIONS

- **Observation of Mollow Triplets with Tunable Interactions in Double Lambda Systems of Individual Hole Spins** *PHYSICAL REVIEW LETTERS*
Lagoudakis, K. G., Fischer, K. A., Sarmiento, T., McMahon, P. L., Radulaski, M., Zhang, J. L., Kelaita, Y., Dory, C., Muller, K., Vuckovic, J.
2017; 118 (1)
- **Hybrid metal-dielectric nanocavity for enhanced light-matter interactions** *OPTICAL MATERIALS EXPRESS*
Kelaita, Y. A., Fischer, K. A., Babinec, T. M., Lagoudakis, K. G., Sarmiento, T., Rundquist, A., Majumdar, A., Vuckovic, J.
2017; 7 (1): 231-239
- **Ultrafast coherent manipulation of trions in site-controlled nanowire quantum dots** *OPTICA*
Lagoudakis, K. G., McMahon, P. L., Dory, C., Fischer, K. A., Mueller, K., Borish, V., Dalacu, D., Poole, P. J., Reimer, M. E., Zwiller, V., Yamamoto, Y., Vuckovic, J.
2016; 3 (12): 1430-1435
- **Self-homodyne-enabled generation of indistinguishable photons** *OPTICA*
Mueller, K., Fischer, K. A., Dory, C., Sarmiento, T., Lagoudakis, K. G., Rundquist, A., Kelaita, Y. A., Vuckovic, J.
2016; 3 (9): 931-936
- **Emission redistribution from a quantum dot-bowtie nanoantenna** *JOURNAL OF NANOPHOTONICS*
Regler, A., Schraml, K., Lyamkina, A. A., Spiegl, M., Mueller, K., Vuckovic, J., Finley, J. J., Kaniber, M.
2016; 10 (3)
- **Initialization of a spin qubit in a site-controlled nanowire quantum dot** *NEW JOURNAL OF PHYSICS*
Lagoudakis, K. G., McMahon, P. L., Fischer, K. A., Puri, S., Mueller, K., Dalacu, D., Poole, P. J., Reimer, M. E., Zwiller, V., Yamamoto, Y., Vuckovic, J.
2016; 18
- **Complete Coherent Control of a Quantum Dot Strongly Coupled to a Nanocavity** *SCIENTIFIC REPORTS*
Dory, C., Fischer, K. A., Mueller, K., Lagoudakis, K. G., Sarmiento, T., Rundquist, A., Zhang, J. L., Kelaita, Y., Vuckovic, J.
2016; 6
- **Direct Bandgap Light Emission from Strained Germanium Nanowires Coupled with High-Q Nanophotonic Cavities.** *Nano letters*
Petykiewicz, J., Nam, D., Sukhdeo, D. S., Gupta, S., Buckley, S., Piggott, A. Y., Vuckovic, J., Saraswat, K. C.
2016; 16 (4): 2168-2173
- **Design approach to integrated photonics explores entire space of fabricable devices** *LASER FOCUS WORLD*
Piggott, A. Y., Lu, J., Vuckovic, J.
2016; 52 (3): 24-?
- **Self-homodyne measurement of a dynamic Mollow triplet in the solid state** *NATURE PHOTONICS*
Fischer, K. A., Mueller, K., Rundquist, A., Sarmiento, T., Piggott, A. Y., Kelaita, Y., Dory, C., Lagoudakis, K. G., Vuckovic, J.
2016; 10 (3): 163-?
- **Hybrid Group IV Nanophotonic Structures Incorporating Diamond Silicon-Vacancy Color Centers** *NANO LETTERS*
Zhang, J. L., Ishiwata, H., Babinec, T. M., Radulaski, M., Mueller, K., Lagoudakis, K. G., Dory, C., Dahl, J., Edgington, R., Souliere, V., Ferro, G., Fokin, A. A., Schreiner, et al
2016; 16 (1): 212-217
- **Complete Coherent Control of a Quantum Dot Strongly Coupled to a Nanocavity.** *Scientific reports*

- Dory, C., Fischer, K. A., Müller, K., Lagoudakis, K. G., Sarmiento, T., Rundquist, A., Zhang, J. L., Kelaita, Y., Vuckovic, J.
2016; 6: 25172-?
- **Ge microdisk with lithographically-tunable strain using CMOS-compatible process** *OPTICS EXPRESS*
Sukhdeo, D. S., Petykiewicz, J., Gupta, S., Kim, D., Woo, S., Kim, Y., Vuckovic, J., Saraswat, K. C., Nam, D.
2015; 23 (26): 33249-33254
 - **Investigation of germanium quantum-well light sources** *OPTICS EXPRESS*
Fei, E. T., Chen, X., Zang, K., Huo, Y., Shambat, G., Miller, G., Liu, X., Dutt, R., Kamins, T. I., Vuckovic, J., Harris, J. S.
2015; 23 (17): 22424-22430
 - **On-Chip Generation, Routing, and Detection of Resonance Fluorescence** *NANO LETTERS*
Reithmaier, G., Kaniber, M., Flassig, F., Lichtmanecker, S., Mueller, K., ANDREJEW, A., Vuckovic, J., Gross, R., Finley, J. J.
2015; 15 (8): 5208-5213
 - **Ultrafast Polariton-Phonon Dynamics of Strongly Coupled Quantum Dot-Nanocavity Systems** *PHYSICAL REVIEW X*
Mueller, K., Fischer, K. A., Rundquist, A., Dory, C., Lagoudakis, K. G., Sarmiento, T., Kelaita, Y. A., Borish, V., Vuckovic, J.
2015; 5 (3)
 - **Coherent Generation of Nonclassical Light on Chip via Detuned Photon Blockade.** *Physical review letters*
Müller, K., Rundquist, A., Fischer, K. A., Sarmiento, T., Lagoudakis, K. G., Kelaita, Y. A., Sánchez Muñoz, C., del Valle, E., Laussy, F. P., Vuckovic, J.
2015; 114 (23): 233601-?
 - **Coherent Generation of Nonclassical Light on Chip via Detuned Photon Blockade** *PHYSICAL REVIEW LETTERS*
Mueller, K., Rundquist, A., Fischer, K. A., Sarmiento, T., Lagoudakis, K. G., Kelaita, Y. A., Sanchez Munoz, C., del Valle, E., Laussy, F. P., Vuckovic, J.
2015; 114 (23)
 - **Inverse design and demonstration of a compact and broadband on-chip wavelength demultiplexer** *NATURE PHOTONICS*
Piggott, A. Y., Lu, J., Lagoudakis, K. G., Petykiewicz, J., Babinec, T. M., Vuckovic, J.
2015; 9 (6): 374-?
 - **Monolayer semiconductor nanocavity lasers with ultralow thresholds.** *Nature*
Wu, S., Buckley, S., Schaibley, J. R., Feng, L., Yan, J., Mandrus, D. G., Hatami, F., Yao, W., Vuckovic, J., Majumdar, A., Xu, X.
2015; 520 (7545): 69-72
 - **Monolayer semiconductor nanocavity lasers with ultralow thresholds** *NATURE*
Wu, S., Buckley, S., Schaibley, J. R., Feng, L., Yan, J., Mandrus, D. G., Hatami, F., Yao, W., Vuckovic, J., Majumdar, A., Xu, X.
2015; 520 (7545): 69-U142
 - **Visible Photoluminescence from Cubic (3C) Silicon Carbide Microdisks Coupled to High Quality Whispering Gallery Modes** *ACS PHOTONICS*
Radulaski, M., Babinec, T. M., Mueller, K., Lagoudakis, K. G., Zhang, J. L., Buckley, S., Kelaita, Y. A., Alassaad, K., Ferro, G., Vuckovic, J.
2015; 2 (1): 14-19
 - **Inverse design and implementation of a wavelength demultiplexing grating coupler** *SCIENTIFIC REPORTS*
Piggott, A. Y., Lu, J., Babinec, T. M., Lagoudakis, K. G., Petykiewicz, J., Vuckovic, J.
2014; 4
 - **Multimode nanobeam cavities for nonlinear optics: high quality resonances separated by an octave** *OPTICS EXPRESS*
Buckley, S., Radulaski, M., Zhang, J. L., Petykiewicz, J., Biermann, K., Vuckovic, J.
2014; 22 (22): 26498-26509
 - **Multimode nanobeam cavities for nonlinear optics: high quality resonances separated by an octave.** *Optics express*
Buckley, S., Radulaski, M., Zhang, J. L., Petykiewicz, J., Biermann, K., Vuckovic, J.
2014; 22 (22): 26498-26509
 - **Nonlinear frequency conversion using high-quality modes in GaAs nanobeam cavities** *OPTICS LETTERS*
Buckley, S., Radulaski, M., Zhang, J. L., Petykiewicz, J., Biermann, K., Vuckovic, J.
2014; 39 (19): 5673-5676
 - **Nonlinear frequency conversion using high-quality modes in GaAs nanobeam cavities.** *Optics letters*
Buckley, S., Radulaski, M., Zhang, J. L., Petykiewicz, J., Biermann, K., Vuckovic, J.

2014; 39 (19): 5673-5676

- **Hole-spin pumping and repumping in a p-type delta-doped InAs quantum dot** *PHYSICAL REVIEW B*
Lagoudakis, K. G., Fischer, K. A., Sarmiento, T., Mueller, K., Vuckovic, J.
2014; 90 (12)
- **Nonclassical higher-order photon correlations with a quantum dot strongly coupled to a photonic-crystal nanocavity** *PHYSICAL REVIEW A*
Rundquist, A., Bajcsy, M., Majumdar, A., Sarmiento, T., Fischer, K., Lagoudakis, K. G., Buckley, S., Piggott, A. Y., Vuckovic, J.
2014; 90 (2)
- **A carrier relaxation bottleneck probed in single InGaAs quantum dots using integrated superconducting single photon detectors** *APPLIED PHYSICS LETTERS*
Reithmaier, G., Flassig, F., HASCH, P., Lichtmanecker, S., Mueller, K., Vuckovic, J., Gross, R., Kaniber, M., Finley, J. J.
2014; 105 (8)
- **Photo-oxidative tuning of individual and coupled GaAs photonic crystal cavities** *OPTICS EXPRESS*
Piggott, A. Y., Lagoudakis, K. G., Sarmiento, T., Bajcsy, M., Shambat, G., Vuckovic, J.
2014; 22 (12): 15017-15023
- **Photo-oxidative tuning of individual and coupled GaAs photonic crystal cavities.** *Optics express*
Piggott, A. Y., Lagoudakis, K. G., Sarmiento, T., Bajcsy, M., Shambat, G., Vuckovic, J.
2014; 22 (12): 15017-15023
- **Second-Harmonic Generation in GaAs Photonic Crystal Cavities in (111)B and (001) Crystal Orientations** *ACS PHOTONICS*
Buckley, S., Radulaski, M., Petykiewicz, J., Lagoudakis, K. G., Kang, J., Brongersma, M., Biermann, K., Vuckovic, J.
2014; 1 (6): 516-523
- **Control of two-dimensional excitonic light emission via photonic crystal** *2D MATERIALS*
Wu, S., Buckley, S., Jones, A. M., Ross, J. S., Ghimire, N. J., Yan, J., Mandrus, D. G., Yao, W., Hatami, F., Vuckovic, J., Majumdar, A., Xu, X.
2014; 1 (1)
- **A direct measurement of the electronic structure of Si nanocrystals and its effect on optoelectronic properties** *JOURNAL OF APPLIED PHYSICS*
Mustafeez, W., Majumdar, A., Vuckovic, J., Salleo, A.
2014; 115 (10)
- **Nanophotonic devices: from nanolasers to single cell probes**
Vuckovic, J.
2014
- **Graphene for Tunable Nanophotonic Resonators** *IEEE JOURNAL OF SELECTED TOPICS IN QUANTUM ELECTRONICS*
Majumdar, A., Kim, J., Vuckovic, J., Wang, F.
2014; 20 (1)
- **Inverse design and implementation of a wavelength demultiplexing grating coupler.** *Scientific reports*
Piggott, A. Y., Lu, J., Babinec, T. M., Lagoudakis, K. G., Petykiewicz, J., Vuckovic, J.
2014; 4: 7210-?
- **Symposium on Quantum Dot and Nanostructures, Photonics West**
Vuckovic, J.
2014
- **the Annual Meeting of the Atomic, Molecular and Optical Physics (AMO) section of the Dutch Physical Society, Amsterdam, Netherlands**
Vuckovic, J.
2014
- **Single Cell Nanocavity Probes**
Vuckovic, J.
2014
- **Quantum and nonlinear optics at the single photon level with quantum dots in optical nanocavities**
Vuckovic, J.

2014

- **Quantum dots in optical nanocavities: physics and applications** *Innovative Resonator-Emitter Coupled Systems, Frontiers in Optics/Laser Science, Tucson, AZ*
Vuckovic, J.
2014
- **Graphene for Tunable Nanophotonic Resonators** *IEEE Journal of Selected Topics in Quantum Electronics*
Majumdar, A., Kim, J., Vuckovic, J., Wang, F.
2014; 20 (1)
- **Physics Colloquium**
Vuckovic, J.
2014
- **Cavity enhanced light-matter interactions**
Babinec, T., Vuckovic, J.
2014
- **Photonic crystal cavities in cubic (3C) polytype silicon carbide films** *OPTICS EXPRESS*
Radulaski, M., Babinec, T. M., Buckley, S., Rundquist, A., Provine, J., Alassaad, K., Ferro, G., Vuckovic, J.
2013; 21 (26): 32623-32629
- **Deterministically charged quantum dots in photonic crystal nanoresonators for efficient spin-photon interfaces** *NEW JOURNAL OF PHYSICS*
Lagoudakis, K. G., Fischer, K., Sarmiento, T., Majumdar, A., Rundquist, A., Lu, J., Bajcsy, M., Vuckovic, J.
2013; 15
- **Second harmonic generation in photonic crystal cavities in (111)-oriented GaAs** *APPLIED PHYSICS LETTERS*
Buckley, S., Radulaski, M., Biermann, K., Vuckovic, J.
2013; 103 (21)
- **Single-cell photonic nanocavity probes.** *Nano letters*
Shambat, G., Kothapalli, S., Provine, J., Sarmiento, T., Harris, J., Gambhir, S. S., Vuckovic, J.
2013; 13 (11): 4999-5005
- **Proposed coupling of an electron spin in a semiconductor quantum dot to a nanosize optical cavity.** *Physical review letters*
Majumdar, A., Kaer, P., Bajcsy, M., Kim, E. D., Lagoudakis, K. G., Rundquist, A., Vuckovic, J.
2013; 111 (2): 027402-?
- **Strain-induced pseudoheterostructure nanowires confining carriers at room temperature with nanoscale-tunable band profiles.** *Nano letters*
Nam, D., Sukhdeo, D. S., Kang, J., Petykiewicz, J., Lee, J. H., Jung, W. S., Vuckovic, J., Brongersma, M. L., Saraswat, K. C.
2013; 13 (7): 3118-3123
- **Proposed Coupling of an Electron Spin in a Semiconductor Quantum Dot to a Nanosize Optical Cavity** *PHYSICAL REVIEW LETTERS*
Majumdar, A., Kaer, P., Bajcsy, M., Kim, E. D., Lagoudakis, K. G., Rundquist, A., Vuckovic, J.
2013; 111 (2)
- **Strain-Induced Pseudoheterostructure Nanowires Confining Carriers at Room Temperature with Nanoscale-Tunable Band Profiles** *NANO LETTERS*
Nam, D., Sukhdeo, D. S., Kang, J., Petykiewicz, J., Lee, J. H., Jung, W. S., Vuckovic, J., Brongersma, M. L., Saraswat, K. C.
2013; 13 (7): 3118-3123
- **Nanophotonic computational design** *OPTICS EXPRESS*
Lu, J., Vuckovic, J.
2013; 21 (11): 13351-13367
- **Focus on integrated quantum optics** *NEW JOURNAL OF PHYSICS*
O'Brien, J., Patton, B., Sasaki, M., Vuckovic, J.
2013; 15
- **Photon blockade with a four-level quantum emitter coupled to a photonic-crystal nanocavity** *NEW JOURNAL OF PHYSICS*
Bajcsy, M., Majumdar, A., Rundquist, A., Vuckovic, J.

2013; 15

- **Electrical Control of Silicon Photonic Crystal Cavity by Graphene** *NANO LETTERS*
Majumdar, A., Kim, J., Vuckovic, J., Wang, F.
2013; 13 (2): 515-518
- **Ultra-low power all-optical switching with a single quantum dot in a photonic-crystal cavity** *Conference on Advances in Photonics of Quantum Computing, Memory, and Communication VI*
Bajcsy, M., Majumdar, A., Englund, D., Vuckovic, J.
SPIE-INT SOC OPTICAL ENGINEERING.2013
- **Objective-First Nanophotonic Design** *NUMERICAL METHODS FOR METAMATERIAL DESIGN*
Lu, J., Vuckovic, J.
2013; 127: 147-173
- **Seminar at the University of Nis**
Vuckovic, J.
2013
- **Knowledge at Noon**
Vuckovic, J.
2013
- **Electrically controlled photonic crystal nanocavity sources and modulators**
Petykiewicz, J., Shambat, G., Ellis, B., Sarmiento, T., Piggott, A., Vuckovic, J.
2013
- **Zeeman Splitting of Deterministically Charged Quantum Dots Coupled to Photonic Crystal Nanoresonators**
Lagoudakis, Konstantinos, G., Fischer, K., Majumdar, A., Rundquist, A., Bajcsy, M., Sarmiento, T., Vuckovic, J.
2013
- **Direct Bandgap Germanium Nanowires Inferred from 5.0% Uniaxial Tensile Strain**
Sukhdeo, David, S., Nam, D., Kang, J., Petykiewicz, J., Lee, J. H., Jung, W. S., Vuckovic, J.
2013
- **Control of Two-Dimensional Excitonic Light Emission via Photonic Crystal**
Wu, S., Buckley, S., Jones, Aaron, M., Ross, Jason, S., Ghimire, Nirmal, J., Yan, J., Vuckovic, J.
2013
- **Electrically controlled photonic crystal nanocavity sources and modulators** *IEEE-Photonics-Society Summer Topical Meeting*
Petykiewicz, J., Shambat, G., Ellis, B., Sarmiento, T., Piggott, A., Vuckovic, J.
IEEE.2013: 38-39
- **Neils Bohr Institute Seminar**
Vuckovic, J.
2013
- **Physics colloquium, EPFL, Lausanne**
Vuckovic, J.
2013
- **Alexander Von Humboldt Lecture**
Vuckovic, J.
2013
- **Ecole de Physique des Houches, Quantum Optics and Nanophotonics Summer School**
Vuckovic, J.
2013
- **Quantum dots in optical nanocavities: from cavity QED to device applications**
Vuckovic, J.

2013

- **Nonclassical light sources based on quantum dots in optical nanocavities**

Vuckovic, J., Majumdar, A., Bajcsy, M., Rundquist, A.

2013

- **SemiconNano2013**

Sarmiento, T., Vuckovic, J.

2013

- **Quantum dots in photonic crystal cavities: from quantum optics to nano-lasers and intra-cellular probes**

Vuckovic, J.

2013

- **Quantum Nano-Optics**

Vuckovic, J.

2013

- **Correlated photons in quantum dot-cavity quantum electrodynamics: beyond the single cavity**

Majumdar, A., Rundquist, A., Bajcsy, M., Vuckovic, J.

2013

- **Electrical Control of Photonic Crystal Cavity by Graphene**

Majumdar, A., Kim, J., Wang, F., Vuckovic, J.

2013

- **Third-order photon correlations from a quantum dot coupled to a photonic-crystal nanocavity**

Bajcsy, M., Rundquist, A., Majumdar, A., Sarmiento, T., Lagoudakis, Konstantinos, G., Vuckovic, J.

2013

- **Photonic crystal coupled cavity arrays for quantum simulation**

Rundquist, A., Majumdar, A., Bajcsy, M., Dasika, Vaishno, D., Bank, Seth, R., Vuckovic, J.

2013

- **Single-cell Photonic Nanocavity Probes**

Shambat, G., Kothapalli, S. R., Provine, J., Sarmiento, T., Harris, J., Gambhir, S. S., Vuckovic, J.

2013

- **Hybrid metal/dielectric nanocavity for ultrafast quantum dot-optical field interaction**

Fischer, Kevin, A., Babinec, Thomas, M., Kelaita, Yousif, A., Lagoudakis, Konstantinos, G., Sarmiento, T., Majumdar, A., Vuckovic, J.

2013

- **Photonic Crystal Cavities in Cubic (3C) Silicon Carbide**

Radulaski, M., Babinec, Thomas, M., Buckley, S., Rundquist, A., Provine, J., Alassaad, K., Vuckovic, J.

2013

- **SPIE Photonics West**

Petykiewicz, J., Vuckovic, J.

2013

- **SPIE Photonics West**

Buckley, S., Vuckovic, J.

2013

- **Cavity QED with quantum dots in photonic crystals**

Vuckovic, J.

2013

- **Special Symposium on Nanophotonics and Metamaterials Ideas for Telecoms and Data Processing**

Buckley, S., Vuckovic, J.

2013

- **Optical nanocavities: from light sources to single cell probes**

Vuckovic, J.

2013

- **Strain-Induced Homo-Compositional Heterostructure Nanowires Confining Carriers at Room Temperature with Nanoscale-Tunable Band Profiles** *Nano-Letters, ASAP*

Nam, D., Sukhdeo, D., Kang, J., Petykiewicz, J., Lee, J. H., Jung, W. S., Vuckovic, J.

2013

- **Photonic Crystal Cavities in Cubic Polytype Silicon Carbide Films** *Optics Express*

Radulaski, M., Babinec, Thomas, M., Buckley, S., Rundquist, A., Provine, J., Alassaad, K., Vuckovic, J.

2013; 21 (26): 32623-32629

- **Optical nanocavities with quantum dots: from nano-lasers to bio-probes**

Vuckovic, J.

2013

- **Schottky Seminar**

Vuckovic, J.

2013

- **Seminar at Institute for Physics**

Vuckovic, J.

2013

- **Colloquium at the University of Belgrade**

Vuckovic, J.

2013

- **Nano-Cavity Quantum Electrodynamics and Applications**

Vuckovic, J.

2013

- **SPIE Photonics West**

Bajcsy, M., Vuckovic, J.

2013

- **Editorial of the Focus Issue on Integrated Quantum optics** *New Journal of Physics, Feb.*

O'Brien, J., Patton, B., Sasaki, M., Vuckovic, J.

2013

- **Second Harmonic Generation in Photonic Crystal Cavities in [111]-Oriented GaAs** *Applied Physics Letters*

Buckley, S., Radulaski, M., Biermann, K., Vuckovic, J.

2013; 103

- **Deterministically Charged Quantum Dots in Photonic Crystal Nanoresonators for Efficient Spin-Photon Interfaces** *New Journal of Physics*

Lagoudakis, Konstantinos, G., Fischer, K., Sarmiento, T., Majumdar, A., Rundquist, A., Lu, J., Vuckovic, J.

2013; 15

- **Nonlinear Optics in (111)-GaAs Photonic Crystal Cavities**

Radulaski, M., Buckley, S., Biermann, K., Vuckovic, J.

2013

- **Single-cell photonic nanocavity probes** *Nano-Letters*

Shambat, G., Kothapalli, S. R., Provine, J., Sarmiento, T., Harris, J., Gambhir, S. S., Vuckovic, J.

2013; 13 (11): 4999-5005

- **Electrical design for lateral junction photonic crystal lasers** *Conference on Physics and Simulation of Optoelectronic Devices XXI*

Petykiewicz, J., Shambat, G., Ellis, B., Vuckovic, J.

SPIE-INT SOC OPTICAL ENGINEERING.2013

- **Engineered quantum dot single-photon sources** *REPORTS ON PROGRESS IN PHYSICS*
Buckley, S., Rivoire, K., Vuckovic, J.
2012; 75 (12)
- **Design and analysis of photonic crystal coupled cavity arrays for quantum simulation** *PHYSICAL REVIEW B*
Majumdar, A., Rundquist, A., Bajcsy, M., Dasika, V. D., Bank, S. R., Vuckovic, J.
2012; 86 (19)
- **All Optical Switching With a Single Quantum Dot Strongly Coupled to a Photonic Crystal Cavity** *IEEE JOURNAL OF SELECTED TOPICS IN QUANTUM ELECTRONICS*
Majumdar, A., Bajcsy, M., Englund, D., Vuckovic, J.
2012; 18 (6): 1812-1817
- **Electrically Driven Photonic Crystal Nanocavity Devices** *IEEE JOURNAL OF SELECTED TOPICS IN QUANTUM ELECTRONICS*
Shambat, G., Ellis, B., Petykiewicz, J., Mayer, M. A., Majumdar, A., Sarmiento, T., Harris, J. S., Haller, E. E., Vuckovic, J.
2012; 18 (6): 1700-1710
- **Introduction to the Issue on Quantum and Nanoscale Photonics** *IEEE JOURNAL OF SELECTED TOPICS IN QUANTUM ELECTRONICS*
Vuckovic, J., Benson, O., O'Brien, J., Loncar, M.
2012; 18 (6): 1627-1628
- **Quasiresonant excitation of InP/InGaP quantum dots using second harmonic generated in a photonic crystal cavity** *APPLIED PHYSICS LETTERS*
Buckley, S., Rivoire, K., Hatami, F., Vuckovic, J.
2012; 101 (16)
- **Cavity quantum electrodynamics with a single quantum dot coupled to a photonic molecule** *PHYSICAL REVIEW B*
Majumdar, A., Rundquist, A., Bajcsy, M., Vuckovic, J.
2012; 86 (4)
- **Electrical properties of GaAs photonic crystal cavity lateral p-i-n diodes** *APPLIED PHYSICS LETTERS*
Petykiewicz, J., Shambat, G., Ellis, B., Vuckovic, J.
2012; 101 (1)
- **A photonic crystal cavity-optical fiber tip nanoparticle sensor for biomedical applications** *APPLIED PHYSICS LETTERS*
Shambat, G., Kothapalli, S. R., Khurana, A., Provine, J., Sarmiento, T., Cheng, K., Cheng, Z., Harris, J., Daldrup-Link, H., Gambhir, S. S., Vuckovic, J.
2012; 100 (21)
- **Loss-Enabled Sub-Poissonian Light Generation in a Bimodal Nanocavity** *PHYSICAL REVIEW LETTERS*
Majumdar, A., Bajcsy, M., Rundquist, A., Vuckovic, J.
2012; 108 (18)
- **Phonon-mediated coupling between quantum dots through an off-resonant microcavity** *PHYSICAL REVIEW B*
Majumdar, A., Bajcsy, M., Rundquist, A., Kim, E., Vuckovic, J.
2012; 85 (19)
- **Probing the ladder of dressed states and nonclassical light generation in quantum-dot-cavity QED** *PHYSICAL REVIEW A*
Majumdar, A., Bajcsy, M., Vuckovic, J.
2012; 85 (4)
- **Objective-first design of high-efficiency, small-footprint couplers between arbitrary nanophotonic waveguide modes** *OPTICS EXPRESS*
Lu, J., Vuckovic, J.
2012; 20 (7): 7221-7236
- **Nonlinear temporal dynamics of a strongly coupled quantum-dot-cavity system** *PHYSICAL REVIEW A*
Majumdar, A., Englund, D., Bajcsy, M., Vuckovic, J.
2012; 85 (3)
- **Ultrafast Photon-Photon Interaction in a Strongly Coupled Quantum Dot-Cavity System** *PHYSICAL REVIEW LETTERS*
Englund, D., Majumdar, A., Bajcsy, M., Faraon, A., Petroff, P., Vuckovic, J.

2012; 108 (9)

- **Photoluminescence from In_{0.5}Ga_{0.5}As/GaP quantum dots coupled to photonic crystal cavities** *PHYSICAL REVIEW B*
Rivoire, K., Buckley, S., Song, Y., Lee, M. L., Vuckovic, J.
2012; 85 (4)
- **Bichromatic driving of a solid-state cavity quantum electrodynamics system** *NEW JOURNAL OF PHYSICS*
Papageorge, A., Majumdar, A., Kim, E. D., Vuckovic, J.
2012; 14
- **Light Emission in Ge Quantum Wells** *Conference on Lasers and Electro-Optics (CLEO)*
Fei, E. T., Huo, Y., Shambat, G., Chen, X., Liu, X., Claussen, S. A., Edwards, E. H., Kamins, T. I., Miller, D. A., Vuckovic, J., Harris, J. S.
IEEE.2012
- **Quantum dots in optical nanocavities: from cavity QED to applications**
Vuckovic, J.
2012
- **Ultra-low threshold and high speed electrically pumped photonic crystal nanocavity lasers and LEDs**
Vuckovic, J.
2012
- **Phonon Mediated Off-resonant Quantum Dot-Cavity Coupling**
Majumdar, A., Rundquist, A., Bajcsy, M., Papageorge, A., Kim, Erik, D., Vuckovic, J.
2012
- **Bichromatic Driving of a Solid State cavity QED System** *New Journal of Physics*
Papageorge, A., Majumdar, A., Kim, Erik, D., Vuckovic, J.
2012; 14
- **Electrical properties of GaAs photonic crystal cavity lateral PIN diodes** *Applied Physics Letters*
Petykiewicz, J., Shambat, G., Ellis, B., Vuckovic, J.
2012; 101
- **Cavity Quantum Electrodynamics of a Single Quantum Dot Coupled to a Photonic Molecule** *Physical Review B*
Majumdar, A., Rundquist, A., Bajcsy, M., Vuckovic, J.
2012; 86
- **Quantum dots in optical nanocavities: from cavity QED to device applications**
Vuckovic, J.
2012
- **MRS Fall Meeting**
Vuckovic, J.
2012
- **Strong photon-photon and photon – phonon interaction in a coupled quantum dot- photonic crystal nanocavity**
Vuckovic, J., Majumdar, A., Bajcsy, M., Rundquist, A., Englund, D., Faraon, A.
2012
- **Room Temperature Photoluminescence from Ge/SiGe Quantum Well Structure in Microdisk Resonator**
Chen, X., Huo, Y., Fei, Edward, T., Shambat, G., Liu, X., Kamins, Theodore, I., Vuckovic, J.
2012
- **Strong photon-photon interaction in a coupled quantum dot- photonic crystal nanocavity**
Vuckovic, J.
2012
- **Quantum dot - nanocavity QED for quantum information processing,” Focus session on “Semiconductor-based quantum communication**
Vuckovic, J.

2012

- **Quantum dots in optical nanocavities: from cavity QED to device applications**
Vuckovic, J.
2012
- **Photonic crystal nanocavity lasers and LEDs**
Shambat, G., Vuckovic, J.
2012
- **Electrically Driven Photonic Crystal Cavity Devices**
Shambat, G., Ellis, B., Petykiewicz, J., Mayer, Marie, A., Majumdar, A., Sarmiento, T., Vuckovic, J.
2012
- **Photon blockade with a four-level atom coupled to a microcavity**
Bajcsy, M., Majumdar, A., Vuckovic, J.
2012
- **Coupling a single quantum dot to a photonic molecule**
Bajcsy, M., Majumdar, A., Rundquist, A., Vuckovic, J.
2012
- **Electrically injected photonic crystal nanolaser**
Vuckovic, J., Ellis, B., Shambat, G., Petykiewicz, J., Mayer, M., Sarmiento, T.
2012
- **Cavity QED and quantum optics with a single quantum dot in a photonic crystal cavity or a photonic molecule**
Vuckovic, J.
2012
- **Nanophotonics for quantum optics** *OSA Integrated Photonics Research, Silicon and Nano-Photonics (IPR), Colorado Springs, Colorado*
Vuckovic, J.
2012
- **Electrically driven Electrically driven photonic crystal cavities yield low-power optoelectronic devices** *SPIE Newsroom*
Shambat, G., Ellis, B., Petykiewicz, J., Vuckovic, J.
2012
- **Nonlinear Temporal Dynamics of Strongly Coupled Quantum dot-Cavity System** *Physical Review A*
Majumdar, A., Englund, D., Bajcsy, M., Vuckovic, J.
2012; 85
- **Probing the ladder of dressed states and nonclassical light generation in quantum dot-cavity QED** *Physical Review A, 041801(R)*
Majumdar*, A., Bajcsy*, M., Vuckovic, J.
2012; 85
- **Quasiresonant Excitation of GaP/InGaP Quantum Dots Using Intra-Cavity Second Harmonic Generation** *Applied Physics Letters*
Buckley, S., Rivoire, K., Hatami, F., Vuckovic, J.
2012; 101
- **Phonon Mediated off-resonant Quantum Dot-Cavity Interaction**
Majumdar, A., Kim, Erik, D., Bajcsy, M., Rundquist, A., Vuckovic, J.
2012
- **Improvement in Photoluminescence of Coimplanted Germanium by Laser Annealing**
Lee, Lennon, Y. T., Adams, B., Chopra, S., Sarmiento, T., Yang, B., Petykiewicz, J., Vuckovic, J.
2012
- **Engineered quantum-dot single photon sources** *Reports on Progress in Physics*
Buckley, S., Rivoire, K., Vuckovic, J.

2012; 75

- **Ultrafast photonic crystal single mode LED**
Shambat, G., Vuckovic, J.
2012
- **High-Efficiency, Small-Footprint Couplers Between Arbitrary Nanophotonic Waveguide Modes** *Optics Express*
Lu, J., Vuckovic, J.
2012; 20 (7): 7221-7236
- **Ultrafast Direct Modulation of a Single-Mode Photonic Crystal Nanocavity Light-Emitting Diode** *Conference on Lasers and Electro-Optics (CLEO)*
Shambat, G., Ellis, B., Majumdar, A., Petykiewicz, J., Mayer, M., Sarmiento, T., Harris, J., Haller, E., Vuckovic, J.
IEEE.2012
- **Photonic Crystal Nanocavity Lasers and Modulators** *25th IEEE Photonics Conference (IPC)*
Vuckovic, J., Shambat, G., Petykiewicz, J., Ellis, B., Majumdar, A., Sarmiento, T., Mayer, M., Harris, J., Haller, E.
IEEE.2012: 459-460
- **A New Approach to Ge Lasers with Low Pump Power** *25th IEEE Photonics Conference (IPC)*
Chen, X., Huo, Y., Fei, E. T., Shambat, G., Zang, K., Liu, X., Chen, Y., Kamins, T. I., Vuckovic, J., Harris, J. S.
IEEE.2012: 60-61
- **Optical Fiber Tips Functionalized with Semiconductor Photonic Crystal Cavities** *Conference on Lasers and Electro-Optics (CLEO)*
Shambat, G., Provine, J., Rivoire, K., Sarmiento, T., Harris, J., Vuckovic, J.
IEEE.2012
- **Ultra-Low Threshold and High Speed Electrically Driven Photonic Crystal Nanocavity Lasers and LEDs** *Conference on Lasers and Electro-Optics (CLEO)*
Vuckovic, J., Ellis, B., Shambat, G., Petykiewicz, J., Majumdar, A., Sarmiento, T., Mayer, M., Harris, J., Haller, E.
IEEE.2012
- **Off-resonant Coupling Between a Single Quantum Dot and a Nanobeam Photonic Crystal Cavity** *Conference on Lasers and Electro-Optics (CLEO)*
Rundquist, A., Majumdar, A., Vuckovic, J.
IEEE.2012
- **Electrically driven photonic crystal nanocavity lasers, LEDs, and modulators** *Conference on Novel In-Plane Semiconductor Lasers XI*
Shambat, G., Ellis, B., Mayer, M., Majumdar, A., Petykiewicz, J., Sarmiento, T., Harris, J., Haller, E. E., Vuckovic, J.
SPIE-INT SOC OPTICAL ENGINEERING.2012
- **Ultrafast Nonlinear Dynamics in Strongly Coupled Quantum Dot-Cavity system** *Conference on Lasers and Electro-Optics (CLEO)*
Majumdar, A., Englund, D., Bajcsy, M., Vuckovic, J.
IEEE.2012
- **Multiply Resonant Photonic Crystal Cavities for Nonlinear Frequency Conversion** *Conference on Lasers and Electro-Optics (CLEO)*
Buckley, S., Rivoire, K., Vuckovic, J.
IEEE.2012
- **Off-resonant coupling between a single quantum dot and a nanobeam photonic crystal cavity** *APPLIED PHYSICS LETTERS*
Rundquist, A., Majumdar, A., Vuckovic, J.
2011; 99 (25)
- **Optical fiber tips functionalized with semiconductor photonic crystal cavities** *APPLIED PHYSICS LETTERS*
Shambat, G., Provine, J., Rivoire, K., Sarmiento, T., Harris, J., Vuckovic, J.
2011; 99 (19)
- **Effect of photogenerated carriers on the spectral diffusion of a quantum dot coupled to a photonic crystal cavity** *PHYSICAL REVIEW B*
Majumdar, A., Kim, E. D., Vuckovic, J.
2011; 84 (19)
- **Ultrafast direct modulation of a single-mode photonic crystal nanocavity light-emitting diode** *NATURE COMMUNICATIONS*
Shambat, G., Ellis, B., Majumdar, A., Petykiewicz, J., Mayer, M. A., Sarmiento, T., Harris, J., Haller, E. E., Vuckovic, J.

2011; 2

- **Multiply resonant photonic crystal nanocavities for nonlinear frequency conversion** *OPTICS EXPRESS*
Rivoire, K., Buckley, S., Vuckovic, J.
2011; 19 (22): 22198-22207
- **Fabrication and Analysis of Epitaxially Grown Ge_{1-x}Sn_x Microdisk Resonator With 20-nm Free-Spectral Range** *IEEE PHOTONICS TECHNOLOGY LETTERS*
Cho, S., Chen, R., Koo, S., Shambat, G., Lin, H., Park, N., Vuckovic, J., Kamins, T. I., Park, B., Harris, J. S.
2011; 23 (20)
- **Probing of single quantum dot dressed states via an off-resonant cavity** *PHYSICAL REVIEW B*
Majumdar, A., Papageorge, A., Kim, E. D., Bajcsy, M., Kim, H., Petroff, P., Vuckovic, J.
2011; 84 (8)
- **Phonon mediated off-resonant quantum dot-cavity coupling under resonant excitation of the quantum dot** *PHYSICAL REVIEW B*
Majumdar, A., Kim, E. D., Gong, Y., Bajcsy, M., Vuckovic, J.
2011; 84 (8)
- **Nanobeam photonic crystal cavity light-emitting diodes** *APPLIED PHYSICS LETTERS*
Shambat, G., Ellis, B., Petykiewicz, J., Mayer, M. A., Sarmiento, T., Harris, J., Haller, E. E., Vuckovic, J.
2011; 99 (7)
- **Multiply resonant high quality photonic crystal nanocavities** *APPLIED PHYSICS LETTERS*
Rivoire, K., Buckley, S., Vuckovic, J.
2011; 99 (1)
- **Second harmonic generation in GaP photonic crystal waveguides** *APPLIED PHYSICS LETTERS*
Rivoire, K., Buckley, S., Hatami, F., Vuckovic, J.
2011; 98 (26)
- **Integrated quantum optical networks based on quantum dots and photonic crystals** *NEW JOURNAL OF PHYSICS*
Faraon, A., Majumdar, A., Englund, D., Kim, E., Bajcsy, M., Vuckovic, J.
2011; 13
- **Inverse design of a three-dimensional nanophotonic resonator** *OPTICS EXPRESS*
Lu, J., Boyd, S., Vuckovic, J.
2011; 19 (11): 10563-10570
- **Cavity-enhanced direct band electroluminescence near 1550 nm from germanium microdisk resonator diode on silicon** *APPLIED PHYSICS LETTERS*
Cheng, S., Shambat, G., Lu, J., Yu, H., Saraswat, K., Kamins, T. I., Vuckovic, J., Nishi, Y.
2011; 98 (21)
- **Ultralow-threshold electrically pumped quantum-dot photonic-crystal nanocavity laser** *NATURE PHOTONICS*
Ellis, B., Mayer, M. A., Shambat, G., Sarmiento, T., Harris, J., Haller, E. E., Vuckovic, J.
2011; 5 (5): 297-300
- **Ultra-low power fiber-coupled gallium arsenide photonic crystal cavity electro-optic modulator** *OPTICS EXPRESS*
Shambat, G., Ellis, B., Mayer, M. A., Majumdar, A., Haller, E. E., Vuckovic, J.
2011; 19 (8): 7530-7536
- **Fast quantum dot single photon source triggered at telecommunications wavelength** *APPLIED PHYSICS LETTERS*
Rivoire, K., Buckley, S., Majumdar, A., Kim, H., Petroff, P., Vuckovic, J.
2011; 98 (8)
- **Low power resonant optical excitation of an optomechanical cavity** *OPTICS EXPRESS*
Gong, Y., Rundquist, A., Majumdar, A., Vuckovic, J.
2011; 19 (2): 1429-1440
- **Strong enhancement of direct transition photoluminescence with highly tensile-strained Ge grown by molecular beam epitaxy** *APPLIED PHYSICS LETTERS*

- Huo, Y., Lin, H., Chen, R., Makarova, M., Rong, Y., Li, M., Kamins, T. I., Vuckovic, J., Harris, J. S.
2011; 98 (1)
- **Coherent Optical Spectroscopy of a Single Quantum Dot Via an Off-Resonant Cavity** *Conference on Lasers and Electro-Optics (CLEO)*
Papageorge, A., Majumdar, A., Kim, E. D., Bajcsy, M., Kim, H., Petroff, P., Vuckovic, J.
IEEE.2011
 - **Opto-mechanics and quantum dot-nanocavity QED**
Vuckovic, J., Majumdar, A., Papageorge, A., Rundquist, A., Gong, Y., Kim, E.
2011
 - **Low-power Resonant Optical Excitation of an Optomechanical Cavity** *Optics Express*
Gong, Y., Rundquist, A., Majumdar, A., Vuckovic, J.
2011; 19 (2): 1429–1440
 - **Inverse Design of 3D Nanophotonic Resonators** *Optics Express*
Lu, J., Boyd, S., Vuckovic, J.
2011; 19 (11): 10563-10570
 - **Phonon-mediated off-resonant quantum dot-cavity coupling under resonant excitation of the quantum dot** *Physical Review B*
Majumdar, A., Gong, Y., Kim, Erik, D., Bajcsy, M., Vuckovic, J.
2011; 84
 - **Ultrafast direct modulation of a single mode photonic crystal nanocavity light-emitting diode** *Nature Communications*, 2:539
Shambat, G., Ellis, B., Majumdar, A., Petykiewicz, J., Mayer, M., Sarmiento, T., Vuckovic, J.
2011
 - **Ultra-low power fiber-coupled gallium arsenide photonic crystal electro-optic modulator**
Shambat, G., Ellis, B., Majumdar, A., Vuckovic, J.
2011
 - **Photonic crystal cavities: from nonlinear optics at a few photons level, to fast, energy efficient information processing**
Vuckovic, J.
2011
 - **Quantum dots in optical nanocavities: from cavity QED to device applications**
Vuckovic, J.
2011
 - **Quantum dots in optical nanocavities: from cavity QED to device applications**
Vuckovic, J.
2011
 - **IEEE 2011 Winter Topical Low dimensional Nanostructures and Subwavelength Photonics**
Vuckovic, J.
2011
 - **Ultra-low threshold lasers and modulators based on optical nanocavities**
Vuckovic, J., Ellis, B., Shambat, G., Majumdar, A., Faraon, A.
2011
 - **Photonic crystals and quantum dots: from cavity QED, to single photon nonlinear optics and efficient information processing**
Vuckovic, J.
2011
 - **(Solid-state) cavity QED for quantum and classical information processing**
Vuckovic, J.
2011
 - **Broadband Tunable Multiply Resonant Photonic Crystal Nanocavities**
Buckley, S., Rivoire, K., Vuckovic, J.

2011

- **Photoluminescence of In_{0.5}Ga_{0.5}As/GaP quantum dots coupled to photonic crystal cavities**
Rivoire, K., Buckley, S., Song, Y., Simmonds, P., Lee, M. L., Vučkovic, J.
2011
- **Thermal Conduction in Nanobeam Photonic Crystal Cavities**
Marconnet, A.M., Kodama, T., Gong, Y., Vuckovic, J., Goodson, K.E.
2011
- **(Solid state) cavity QED and applications**
Vuckovic, J.
2011
- **Strong enhancement of direct-transition photoluminescence with highly tensile-strained Ge grown by molecular beam epitaxy, *Applied Physics Letters***
Huo, Y., Lin, H., Chen, R., Makarova, M., Rong, Y., Li, M., Vuckovic, J.
2011; 98
- **Cavity-enhanced direct band electroluminescence near 1550nm from germanium microdisk resonator diode on silicon *Applied Physics Letters***
Cheng, S., Shambat, G., Lu, J., Yu, H., Saraswat, K., Kamins, T., Vuckovic, J.
2011; 98
- **Fabrication and Analysis of Epitaxially Grown Ge_{1-x}Sn_x Microdisk Resonator with 20-nm Free Spectral Range *IEEE Photonics Technology Letters***
Cho, S., Chen, R., Koo, S., Shambat, G., Park, N., Vučković, J.
2011; 23 (20): 1535-1537
- **Multiply resonant photonic crystal cavities for nonlinear frequency conversion *Optics Express Focus Issue: "Collective phenomena in photonic, plasmonic and hybrid structures"***
Rivoire, K., Buckley, S., Vuckovic, J.
2011; 19: 22198-22207
- **The effect of photo-generated carriers on the spectral diffusion of a quantum dot coupled to a photonic crystal cavity *Physical Review B***
Majumdar, A., Kim, E., Vuckovic, J.
2011; 84
- **A hybrid quantum photonic interface for solid state qubits *Conference on Laser Resonators and Beam Control XIII***
Englund, D., Li, L., Hodges, J., Shields, B., Rivoire, K., Hatami, F., Vuckovic, J., Park, H., Lukin, M.
SPIE-INT SOC OPTICAL ENGINEERING.2011
- **Quantum dots in optical nanocavities: from cavity QED to device applications**
Vuckovic, J.
2011
- **Ge Quantum Well Resonator Modulators**
Edwards, Elizabeth, H., Audet, Ross, M., Fei, E., Shambat, G., Schaevitz, Rebecca, K., Rong, Y., Vuckovic, J.
2011
- **Multi-photon State Generation from Strongly Coupled Quantum Dot-Cavity System**
Bajcsy, M., Majumdar, A., Vuckovic, J.
2011
- **Ultra-low threshold electrically pumped quantum dot photonic crystal nanocavity laser *Nature Photonics***
Ellis, B., Mayer, M., Shambat, G., Sarmiento, T., Harris, J., Haller, E., Vuckovic, J.
2011; 5: 297-300
- **Multiply resonant photonic crystal nanocavities *Applied Physics Letters***
Rivoire, K., Buckley, S., Vuckovic, J.
2011; 99
- **Quantum dots in optical nanocavities: from cavity QED to device applications**
Vuckovic, J.

2011

- **IFC e-seminar**

Vuckovic, J.

2011

- **Nonlinear optics at the single photon level in optical nanocavities**

Vuckovic, J.

2011

- **Fast quantum dot single photon source triggered at telecommunications wavelength**

Rivoire, K., Buckley, S., Majumdar, A., Kim, H., Petroff, P., Vuckovic, J.

2011

- **Direct band Ge photoluminescence at 1.6 μm coupled to Ge-on-Si microdisk resonator**

Shambat, G., Cheng, S., Lu, J., Nishi, Y., Vu#kovi#, J.

2011

- **Quantum dot-nanocavity devices for information processing**

Vuckovic, J., Majumdar, A., Rivoire, K., Kim, E., Faraon, A., Englund, D.

2011

- **Quantum nanophotonics** *Azoquantum.com (Quantum science thought leaders series)*

Vuckovic, J.

2011

- **Low power consumption electrically pumped photonic crystal membrane devices** *Conference on Active Photonic Materials IV*

Ellis, B., Shambat, G., Mayer, M., Petykiewicz, J., Sarmiento, T., Harris, J., Haller, E. E., Vuckovic, J.

SPIE-INT SOC OPTICAL ENGINEERING.2011

- **Multiply Resonant Photonic Crystal Nanocavities with Broadband Tunability** *Conference on Lasers and Electro-Optics (CLEO)*

Buckley, S., Rivoire, K., Vuckovic, J.

IEEE.2011

- **Nonlinear optics in photonic crystal nanocavities: from light sources to quantum photonic interfaces** *Conference on Photonic and Phononic Properties of Engineered Nanostructures*

Rivoire, K., Buckley, S., Majumdar, A., Shambat, G., Vuckovic, J.

SPIE-INT SOC OPTICAL ENGINEERING.2011

- **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

- **Off-resonant quantum dot-cavity interaction** *Conference on Lasers and Electro-Optics (CLEO)*

Majumdar, A., Kim, E., Gong, Y., Faraon, A., Englund, D., Vuckovic, J.

IEEE.2011

- **Ultra-low power fiber-coupled gallium arsenide photonic crystal cavity electro-optic modulator** *Conference on Lasers and Electro-Optics (CLEO)*

Shambat, G., Ellis, B., Majumdar, A., Vuckovic, J.

IEEE.2011

- **Direct band Ge photoluminescence at 1.6 μm coupled to Ge-on-Si microdisk resonators** *Conference on Lasers and Electro-Optics (CLEO)*

Shambat, G., Cheng, S., Lu, J., Nishi, Y., Vuckovic, J.

IEEE.2011

- **Low Power Resonant Optical Excitation of an Optomechanical Cavity** *Conference on Lasers and Electro-Optics (CLEO)*

Gong, Y., Rundquist, A., Majumdar, A., Vuckovic, J.

IEEE.2011

- **Second harmonic generation in GaP photonic crystal waveguides** *IEEE Photonics Conference (PHO)*

Rivoire, K., Buckley, S., Hatami, F., Vuckovic, J.

IEEE.2011: 381–382

- **Ultra-low Threshold Electrically Pumped Quantum Dot Photonic Crystal Nanocavity Laser** *Conference on Lasers and Electro-Optics (CLEO)*
Ellis, B., Mayer, M. A., Shambat, G., Sarmiento, T., Harris, J., Haller, E. E., Vuckovic, J.
IEEE.2011
- **Direct band Ge photoluminescence near 1.6 μm coupled to Ge-on-Si microdisk resonators** *APPLIED PHYSICS LETTERS*
Shambat, G., Cheng, S., Lu, J., Nishi, Y., Vuckovic, J.
2010; 97 (24)
- **Deterministic Coupling of a Single Nitrogen Vacancy Center to a Photonic Crystal Cavity** *NANO LETTERS*
Englund, D., Shields, B., Rivoire, K., Hatami, F., Vuckovic, J., Park, H., Lukin, M. D.
2010; 10 (10): 3922-3926
- **Analysis of the Purcell effect in photonic and plasmonic crystals with losses** *OPTICS EXPRESS*
Iwase, H., Englund, D., Vuckovic, J.
2010; 18 (16): 16546-16560
- **Proposal for high-speed and high-fidelity electron-spin initialization in a negatively charged quantum dot coupled to a microcavity in a weak external magnetic field** *PHYSICAL REVIEW A*
Majumdar, A., Lin, Z., Faraon, A., Vuckovic, J.
2010; 82 (2)
- **Differential reflection spectroscopy of a single quantum dot strongly coupled to a photonic crystal cavity** *APPLIED PHYSICS LETTERS*
Kim, E. D., Majumdar, A., Kim, H., Petroff, P., Vuckovic, J.
2010; 97 (5)
- **Sum-frequency generation in doubly resonant GaP photonic crystal nanocavities** *APPLIED PHYSICS LETTERS*
Rivoire, K., Lin, Z., Hatami, F., Vuckovic, J.
2010; 97 (4)
- **Linewidth broadening of a quantum dot coupled to an off-resonant cavity** *PHYSICAL REVIEW B*
Majumdar, A., Faraon, A., Kim, E. D., Englund, D., Kim, H., Petroff, P., Vuckovic, J.
2010; 82 (4)
- **Observation of Transparency of Erbium-doped Silicon nitride in photonic crystal nanobeam cavities** *OPTICS EXPRESS*
Gong, Y., Makarova, M., Yerci, S., Li, R., Stevens, M. J., Baek, B., Nam, S. W., Dal Negro, L., Vuckovic, J.
2010; 18 (13): 13863-13873
- **Photoluminescence from silicon dioxide photonic crystal cavities with embedded silicon nanocrystals** *PHYSICAL REVIEW B*
Gong, Y., Ishikawa, S., Cheng, S., Gunji, M., Nishi, Y., Vuckovic, J.
2010; 81 (23)
- **Tunable-wavelength second harmonic generation from GaP photonic crystal cavities coupled to fiber tapers** *OPTICS EXPRESS*
Shambat, G., Rivoire, K., Lu, J., Hatami, F., Vuckovic, J.
2010; 18 (12): 12176-12184
- **Electrically pumped photonic crystal nanocavity light sources using a laterally doped p-i-n junction** *APPLIED PHYSICS LETTERS*
Ellis, B., Sarmiento, T., Mayer, M., Zhang, B., Harris, J., Haller, E., Vuckovic, J.
2010; 96 (18)
- **Nanobeam photonic crystal cavity quantum dot laser** *OPTICS EXPRESS*
Gong, Y., Ellis, B., Shambat, G., Sarmiento, T., Harris, J. S., Vuckovic, J.
2010; 18 (9): 8781-8789
- **Coupled fiber taper extraction of 1.53 μm photoluminescence from erbium doped silicon nitride photonic crystal cavities** *OPTICS EXPRESS*
Shambat, G., Gong, Y., Lu, J., Yerci, S., Li, R., Dal Negro, L., Vuckovic, J.
2010; 18 (6): 5964-5973
- **Generation of nonclassical states of light via photon blockade in optical nanocavities** *PHYSICAL REVIEW A*
Faraon, A., Majumdar, A., Vuckovic, J.

2010; 81 (3)

- **Theory of electro-optic modulation via a quantum dot coupled to a nano-resonator** *OPTICS EXPRESS*
Majumdar, A., Manquest, N., Faraon, A., Vuckovic, J.
2010; 18 (5): 3974-3984
- **Resonant Excitation of a Quantum Dot Strongly Coupled to a Photonic Crystal Nanocavity** *PHYSICAL REVIEW LETTERS*
Englund, D., Majumdar, A., Faraon, A., Toishi, M., Stoltz, N., Petroff, P., Vuckovic, J.
2010; 104 (7)
- **Inverse design of nanophotonic structures using complementary convex optimization** *OPTICS EXPRESS*
Lu, J., Vuckovic, J.
2010; 18 (4): 3793-3804
- **Linewidth narrowing and Purcell enhancement in photonic crystal cavities on an Er-doped silicon nitride platform** *OPTICS EXPRESS*
Gong, Y., Makarova, M., Yerci, S., Li, R., Stevens, M. J., Baek, B., Nam, S. W., Hadfield, R. H., Dorenbos, S. N., Zwiller, V., Vuckovic, J., Dal Negro, L.
2010; 18 (3): 2601-2612
- **Fast Electrical Control of a Quantum Dot Strongly Coupled to a Photonic-Crystal Cavity** *PHYSICAL REVIEW LETTERS*
Faraon, A., Majumdar, A., Kim, H., Petroff, P., Vuckovic, J.
2010; 104 (4)
- **Photonic crystal cavities in silicon dioxide** *APPLIED PHYSICS LETTERS*
Gong, Y., Vuckovic, J.
2010; 96 (3)
- **Enhanced two-photon processes in single quantum dots inside photonic crystal nanocavities** *PHYSICAL REVIEW B*
Lin, Z., Vuckovic, J.
2010; 81 (3)
- **Inverse design of nanophotonics structures using complementary convex optimization**
Vuckovic, J.
2010
- **Nonlinear frequency conversion in GaP photonic crystal nanocavities**
Rivoire, K., Lin, Z., Hatami, F., Masselink, W., Ted, Vu#kovi#, J.
2010
- **Differential Reflection Spectroscopy of Photonic Crystal Cavities Containing Coupled InAs Quantum Dots**
Kim, Erik, D., Majumdar, A., Kim, J. V., Petroff, P.
2010
- **Quantum and classical information processing with a single quantum dot in photonic crystal cavity**
Majumdar, A., Faraon, A., Lin, C., Manquest, N., Englund, D., Fushman, I., Vuckovic, J.
2010
- **Two-Photon Absorption and Emission in Quantum Dots coupled to Photonic Crystal Nanocavities** *Phys. Rev. B*
Lin, Z., Vuckovic, J.
2010; 81
- **Analysis of Purcell effect in photonic and plasmonic crystals with losses** *Optics Express*
Iwase, H., Englund, D., Vu#kovi#, J.
2010; 18 (16)
- **Deterministic coupling of a single nitrogen vacancy center to a photonic crystal nanocavity** *Nano-letters*
Englund, D., Shields, B., Rivoire, K., Vuckovic, J., Hatami, F., Park, H.
2010; 10 (10)
- **Active photonic crystal devices: from switches and modulators controlled with sub-fJ energies, to silicon-based light sources**
Vuckovic, J.

2010

- **Fast and energy efficient optical switches and modulators based on photonic crystals**

Vuckovic, J.

2010

- **Nanobeam Photonic Crystal Cavities**

Gong, Y., Ellis, B., Sarmiento, T., Harris, James, S., Vu#kovi#, J.

2010

- **Caltech**

Vuckovic, J.

2010

- **Optimization of Light emission from Silicon nanocrystals grown by PECVD**

Ishikawa, S., Cheng, S., Gong, Y., Vuckovic, J., Nishi, Y.

2010

- **Room temperature 1.6 μ m photoluminescence and electroluminescence from in-situ doped n-type epi-Ge on Si**

Cheng, S., Lu, J., Shambat, G., Yu, H., Saraswat, K., Vuckovic, J.

2010

- **Tunable light sources in the visible and near infrared based on fiber taper coupled photonic crystal cavities**

Shambat, G., Gong, Y., Rivoire, K., Lu, J., Yerci, S., Li, R., Vuckovic, J.

2010

- **Nonlinear frequency conversion in GaP photonic crystal cavities**

Rivoire, K., Lin, Z., Hatami, F., Vu#kovic, J.

2010

- **Observation of linewidth narrowing in erbium-doped silicon nitride coupled to photonic crystal nanobeam cavities**

Gong, Y., Makarova, M., Yerci, S., Li, R., Negro, L. D., Vuckovic, J.

2010

- **Classical and quantum information processing with a single quantum dot in a photonic crystal nanocavity**

Vuckovic, J., Majumdar, A.

2010

- **Photonic Crystal and Plasmonic Silicon Based Light Sources *IEEE Journal on Selected Topics in Quantum Electronics, Special Issue on Silicon Photonics***

Makarova, M., Gong, Y., Cheng, S., Nishi, Y., Yerci, S., Li, R., Vuckovic, J.

2010; 16: 132-140

- **Observation of Transparency of Er-doped Silicon nitride in photonic crystal nanobeam cavities *Optics Express***

Gong, Y., Makarova, M., Yerci, S., Li, R., Stevens, M., Baek, B., Vuckovic, J.

2010; 18 (13): 13863-13873

- **MARCO IFC e-seminar**

Vuckovic, J.

2010

- **Quantum dots in nanocavities: from cavity QED to optical switches**

Vuckovic, J.

2010

- **Nonlinear optics (at a single photon level) in photonic crystal nanocavities**

Vuckovic, J., Rivoire, K., Majumdar, A., Fushman, I., Englund, D., Faraon, A.

2010

- **Silicon nanocavity based light sources**

Vuckovic, J.

2010

- **Fiber taper collection of photoluminescence at 1.5 μm from erbium doped silicon nitride photonic crystal cavities**
Shambat, G., Gong, Y., Lu, J., Negro, L. D., Vuckovic, J.
2010
- **Inverse Design of Nanophotonic Structures using Complementary Convex Optimization**
Lu, J., Vuckovic, J., Boyd, S.
2010
- **Electro-optic modulation with a single quantum dot strongly coupled to a nanocavity**
Majumdar, A., Faraon, A., Manquest, N., Kim, H., Petroff, P., Vuckovic, J.
2010
- **Photoluminescence from silicon dioxide photonic crystal cavities with embedded silicon nanocrystals**
Gong, Y., Ishikawa, S., Cheng, S., Nishi, Y., Vuckovic, J.
2010
- **Coupled fiber taper extraction of 1.53 μm photoluminescence from erbium doped silicon nitride photonic crystal cavities** *Optics Express*
Shambat, G., Gong, Y., Lu, J., Yerci, S., Li, R., Negro, L. D., Vuckovic, J.
2010; 18 (6): 5964-5973
- **Generation of non-classical states of light via photon blockade in optical nanocavities** *Physical Review A*
Faraon, A., Majumdar, A., Vuckovic, J.
2010; 81
- **Direct band Ge photoluminescence near 1.6 μm coupled to Ge-on-Si microdisk resonators** *Applied Physics Letters*
Shambat, G., Cheng, S., Lu, J., Nishi, Y., Vuckovic, J.
2010; 97
- **Physics Colloquium**
Vuckovic, J.
2010
- **Quantum dots in photonic crystals for classical and quantum information processing**
Vuckovic, J.
2010
- **Fast electrical control of a quantum dot strongly coupled to a photonic crystal cavity** *Physical Review Letters*
Faraon, A., Majumdar, A., Kim, H., Petroff, P., Vuckovic, J.
2010; 104
- **Proposal for high-speed and high-fidelity electron spin initialization in a negatively charged quantum dot coupled to a microcavity in a weak external magnetic field** *Phys. Rev. A*
Majumdar, A., Lin, Z., Faraon, A., Vuckovic, J.
2010; 81
- **Fast and energy efficient (silicon CMOS compatible) sources and modulators based on photonic crystals.**
Vuckovic, J.
2010
- **Doubly resonant photonic crystal cavities**
Buckley, S., Rivoire, K., Vuckovic, J.
2010
- **Electrically pumped photonic crystal nanocavities using a laterally doped p-i-n junction** *Applied Physics Letters*
Ellis, B., Sarmiento, T., Mayer, M., Zhang, B., Harris, J., Haller, E., Vuckovic, J.
2010; 96
- **Linewidth narrowing and luminescence enhancement in photonic crystal cavities and plasmonic gratings on an Er-doped silicon nitride platform** *Conference on Photonic and Phononic Crystal Materials and Devices X*

- Gong, Y., Makarova, M., Yerci, S., Li, R., Stevens, M., Baek, B., Nam, S. W., Dal Negro, L., Vuckovic, J.
SPIE-INT SOC OPTICAL ENGINEERING.2010
- **Integrated photonic crystal networks with coupled quantum dots** *Conference on Advances in Photonics of Quantum Computing, Memory, and Communication III*
Faraon, A., Majumdar, A., Englund, D., Lin, Z., Vuckovic, J.
SPIE-INT SOC OPTICAL ENGINEERING.2010
 - **Photonic Crystal and Plasmonic Silicon-Based Light Sources** *IEEE JOURNAL OF SELECTED TOPICS IN QUANTUM ELECTRONICS*
Makarova, M., Gong, Y., Cheng, S., Nishi, Y., Yerci, S., Li, R., Dal Negro, L., Vuckovic, J.
2010; 16 (1): 132-140
 - **Electrically Pumped Photonic Crystal Nanocavities Using a Laterally Doped p-i-n Junction** *Conference on Lasers and Electro-Optics (CLEO)/Quantum Electronics and Laser Science Conference (QELS)*
Ellis, B., Sarmiento, T., Mayer, M., Stone, P., Beeman, J., Zhang, B., Dubon, O., Haller, E., Yamamoto, Y., Harris, J., Vuckovic, J.
IEEE.2010
 - **Quantum and classical information processing with a single quantum dot in photonic crystal cavity** *22nd International Conference on Indium Phosphide and Related Materials*
Majumdar, A., Faraon, A., Englund, D., Kim, E., Fushman, I., Kim, H., Petroff, P., Vuckovic, J.
IEEE.2010
 - **Inverse Design of Nanophotonic Structures using Complementary Convex Optimization** *Conference on Lasers and Electro-Optics (CLEO)/Quantum Electronics and Laser Science Conference (QELS)*
Lu, J., Vuckovic, J.
IEEE.2010
 - **Optical manipulation of quantum dot excitons strongly coupled to photonic crystal cavities** *Conference on Advances in Photonics of Quantum Computing, Memory, and Communication III*
Majumdar, A., Faraon, A., Englund, D., Manquest, N., Kim, H., Petroff, P., Vuckovic, J.
SPIE-INT SOC OPTICAL ENGINEERING.2010
 - **Optimal pulse to generate non-classical photon states via photon blockade** *Conference on Advances in Photonics of Quantum Computing, Memory, and Communication III*
Majumdar, A., Faraon, A., Vuckovic, J.
SPIE-INT SOC OPTICAL ENGINEERING.2010
 - **Characterizations of direct band gap photoluminescence and electroluminescence from epi-Ge on Si** *4th SiGe, Ge, and Related Compounds - Materials, Processing and Devices Symposium held at the 218th Meeting of the Electrochemical-Society (ECS)*
Cheng, S., Shambat, G., Lu, J., Yu, H., Saraswat, K., Vuckovic, J., Nishi, Y.
ELECTROCHEMICAL SOC INC.2010: 545-54
 - **Linewidth narrowing and Purcell enhancement in photonic crystal cavities on an Er-doped silicon nitride platform** *Conference on Lasers and Electro-Optics (CLEO)/Quantum Electronics and Laser Science Conference (QELS)*
Gong, Y., Makarova, M., Yerci, S., Li, R., Dal Negro, L., Vuckovic, J.
IEEE.2010
 - **Fiber taper collection of photoluminescence at 1.54 μm from erbium doped silicon nitride photonic crystal cavities** *Conference on Lasers and Electro-Optics (CLEO)/Quantum Electronics and Laser Science Conference (QELS)*
Shambat, G., Gong, Y., Lu, J., Yerci, S., Li, R., Dal Negro, L., Vuckovic, J.
IEEE.2010
 - **Second harmonic generation in gallium phosphide photonic crystal nanocavities with ultralow CW pump power** *Conference on Lasers and Electro-Optics (CLEO)/Quantum Electronics and Laser Science Conference (QELS)*
Rivoire, K., Lin, Z., Hatami, F., Masselink, W. T., Vuckovic, J.
IEEE.2010
 - **Second harmonic generation in gallium phosphide photonic crystal nanocavities with ultralow continuous wave pump power** *OPTICS EXPRESS*
Rivoire, K., Lin, Z., Hatami, F., Masselink, W. T., Vuckovic, J.
2009; 17 (25): 22609-22615

- **Photonic quantum technologies** *NATURE PHOTONICS*
O'Brien, J. L., Furusawa, A., Vuckovic, J.
2009; 3 (12): 687-695
- **Enhanced Light Emission from Erbium Doped Silicon Nitride in Plasmonic Metal-Insulator-Metal Structures** *OPTICS EXPRESS*
Gong, Y., Yerci, S., Li, R., Dal Negro, L., Vuckovic, J.
2009; 17 (23): 20642-20650
- **An optical modulator based on a single strongly coupled quantum dot - cavity system in a p-i-n junction** *OPTICS EXPRESS*
Englund, D., Faraon, A., Majumdar, A., Stoltz, N., Petroff, P., Vuckovic, J.
2009; 17 (21): 18651-18658
- **Lithographic positioning of fluorescent molecules on high-Q photonic crystal cavities** *APPLIED PHYSICS LETTERS*
Rivoire, K., Kinkhabwala, A., Hatami, F., Masselink, W. T., Avlasevich, Y., Muellen, K., Moerner, W. E., Vuckovic, J.
2009; 95 (12)
- **Electrically controlled modulation in a photonic crystal nanocavity** *OPTICS EXPRESS*
Englund, D., Ellis, B., Edwards, E., Sarmiento, T., Harris, J. S., Miller, D. A., Vuckovic, J.
2009; 17 (18): 15409-15419
- **High-brightness single photon source from a quantum dot in a directional-emission nanocavity** *OPTICS EXPRESS*
Toishi, M., Englund, D., Faraon, A., Vuckovic, J.
2009; 17 (17): 14618-14626
- **Local temperature control of photonic crystal devices via micron-scale electrical heaters** *APPLIED PHYSICS LETTERS*
Faraon, A., Vuckovic, J.
2009; 95 (4)
- **Room temperature 1.6 microm electroluminescence from Ge light emitting diode on Si substrate.** *Optics express*
Cheng, S., Lu, J., Shambat, G., Yu, H., Saraswat, K., Vuckovic, J., Nishi, Y.
2009; 17 (12): 10019-10024
- **Time-resolved lasing action from single and coupled photonic crystal nanocavity array lasers emitting in the telecom band** *JOURNAL OF APPLIED PHYSICS*
Englund, D., Altug, H., Vuckovic, J.
2009; 105 (9)
- **Quantum dots in photonic crystals: From quantum information processing to single photon nonlinear optics** *PHOTONICS AND NANOSTRUCTURES-FUNDAMENTALS AND APPLICATIONS*
Englund, D., Fushman, I., Faraon, A., Vuckovic, J.
2009; 7 (1): 56-62
- **Plasmonic enhancement of emission from Si-nanocrystals** *APPLIED PHYSICS LETTERS*
Gong, Y., Lu, J., Cheng, S., Nishi, Y., Vuckovic, J.
2009; 94 (1)
- **High Efficiency Solar Cells based on Spontaneous Emission Inhibition in Photonic Crystals** *Conference on Lasers and Electro-Optics/Quantum Electronics and Laser Science Conference (CLEO/QELS 2009)*
Ellis, B., Sarmiento, T., Harris, J., Vuckovic, J.
IEEE.2009: 2659-2660
- **Cavity QED in photonic crystals: from quantum information processing to single photon nonlinear optics**
Vuckovic, J.
2009
- **Photonic crystal nanocavities: from active nanophotonics, to quantum information processing and nonlinear optics at a single photon level**
Vuckovic, J.
2009
- **Electroluminescence from GeSi LED**

-
- Cheng, S., Shambat, G., Lu, J., Saraswat, K., Nishi, Y., Vuckovic, J.
2009
- **Fiber taper coupling to photoluminescent erbium-doped amorphous silicon nitride photonic crystal cavities**
Shambat, G., Lu, J., Gong, Y., Vuckovic, J.
2009
 - **Differential gain at 1.54 μm in Er-doped silicon nitride coupled to photonic crystal cavity**
Makarova, M., Gong, Y., Yerci, S., Li, R., Negro, L. D., Vuckovic, J.
2009
 - **Fast Electrical Control via Quantum Confined Stark Effect of a Strongly Coupled Quantum Dot in a Nano-Resonator**
Majumdar, A., Faraon, A., Kim, H., Petroff, P.
2009
 - **Electromagnetic Inverse Design**
Lu, J., Vuckovic, J.
2009
 - **Enhanced Light Emission from Erbium Doped Silicon Nitride in Plasmonic Metal-Insulator- Metal Structures**
Gong, Y., Yerci, S., Li, R., Negro, L. D., Vu#kovi#, J.
2009
 - **Efficient luminescence in highly tensile-strained germanium**
Huo, Y., Lin, H., Rong, Y., Makarova, M., Li, M., Chen, R., Vuckovic, J.
2009
 - **Differential gain at 1530 nm in Er-doped silicon nitride coupled to photonic crystal cavity**
Makarova, M., Gong, Y., Vuckovic, J., Yerci, S., Li, R., Negro, L. D.
2009
 - **Quantum Dot Spectroscopy by means of Non-resonant Dot-Cavity Coupling**
Majumdar, A., Faraon, A., Englund, D., Vuckovic, J.
2009
 - **Plasmonic Metal-Insulator-Metal Structures for Interaction with Erbium in Amorphous Silicon Nitride**
Gong, Y., Yerci, S., Negro, L. D., Vuckovic, J.
2009
 - **Photonic crystal nanocavities: from active nanophotonics, to quantum information processing and nonlinear optics at a single photon level**
Vuckovic, J.
2009
 - **Quantum dots in photonic crystals: from quantum information processing to single photon nonlinear optics**
Vuckovic, J.
2009
 - **Single photon nonlinear optics on photonic crystal chips** *SPIE Newsroom*
Englund, D., Faraon, A., Fushman, I., Vuckovic, J.
2009
 - **Cavity-Enhanced Two-Photon Processes in Quantum Dots and Applications to Quantum Information Science**
Lin, Z., Vuckovic, J.
2009
 - **Plasmonic enhancement of emission from silicon nanocrystals** *Applied Physics Letters*
Gong, Y., Lu, J., Cheng, S., Nishi, Y., Vuckovic, J.
2009; 94
 - **Erbium Doped Silicon Photonic Crystals for Light Sources and Amplifiers**
Vu#kovi#, J., Makarova, M., Gong, Y., Yerci, S., Li, R., Negro, L. D.

2009

- **Second Harmonic generation in Gallium Phosphide photonic crystal nanocavities with ultralow continuous wave pump power**
Rivoire, K., Lin, Z., Hatami, F., Masselink, W., Ted, Vuckovic, J.
2009
- **High Efficiency Solar Cells based on Spontaneous Emission Inhibition in Photonic Crystals**
Ellis, B., Sarmiento, T., Harris, J., Vuckovic, J.
2009
- **Electrically Driven Optical Modulator with a Strongly Coupled Quantum Dot**
Faraon, A., Majumdar, A., Kim, H., Petroff, P., Vuckovic, J.
2009
- **Optical probing and manipulation of single quantum dots in photonic crystal cavities**
Englund, D., Faraon, A., Fushman, I., Vuckovic, J.
2009
- **Quantum dots in photonic crystals: from quantum information processing to ultra-low energy optical switching**
Vuckovic, J.
2009
- **Room temperature 1.6 μm electroluminescence from Ge light emitting diode on Si substrate** *Optics Express*
Cheng, S., Lu, J., Shambat, G., Yu, H., Saraswat, K., Vuckovic, J.
2009; 17 (12): 10019-10024
- **Electrically controlled optical modulation in a photonic crystal circuit** *Optics Express*
Englund, D., Ellis, B., Sarmiento, T., Edwards, E., Miller, David, A. B., Harris, J., Vuckovic, J.
2009; 17: 15409-15419
- **An optical modulator based on a strongly coupled quantum dot-cavity system in a p-i-n junction** *Optics Express*
Englund, D., Faraon, A., Majumdar, A., Stoltz, N., Petroff, P., Vuckovic, J.
2009; 17: 18651-18658
- **Second harmonic generation in gallium phosphide photonic crystal nanocavities with ultralow continuous pump power** *Optics Express*
Rivoire, K., Lin, Z., Hatami, F., Masselink, W., Ted, Vuckovic, J.
2009; 17: 22609-22615
- **Photon blockade in a photonic crystal cavity with a strongly coupled quantum dot** *Conference on Advanced Optical Concepts in Quantum Computing, Memory, and Communication II*
Faraon, A., Fushman, I., Englund, D., Vuckovic, J.
SPIE-INT SOC OPTICAL ENGINEERING.2009
- **Electrically controlled single quantum dot switching in photonic crystal resonators** *Conference on Lasers and Electro-Optics/Quantum Electronics and Laser Science Conference (CLEO/QELS 2009)*
Faraon, A., Majumdar, A., Vuckovic, J.
IEEE.2009: 2311–2312
- **Engineering Anti-bunching via Photon Blockade in Photonic Crystal Cavity-Quantum Dot Systems** *Conference on Lasers and Electro-Optics/Quantum Electronics and Laser Science Conference (CLEO/QELS 2009)*
Majumdar, A., Faraon, A., Vuckovic, J.
IEEE.2009: 2054–2055
- **Quantum Dots in Photonic Crystals: From Single photon sources to single photon nonlinear optics** *Conference on Physics and Simulation of Optoelectronic Devices XVII*
Majumdar, A., Faraon, A., Englund, D., Fushman, I., Vuckovic, J.
SPIE-INT SOC OPTICAL ENGINEERING.2009
- **Single photon nonlinear optics in photonic crystals** *Conference on Advanced Optical Concepts in Quantum Computing, Memory, and Communication II*
Englund, D., Fushman, I., Faraon, A., Vuckovic, J.
SPIE-INT SOC OPTICAL ENGINEERING.2009

- **Probing High-Q Photonic Crystal Resonances With Fluorescent Molecules** *Conference on Lasers and Electro-Optics/Quantum Electronics and Laser Science Conference (CLEO/QELS 2009)*
Rivoire, K., Kinkhabwala, A., Moerner, W. E., Vuckovic, J., Hatami, F., Masselink, W. T., Avlasevich, Y., Muellen, K.
IEEE.2009: 2353–2354
- **Two-Photon Excitation and Emission in Quantum Dots coupled to Photonic Crystal Nanocavities** *Conference on Lasers and Electro-Optics/Quantum Electronics and Laser Science Conference (CLEO/QELS 2009)*
Lin, Z., Vuckovic, J.
IEEE.2009: 2313–2314
- **Ultrafast All-Optical Switching with a Single Quantum Dot** *Conference on Lasers and Electro-Optics/Quantum Electronics and Laser Science Conference (CLEO/QELS 2009)*
Englund, D., Faraon, A., Majumdar, A., Fushman, I., Vuckovic, J.
IEEE.2009: 2082–2083
- **Plasmonic Metal-Insulator-Metal Structures for Interaction with Silicon Nanocrystals** *Conference on Lasers and Electro-Optics/Quantum Electronics and Laser Science Conference (CLEO/QELS 2009)*
Gong, Y., Cheng, S., Nishi, Y., Vuckovic, J.
IEEE.2009: 1818–1819
- **Direct Band Gap Tensile-Strained Germanium** *Conference on Lasers and Electro-Optics/Quantum Electronics and Laser Science Conference (CLEO/QELS 2009)*
Huo, Y., Lin, H., Rong, Y., Makarova, M., Kamins, T. I., Vuckovic, J., Harris, J. S.
IEEE.2009: 824–825
- **Coherent generation of non-classical light on a chip via photon-induced tunnelling and blockade** *NATURE PHYSICS*
Faraon, A., Fushman, I., Englund, D., Stoltz, N., Petroff, P., Vuckovic, J.
2008; 4 (11): 859-863
- **Gallium phosphide photonic crystal nanocavities in the visible** *APPLIED PHYSICS LETTERS*
Rivoire, K., Faraon, A., Vuckovic, J.
2008; 93 (6)
- **Dipole induced transparency in waveguide coupled photonic crystal cavities** *OPTICS EXPRESS*
Faraon, A., Fushman, I., Englund, D., Stoltz, N., Petroff, P., Vuckovic, J.
2008; 16 (16): 12154-12162
- **Ultrafast photonic crystal lasers** *LASER & PHOTONICS REVIEWS*
Englund, D., Atlug, H., Ellis, B., Vuckovic, J.
2008; 2 (4): 264-274
- **Enhanced light emission in photonic crystal nanocavities with erbium-doped silicon nanocrystals (vol 92, art no 161107, 2008)** *APPLIED PHYSICS LETTERS*
Makarova, M., Sih, V., Warga, J., Li, R., Dal Negro, L., Vuckovic, J.
2008; 92 (21)
- **Controlled phase shifts with a single quantum dot** *SCIENCE*
Fushman, I., Englund, D., Faraon, A., Stoltz, N., Petroff, P., Vuckovic, J.
2008; 320 (5877): 769-772
- **Enhanced light emission in photonic crystal nanocavities with Erbium-doped silicon nanocrystals** *APPLIED PHYSICS LETTERS*
Makarova, M., Sih, V., Warga, J., Li, R., Dal Negro, L., Vuckovic, J.
2008; 92 (16)
- **Local tuning of photonic crystal cavities using chalcogenide glasses** *APPLIED PHYSICS LETTERS*
Faraon, A., Englund, D., Bulla, D., Luther-Davies, B., Eggleton, B. J., Stoltz, N., Petroff, P., Vuckovic, J.
2008; 92 (4)
- **Spontaneous emission control in high-extraction efficiency plasmonic crystals** *OPTICS EXPRESS*
Iwase, H., Englund, D., Vuckovic, J.

2008; 16 (1): 426-434

- **Silicon Based Colloidal Quantum Dot Photonic Crystal Light Emitters at Telecom Wavelengths** *Conference on Lasers and Electro-Optics/Quantum Electronics and Laser Science Conference (CLEO/QELS 2008)*
Ellis, B., Cademartiri, L., Fushman, I., Ozin, G. A., Vuckovic, J.
IEEE.2008: 1718–1719
- **Quantum dots in photonic crystals: from quantum information processing to single photon nonlinear optics**
Vuckovic, J.
2008
- **Gallium phosphide photonic crystal cavities in the visible**
Rivoire, K., Faraon, A., Vuckovic, J.
2008
- **Controlling photonic crystal cavity reflectivity with a single quantum dot: from quantum information processing to single photon nonlinear optics**
Vuckovic, J., Faraon, A., Fushman, I., Englund, D.
2008
- **Quantum dots in photonic crystals: from quantum information processing to single photon nonlinear optics**
Vuckovic, J.
2008
- **Probing a quantum dot in the weak coupling regime**
Fushman, I., Englund, D., Faraon, A., Vuckovic, J.
2008
- **Quantum dots in photonic crystals: from quantum information processing to single photon nonlinear optics**
Vuckovic, J.
2008
- **Silicon Nanophotonics**
Englund, D., Vuckovic, J.
2008
- **Classical and quantum light sources based on photonic crystals**
Englund, D., Vuckovic, J.
2008
- **Cavity QED, single photon nonlinear optics, and quantum information processing with quantum dots in photonic crystals**
Vuckovic, J., Englund, D., Faraon, A., Fushman, I.
2008
- **Single photon nonlinear optics with quantum dots in photonic crystal resonators**
Faraon, A., Englund, D., Fushman, I., Vuckovic, J.
2008
- **Quantum dot -photonic crystal devices for quantum information processing**
Faraon, A., Fushman, I., Englund, D., Vuckovic, J.
2008
- **Quantum information processing on photonic crystal chips**
Englund, D., Faraon, A., Fushman, I., Vuckovic, J.
2008
- **Coherent access of a quantum dot strongly coupled to a nanocavity**
Englund, D., Faraon, A., Fushman, I., Vuckovic, J.
2008
- **Single photon nonlinear optics with quantum dots in photonic crystal resonators**
Faraon, A., Englund, D., Fushman, I., Stoltz, N., Petroff, P., Vuckovic, J.

2008

- **Dipole induced transparency in waveguide coupled photonic crystal cavities**
Faraon, A., Fushman, I., Englund, D., Stoltz, N., Petroff, P., Vuckovic, J.
2008
- **Gallium Phosphide Photonic Crystal Nanocavities in the Visible**
Rivoire, K., Faraon, A., Vuckovic, J.
2008
- **Plasmonic gratings for interaction with quantum emitters**
Gong, Y., Lu, J., Cheng, S., Nishi, Y., Vuckovic, J.
2008
- **Quantum information processing with quantum dots in photonic crystals**
Vuckovic, J., Englund, D., Faraon, A., Fushman, I., Sih, V.
2008
- **Ultrafast photonic crystal nanocavity lasers and optical switches**
Vuckovic, J., Englund, D., Fushman, I., Ellis, B., Altug, H.
2008
- **Controlled phase shift with a single quantum dot** *Science*
Fushman, I., Englund, D., Faraon, A., Stoltz, N., Petroff, P., Vuckovic, J.
2008; 320: 769-772
- **Gallium-Phosphide Photonic Crystal Nanocavities in the Visible** *Applied Physics Letters*
Rivoire, K., Faraon, A., Vuckovic, J.
2008; 93
- **Spontaneous emission control in plasmonic crystal based on InP-TiO-Au-TiO-Si heterostructure**
Iwase, H., Englund, D., Vuckovic, J.
2008
- **Si-based colloidal quantum dot photonic crystal light emitters at telecom wavelengths**
Ellis, B., Cademartiri, L., Ozin, G., Vuckovic, J.
2008
- **Realization of giant optical nonlinearities in a quantum dot coupled to a nanocavity**
Englund, D., Faraon, A., Fushman, I., Stoltz, N., Petroff, P., Vuckovic, J.
2008
- **Quantum information processing on photonic crystal chips** *SPIE Newsroom*
Englund, D., Faraon, A., Fushman, I., Vuckovic, J.
2008
- **Spontaneous emission control in high extraction efficiency plasmonic crystals** *Optics Express*
Iwase, H., Englund, D., Vuckovic, J.
2008; 16 (1): 426-434
- **Coherent generation of nonclassical light on a chip via photon-induced tunneling and blockade** *Nature Physics*
Faraon, A., Fushman, I., Englund, D., Stoltz, N., Petroff, P., Vuckovic, J.
2008; 4: 859 - 863
- **Ultrafast photonic crystal nanocavity lasers and, optical switches** *Conference on Physics and Simulation of Optoelectronic Devices XVI*
Fushman, I., Englund, D., Altug, H., Ellis, B., Faraon, A., Vuckovic, J.
SPIE-INT SOC OPTICAL ENGINEERING.2008
- **Plasmonic Nanocavity for Interaction with Colloidal Quantum Dots** *Conference on Lasers and Electro-Optics/Quantum Electronics and Laser Science Conference (CLEO/QELS 2008)*
Gong, Y., Vuckovic, J.

IEEE.2008: 3627–3628

- **Coherent Probing and Saturation of a Strongly Coupled Quantum Dot** *Conference on Lasers and Electro-Optics/Quantum Electronics and Laser Science Conference (CLEO/QELS 2008)*
Englund, D., Faraon, A., Fushman, I., Vuckovic, J.
IEEE.2008: 3637–3638
- **Quantum dot-photonic crystal chips for quantum information processing** *Conference on Advanced Optical Concepts in Quantum Computing, Memory and Communication*
Faraon, A., Englund, D., Fushman, I., Sih, V., Vuckovic, J.
SPIE-INT SOC OPTICAL ENGINEERING.2008
- **Enhanced Erbium Emission in Photonic Crystal Nanocavities** *Conference on Lasers and Electro-Optics/Quantum Electronics and Laser Science Conference (CLEO/QELS 2008)*
Makarova, M., Sih, V., Warga, J., Dal Negro, L., Vuckovic, J.
IEEE.2008: 1431–1432
- **Photonic crystal chips for optical interconnects and quantum information processing** *Conference on Photonic Crystal Materials and Devices VII*
Englund, D., Faraon, A., Fushman, I., Ellis, B., Altug, H., Vuckovic, J.
SPIE-INT SOC OPTICAL ENGINEERING.2008
- **Local tuning of photonic crystal cavities using chalcogenide glasses** *Conference on Lasers and Electro-Optics/Quantum Electronics and Laser Science Conference (CLEO/QELS 2008)*
Faraon, A., Englund, D., Bulla, D., Luther-Davies, B., Eggleton, B. J., Stoltz, N., Petroff, P., Vuckovic, J.
IEEE.2008: 851–852
- **Probing the interaction between a single quantum dot and a photonic crystal cavity** *34th International Symposium on Compound Semiconductors*
Fushman, I., Englund, D., Faraon, A., Vuckovic, J.
WILEY-VCH VERLAG GMBH.2008: 2808–15
- **Photonic crystal chips for optical communications and quantum information processing** *Conference on Active Photonic Crystals II*
Englund, D., Fushman, I., Faraon, A., Ellis, B., Vuckovic, J.
SPIE-INT SOC OPTICAL ENGINEERING.2008
- **Controlling cavity reflectivity with a single quantum dot** *NATURE*
Englund, D., Faraon, A., Fushman, I., Stoltz, N., Petroff, P., Vuckovic, J.
2007; 450 (7171): 857-861
- **Efficient terahertz room-temperature photonic crystal nanocavity laser** *APPLIED PHYSICS LETTERS*
Englund, D., Altug, H., Fushman, I., Vuckovic, J.
2007; 91 (7)
- **Low-threshold surface-passivated photonic crystal nanocavity laser** *APPLIED PHYSICS LETTERS*
Englund, D., Altug, H., Vuckovic, J.
2007; 91 (7)
- **Genetic optimization of photonic bandgap structures** *OPTICS EXPRESS*
Goh, J., Fushman, I., Englund, D., Vuckovic, J.
2007; 15 (13): 8218-8230
- **Local quantum dot tuning on photonic crystal chips** *APPLIED PHYSICS LETTERS*
Faraon, A., Englund, D., Fushman, I., Vuckovic, J., Stoltz, N., Petroff, P.
2007; 90 (21)
- **Analysis of a quantum nondemolition measurement scheme based on Kerr nonlinearity in photonic crystal waveguides** *OPTICS EXPRESS*
Fushman, I., Vuckovic, J.
2007; 15 (9): 5559-5571
- **Generation and transfer of single photons on a photonic crystal chip** *OPTICS EXPRESS*
Englund, D., Faraon, A., Zhang, B., Yamamoto, Y., Vuckovic, J.
2007; 15 (9): 5550-5558

- **Dynamics of quantum dot photonic crystal lasers** *APPLIED PHYSICS LETTERS*
Ellis, B., Fushman, I., Englund, D., Zhang, B., Yamamoto, Y., Vuckovic, J.
2007; 90 (15)
- **Ultrafast nonlinear optical tuning of photonic crystal cavities** *APPLIED PHYSICS LETTERS*
Fushman, I., Waks, E., Englund, D., Stoltz, N., Petroff, P., Vuckovic, J.
2007; 90 (9)
- **Efficient photonic crystal cavity-waveguide couplers** *APPLIED PHYSICS LETTERS*
Faraon, A., Waks, E., Englund, D., Fushman, I., Vuckovic, J.
2007; 90 (7)
- **Design of plasmon cavities for solid-state cavity quantum electrodynamics applications** *APPLIED PHYSICS LETTERS*
Gong, Y., Vuckovic, J.
2007; 90 (3)
- **Ultra Fast Nonlinear Optical Tuning of Photonic Crystal Cavities** *Conference on Lasers and Electro-Optics/Quantum Electronics and Laser Science Conference*
Fushman, I., Englund, D., Vuckovic, J., Waks, E., Stoltz, N., Petroff, P.
IEEE.2007: 1718–1719
- **Efficient ultrafast photonic crystal lasers in GaAs and InP**
Englund, D., Fushman, I., Altug, H., Vuckovic, J.
2007
- **Analytic Photonic Crystal Cavity Design**
Englund, D., Fushman, I., Vuckovic, J.
2007
- **Ultrafast nonlinear optical tuning of photonic crystal cavities**
Fushman, I., Englund, D., Vuckovic, J., Waks, E., Stoltz, N., Petroff, P.
2007
- **Plasmon cavities for solid state cavity QED**
Gong, Y., Vuckovic, J.
2007
- **Ultra Fast Nonlinear Optical Tuning of Photonic Crystal Cavities** *Applied Physics Letters, Also highlighted in Nature Photonics*
Fushman, I., Waks, E., Englund, D., Stoltz, N., Petroff, P., Vuckovic, J.
2007; 90, 1: 203
- **Quantum networking with quantum dots coupled to micro-cavities**
Waks, E., Sridharan, D., Vuckovic, J.
2007
- **Cavity QED with quantum dots in photonic crystals**
Vuckovic, J., Faraon, A., Englund, D., Fushman, I.
2007
- **Coupled photonic crystal nanocavity arrays**
Vuckovic, J., Altug, H., Englund, D., Ellis, B.
2007
- **Local Quantum Dot tuning on photonic crystal chips**
Faraon, A., Englund, D., Fushman, I., Vuckovic, J., Stoltz, N., Petroff, P.
2007
- **Silicon CMOS compatible Photonic Crystal Light emitters**
Makarova, M., Vuckovic, J.
2007

- **Passivation effects on optical and material characteristics of silicon nanocrystals by high pressure water annealing and forming gas annealing**
Sanda, H., Makarova, M., Hagemeyer, J., McVittie, J., Vuckovic, J., Nishi, Y.
2007
- **Terahertz Modulation Room-Temperature Photonic Crystal Nanocavity Laser**
Englund, D., Fushman, I., Vuckovic, J., Altug, H.
2007
- **Controlling cavity reflectivity with a single quantum dot**
Englund, D., Faraon, A., Fushman, I., Vuckovic, J.
2007
- **Photoluminescence decay dynamics of silicon-rich silicon nitride films in photonic crystal nanocavity**
Makarova, M., Vuckovic, J., Sanda, H., Nishi, Y.
2007
- **Photonic crystal chips for classical and quantum information processing**
Vuckovic, J., Fushman, I., Faraon, A., Englund, D., Ellis, B., Gong, Y.
2007
- **Design of plasmon cavities for solid-state cavity QED applications** *Applied Physics Letters*
Gong, Y., Vuckovic, J.
2007; 90
- **Efficient photonic crystal cavity waveguide couplers** *Applied Physics Letters*
Faraon, A., Waks, E., Englund, D., Fushman, I., Vuckovic, J.
2007; 90
- **Quantum networking with quantum dots coupled to micro-cavities** *Conference on Quantum Communications and Quantum Imaging V*
Waks, E., Sridharan, D., Vuckovic, J.
SPIE-INT SOC OPTICAL ENGINEERING.2007
- **Quantum networking with quantum dots coupled to micro-cavities** *Conference on Quantum Communications Realized*
Waks, E., Sridharan, D., Vuckovic, J.
SPIE-INT SOC OPTICAL ENGINEERING.2007
- **Nonlinear optical processes in photonic nanocavities**
Vuckovic, J., Fushman, I., Faraon, A., Englund, D., Ellis, B.
2007
- **Efficient Terahertz room-temperature photonic crystal laser**
Englund, D., Altug, H., Fushman, I., Vuckovic, J.
2007
- **Analytic Photonic Crystal Cavity Design**
Englund, D., Fushman, I., Vuckovic, J.
2007
- **Dynamics of Quantum Dot Photonic Crystal Lasers** *Conference on Lasers and Electro-Optics/Quantum Electronics and Laser Science Conference*
Ellis, B., Fushman, I., Englund, D., Zhang, B., Yamamoto, Y., Vuckovic, J.
IEEE.2007: 145–146
- **Analysis of the Spontaneous Emission Rate Enhancement by Surface Plasmons in a Thin Metallic Layer Embedded in Semiconductor** *Conference on Lasers and Electro-Optics/Quantum Electronics and Laser Science Conference*
Iwase, H., Vuckovic, J.
IEEE.2007: 2526–2527
- **Photonic Crystal Surface Mode Laser** *Conference on Lasers and Electro-Optics/Quantum Electronics and Laser Science Conference*
Altug, H., Englund, D., Vuckovic, J.
IEEE.2007: 1777–1778

- **Photoluminescence decay dynamics of silicon-rich silicon nitride film in photonic crystal nanocavity** *20th Annual Meeting of the IEEE-Lasers-and-Electro-Optics-Society*
Makarova, M., Vuckovic, J., Sanda, H., Nishi, Y.
IEEE.2007: 329–330
- **Low-threshold ultrafast surface-passivated photonic crystal nanocavity lasers** *20th Annual Meeting of the IEEE-Lasers-and-Electro-Optics-Society*
Englund, D., Fushman, I., Vuckovic, J., Altug, H.
IEEE.2007: 121–122
- **Local On-Chip Temperature Tuning of InGaAs Quantum Dots** *Conference on Lasers and Electro-Optics/Quantum Electronics and Laser Science Conference*
Faraon, A., Englund, D., Fushman, I., Vuckovic, J., Stoltz, N., Petroff, P.
IEEE.2007: 1023–1024
- **Patterned femtosecond laser excitation of terahertz leaky modes in GaAs photonic crystals** *APPLIED PHYSICS LETTERS*
Jukam, N., Yee, C., Sherwin, M. S., Fushman, I., Vuckovic, J.
2006; 89 (24)
- **Silicon-based photonic crystal nanocavity light emitters** *APPLIED PHYSICS LETTERS*
Makarova, M., Vuckovic, J., Sanda, H., Nishi, Y.
2006; 89 (22)
- **Ultrafast photonic crystal nanocavity laser** *NATURE PHYSICS*
Altug, H., Englund, D., Vuckovic, J.
2006; 2 (7): 484–488
- **Generation and manipulation of nonclassical light using photonic crystals** *12th International Conference on Modulated Semiconductor Structures (MSS12)*
Vuckovic, J., Englund, D., Fattal, D., Waks, E., Yamamoto, Y.
ELSEVIER SCIENCE BV.2006: 466–70
- **Dipole induced transparency in drop-filter cavity-waveguide systems** *PHYSICAL REVIEW LETTERS*
Waks, E., Vuckovic, J.
2006; 96 (15)
- **A direct analysis of photonic nanostructures** *OPTICS EXPRESS*
Englund, D., Vuckovic, J.
2006; 14 (8): 3472–3483
- **Dispersive properties and large Kerr nonlinearities using dipole-induced transparency in a single-sided cavity** *PHYSICAL REVIEW A*
Waks, E., Vuckovic, J.
2006; 73 (4)
- **Theoretical and experimental investigation of efficient photonic crystal cavity-waveguide couplers** *19th Annual Meeting of the IEEE-Lasers-and-Electro-Optics-Society*
Faraon, A., Waks, E., Englund, D., Vuckovic, J.
IEEE.2006: 837–838
- **Quantum optics and quantum information processing with photonic crystal devices**
Vuckovic, J.
2006
- **Applications of Photonic Crystal Microcavity Arrays**
Altug, H., Vuckovic, J.
2006
- **Design and Experimental Characterization of Photonic Crystal Cavities with Embedded Colloidal Quantum Dots**
Fushman, I., Englund, D., Vuckovic, J.
2006
- **Patterned Femtosecond Laser Excitation of Terahertz Radiation in GaAs Photonic Crystals**
Jukam, N., Yee, C., Fushman, I., Vuckovic, J., Sherwin, Mark, S.

2006

- **Photonic Crystal Nanocavity Arrays** *Invited Article for IEEE LEOS Newsletter*
Altug, H., Vuckovic, J.
2006; 20 (2): 4-11
- **Photonic crystal devices for classical and quantum information processing**
Vuckovic, J.
2006
- **An Efficient Source of Single Indistinguishable Photons**
Englund, D., Goetzinger, S., Faraon, A., Vuckovic, J., Yamamoto, Y.
2006
- **Ultrafast Photonic Crystal Nanocavity Array Laser**
Altug, H., Englund, D., Vuckovic, J.
2006
- **Dipole Induced Transparency in Photonic Crystal Cavity Waveguide Systems**
Waks, E., Vuckovic, J.
2006
- **Ultra-Fast Photonic Crystal Nanolasers** *Nature Physics*
Altug, H., Englund, D., Vuckovic, J.
2006; 2: 484-488
- **Silicon based photonic crystal nanocavity light emitters** *Applied Physics Letters*
Makarova, M., Vuckovic, J., Sanda, H., Nishi, Y.
2006; 89
- **Photonic crystal devices for classical and quantum information processing**
Vuckovic, J.
2006
- **Silicon-based Photonic Crystal Nanocavity Light emitters**
Makarova, M., Vuckovic, J., Sanda, H., Nishi, Y.
2006
- **Silicon-based Photonic Crystal Nanocavity Light emitters**
Makarova, M., Vuckovic, J., Sanda, H., Nishi, Y.
2006
- **Nanoscale and quantum photonic devices**
Vuckovic, J.
2006
- **Nanophotonic devices for quantum information processing**
Waks, E., Englund, D., Faraon, A., Fushman, I., Vuckovic, J.
2006
- **Generation and transfer of single photons on a photonic crystal chip**
Englund, D., Faraon, A., Vuckovic, J.
2006
- **Silicon-based Photonic Crystal Nanocavity Light emitters**
Makarova, M., Vuckovic, J., Sanda, H., Nishi, Y.
2006
- **Fourier Space Design of Efficient Photonic Crystal Cavity-Waveguide Couplers**
Faraon, A., Waks, E., Englund, D., Fushman, I., Vuckovic, J.

2006

- **Two Dimensional Porous Silicon Photonic Crystal Light Emitters**
Makarova, M., Vuckovic, J., Sanda, H., Nishi, Y.
2006
- **An Efficient Source of Single Indistinguishable Photons**
Englund, D., Goetzinger, S., Faraon, A., Vuckovic, J., Yamamoto, Y.
2006
- **High Modulation Speed Photonic Crystal Nanocavity Array Laser**
Altug, H., Englund, D., Vuckovic, J.
2006
- **Quantum information processing with quantum dot-photonic crystal devices**
Vuckovic, J., Fushman, I., Englund, D., Faraon, A., Waks, E.
2006
- **Dispersive Properties and Large Kerr Nonlinearities Using Dipole Induced Transparency in a Single-Sided Cavity** *Physical Review A*
Waks, E., Vuckovic, J.
2006; 73
- **Nanophotonic devices for quantum information processing**
Vuckovic, J., Englund, D., Waks, E., Fushman, I., Faraon, A.
2006
- **Quantum information processing with quantum dot-photonic crystal devices**
Vuckovic, J., Englund, D., Fushman, I., Faraon, A., Waks, E.
2006
- **Theoretical and experimental investigation of efficient photonic crystal cavity-waveguide couplers**
Faraon, A., Waks, E., Englund, D., Vuckovic, J.
2006
- **Dipole Induced Transparency in drop filter cavity-waveguide systems** *Physical Review Letters*
Waks, E., Vuckovic, J.
2006; 96
- **A Direct Analysis of Real Photonic Nanostructures** *Optics Express*
Englund, D., Vuckovic, J.
2006; 14: 3472-3483
- **Photonic crystal devices for classical and quantum information processing**
Vuckovic, J.
2006
- **Photonic crystal devices for classical and quantum information processing**
Vuckovic, J.
2006
- **Quantum information processing with quantum dots in photonic crystals**
Fushman, I., Vuckovic, J.
2006
- **High speed dynamics of photonic crystal nanocavity laser** *19th Annual Meeting of the IEEE-Lasers-and-Electro-Optics-Society*
Altug, H., Englund, D., Vuckovic, J.
IEEE.2006: 621-622
- **Coupled arrays of photonic crystal nanocavities and their applications** *Conference on Photonic Crystal Materials and Devices IV*
Altug, H., Vuckovic, J.

SPIE-INT SOC OPTICAL ENGINEERING.2006

- **Coupling of PbS quantum dots to photonic crystal cavities at room temperature** *Conference on Photonic Crystal Materials and Devices IV*
Fushman, I., Englund, D., Vuckovic, J.
SPIE-INT SOC OPTICAL ENGINEERING.2006
- **Photonic crystal microcavities for classical and quantum information processing** *8th International Conference on Transparent Optical Networks*
Vuckovic, J., Altug, H., Englund, D., Faraon, A., Fushman, I., Waks, E.
IEEE.2006: 75–76
- **Coupling of PbS quantum dots to photonic crystal cavities at room temperature** *APPLIED PHYSICS LETTERS*
Fushman, I., Englund, D., Vuckovic, J.
2005; 87 (24)
- **Photonic crystal nanocavity array laser** *OPTICS EXPRESS*
Altug, H., Vuckovic, J.
2005; 13 (22): 8819-8828
- **General recipe for designing photonic crystal cavities** *OPTICS EXPRESS*
Englund, D., Fushman, I., Vuckovic, J.
2005; 13 (16): 5961-5975
- **Controlling the spontaneous emission rate of single quantum dots in a two-dimensional photonic crystal** *PHYSICAL REVIEW LETTERS*
Englund, D., Fattal, D., Waks, E., Solomon, G., Zhang, B., Nakaoka, T., Arakawa, Y., Yamamoto, Y., Vuckovic, J.
2005; 95 (1)
- **Coupled mode theory for photonic crystal cavity-waveguide interaction** *OPTICS EXPRESS*
Waks, E., Vuckovic, J.
2005; 13 (13): 5064-5073
- **Polarization control and sensing with two-dimensional coupled photonic crystal microcavity arrays** *OPTICS LETTERS*
Altug, H., Vuckovic, J.
2005; 30 (9): 982-984
- **Fabrication of InAs quantum dots in AlAs/GaAs DBR pillar microcavities for single photon sources** *JOURNAL OF APPLIED PHYSICS*
Zhang, B. Y., Solomon, G. S., Pelton, M., Plant, J., Santori, C., Vuckovic, J., Yamamoto, Y.
2005; 97 (7)
- **Experimental demonstration of the slow group velocity of light in two-dimensional coupled photonic crystal microcavity arrays** *APPLIED PHYSICS LETTERS*
Altug, H., Vuckovic, J.
2005; 86 (11)
- **Cavity-enhanced single photons from a quantum dot** *Conference on Physics and Simulation of Optoelectronic Devices XIII*
Vuckovic, J., Fattal, D., Englund, D., Waks, E., Santori, C., Solomon, G., Yamamoto, Y.
SPIE-INT SOC OPTICAL ENGINEERING.2005: 19–29
- **Cavity-Waveguide Interaction in Photonic Crystals**
Waks, E., Vuckovic, J.
2005
- **Cavity-Waveguide Interaction in Photonic Crystals**
Waks, E., Vuckovic, J.
2005
- **Sub-micron all optical memory and large scale integration in photonic crystals**
Yanik, M., F., Altug, H., Vuckovic, J., Fan, S.
2005
- **Single Photons for Quantum Information Systems** *Progress in Informatics*
Yamamoto, Y., Santori, C., Solomon, G., Vuckovic, J., Fattal, D., Waks, E.

2005: 5-37

- **Coupling of PbS Quantum Dots to Photonic Crystal Cavities at Room Temperature**
Fushman, I., Englund, D., Vuckovic, J.
2005
- **Quantum Dot – Photonic Crystal Single Photon Sources**
Englund, D., Fattal, D., Waks, E., Yamamoto, Y., Vuckovic, J.
2005
- **Polarization Control With Two-Dimensional Coupled Photonic Crystal Microcavity Arrays**
Altug, H., Vuckovic, J.
2005
- **Cavity Enhanced Single Photons From a Quantum Dot**
Vuckovic, J., Fattal, D., Englund, D., Waks, E., Santori, C., Solomon, G.
2005
- **Nanophotonic Devices for Quantum Information Science**
Vuckovic, J.
2005
- **Quantum Dot-Photonic Crystal Devices and Circuits for Quantum Information Processing**
Vuckovic, J.
2005
- **Photonic-crystal based single photon source**
Waks, E., Englund, D., Fattal, D., Vuckovic, J.
2005
- **Single Photon Source Based on a Quantum Dot in Photonic Crystal**
Vuckovic, J., Englund, D., Fattal, D., Waks, E., Zhang, B., Solomon, G.
2005
- **Generation and Manipulation of Classical and Nonclassical Light Using Photonic Crystals**
Vuckovic, J.
2005
- **Coupled Photonic Crystal Nanocavity Array Laser**
Altug, H., Vuckovic, J.
2005
- **Controlling Spontaneous Emission Rate in Solid State for Quantum Information Science**
Englund, D., Fattal, D., Waks, E., Vuckovic, J.
2005
- **Photonic Crystal Devices for Quantum and Nanoscale Photonics**
Vuckovic, J., Englund, D., Fattal, D., Altug, H., Waks, E., Yamamoto, Y.
2005
- **Single Photon Generation Using a Single Quantum Dot in a Photonic Crystal Cavity** *Physics of Quantum Electronics 2005, Snowbird, Utah*
Waks, E., Fattal, D., Englund, D., Vuckovic, J., Yamamoto, Y.
2005
- **Photonic Crystal Devices for Quantum and Nanoscale Photonics** *American Physical Society (APS) March Meeting, Los Angeles, CA*
Vuckovic, J.
2005
- **Single Photons on Demand** *Europhysics News*
Sanders, B., Vuckovic, J., Grangier, P.

2005; 36 (2): 56-58

- **Generation and manipulation of classical and nonclassical light using photonic crystals**
Vuckovic, J.
2005
- **Nanophotonic devices for classical and quantum information processing**
Vuckovic, J., Englund, D., Altug, H., Fushman, I., Waks, E.
2005
- **Generation and manipulation of classical and nonclassical light using photonic crystals**
Vuckovic, J.
2005
- **Two-Dimensional Porous Silicon Photonic Crystal Light Emitters**
Makarova, M., Vuckovic, J., Sanda, H., Nishi, Y.
2005
- **Controlling Spontaneous Emission Rate in Solid State for Quantum Information Science**
Englund, D., Fattal, D., Waks, E., Vuckovic, J.
2005
- **Photonic crystal devices for quantum and nanoscale photonics**
Vuckovic, J., Englund, D., Altug, H., Fushman, I., Waks, E.
2005
- **Controlling the Spontaneous Emission Rate of Single Quantum Dots in a 2D Photonic Crystal** *Phys. Rev.Lett.*
Englund, D., Fattal, D., Waks, E., Solomon, G., Zhang, B., Nakaoka, T., Vuckovic, J.
2005; 95
- **Coupled photonic crystal microcavity array laser** *18th Annual Meeting of the IEEE-Lasers-and-Electro-Optical-Society*
Altug, H., Vuckovic, J.
IEEE.2005: 526-527
- **Generation of single photons and correlated photon pairs using InAs quantum dots** *Workshop on Quantum Optics for Quantum Informational Processing*
Santori, C., Fattal, D., Vuckovic, J., Solomon, G. S., Yamamoto, Y.
WILEY-VCH VERLAG GMBH.2004: 1180-88
- **Submicrometer all-optical digital memory and integration of nanoscale photonic devices without isolators** *JOURNAL OF LIGHTWAVE TECHNOLOGY*
Yanik, M. F., Altug, H., Vuckovic, J., Fan, S. H.
2004; 22 (10): 2316-2322
- **Photonic Technologies for Quantum Information Processing** *QUANTUM INFORMATION PROCESSING*
Kumar, P., Kwiat, P., Migdall, A., Nam, S. W., Vuckovic, J., Wong, F. N.
2004; 3 (1-5): 215-231
- **Single-photon generation with InAs quantum dots** *NEW JOURNAL OF PHYSICS*
Santori, C., Fattal, D., Vuckovic, J., Solomon, G. S., Yamamoto, Y.
2004; 6
- **Submicrosecond correlations in photoluminescence from InAs quantum dots** *PHYSICAL REVIEW B*
Santori, C., Fattal, D., Vuckovic, J., Solomon, G. S., Waks, E., Yamamoto, Y.
2004; 69 (20)
- **Planar photonic crystal nanolasers (I): Porous cavity lasers** *IEICE TRANSACTIONS ON ELECTRONICS*
Loncar, M., Yoshie, T., Okamoto, K., Qiu, Y. M., Vuckovic, J., Scherer, A.
2004; E87C (3): 291-299
- **Entanglement formation and violation of Bell's inequality with a semiconductor single photon source** *PHYSICAL REVIEW LETTERS*
Fattal, D., Inoue, K., Vuckovic, J., Santori, C., Solomon, G. S., Yamamoto, Y.

2004; 92 (3)

- **Two-dimensional coupled photonic crystal resonator arrays** *APPLIED PHYSICS LETTERS*
Altug, H., Vuckovic, J.
2004; 84 (2): 161-163
- **Quantum cryptography with a single photon source** *Conference on Quantum Communications and Quantum Imaging*
Waks, E., Inoue, K., Santori, C., Fattal, D., Vuckovic, J., Solomon, G. S., Yamamoto, Y.
SPIE-INT SOC OPTICAL ENGINEERING.2004: 76-86
- **Experimental Demonstration of the Slow Group Velocity of Light in Two-Dimensional Coupled Photonic Crystal Microcavity Arrays**
Altug, H., Vuckovic, J.
2004
- **Two-Dimensional Coupled Photonic Crystal Resonator Arrays**
Altug, H., Vuckovic, J.
2004
- **Photonic crystal devices for nanophotonics and quantum information processing**
Vuckovic, J.
2004
- **Photonic crystal devices for quantum and nanoscale photonics**
Vuckovic, J.
2004
- **Photonic Crystal Structures With Large Density of Optical States**
Vuckovic, J., Altug, H., Waks, E., Fattal, D., Yamamoto, Y., Englund, D.
2004
- **Photonic crystal components for solid- state photonicquantum information systems**
Vuckovic, J., Fattal, D., Waks, E., Santori, C., Englund, D., Altug, H.
2004
- **Sub-Micron All-Optical Digital Memory and Integration of Nanoscale Photonic Devices Without Isolators** *J. Lightwave Technol.*
Yanik, M., F., Altug, H., Vuckovic, J., Fan, S.
2004; 22 (10): 2316-2322
- **Entanglement Formation and Violation of Bell's Inequality With a Semiconductor Single Photon Source** *Phys. Rev. Lett.*
Fattal, D., Inoue, K., Vuckovic, J., Santori, C., Solomon, G., Yamamoto, Y.
2004; 92
- **Sub-Microsecond Correlations in Photoluminescence From InAs Quantum Dots** *Phys. Rev. B*
Santori, C., Fattal, D., Vuckovic, J., Solomon, G., Waks, E., Yamamoto, Y.
2004; 69
- **Indistinguishable single photons from a quantum dot** *2nd International Conference on Semiconductor Quantum Dots*
Fattal, D., Santori, C., Vuckovic, J., Solomon, G. S., Yamamoto, Y.
WILEY-BLACKWELL.2003: 305-8
- **Enhanced single-photon emission from a quantum dot in a micropost microcavity** *APPLIED PHYSICS LETTERS*
Vuckovic, J., Fattal, D., Santori, C., Solomon, G. S.
2003; 82 (21): 3596-3598
- **Photonic crystal microcavities for cavity quantum electrodynamics with a single quantum dot** *APPLIED PHYSICS LETTERS*
Vuckovic, J., Yamamoto, Y.
2003; 82 (15): 2374-2376
- **An efficient source of single photons: a single quantum dot in a micropost microcavity** *International Conference on Superlattices Nano-Structures and Nano-Devices (ICSNN-02)*
Pelton, M., Vuckovic, J., Solomon, G., Santori, C., Zhang, B. Y., Plant, J., Yamamoto, Y.

ELSEVIER SCIENCE BV.2003: 564–67

- **Photonic crystal nanocavities for efficient light confinement and emission** *11th Seoul International Symposium on the Physics of Semiconductors and Applications*
Scherer, A., Yoshie, T., Loncar, M., Vuckovic, J., Okamoto, K., Deppe, D.
KOREAN PHYSICAL SOC.2003: S768–S773
- **High-efficiency triggered photons using single cavity mode coupling of single quantum dot emission** *Conference on Semiconductor Optoelectronic Devices for Lightwave Communication*
Solomon, G. S., Pelton, M., Santori, C., Fattal, D., Vuckovic, J., Waks, E., Inoue, K., Yamamoto, Y.
SPIE-INT SOC OPTICAL ENGINEERING.2003: 1–14
- **Indistinguishable Single Photons From a Single-Quantum-Dot Microcavity**
Santori, Fattal, D., Vuckovic, J., Solomon, G. S., Yamamoto, Y.
2003
- **Enhanced Single Photon Emission from a Quantum Dot in a Micropost Microcavity** *Appl. Phys. Lett.*
Vuckovic, J., Fattal, D., Santori, C., Solomon, G., Yamamoto, Y.
2003; 82 (21): 3596–3598
- **Photonic Bandgap Microcavity Devices**
Scherer, A., Vuckovic, J., Loncar, M., Yoshie, T., Okamoto, K.
2003
- **Quantum optical devices based on photonic crystals**
Vuckovic, J.
2003
- **Optical and quantum optical devices based on photonic crystals**
Vuckovic, J.
2003
- **Photonic crystals and their applications in optoelectronics and quantum optics**
Vuckovic, J.
2003
- **2-D Photonic Crystal Microcavities**
Scherer, A., Yoshie, T., Loncar, M., Vuckovic, J., Deppe, D., Okamoto, K.
2003
- **Cavity Enhanced Single and Entangled Photons From a Quantum Dot**
Vuckovic, J., Fattal, D., Santori, C., Solomon, G., Yamamoto, Y.
2003
- **Photonic Crystal Nanocavities for Efficient Light Confinement and Emission** *J. Korean Physical Society*
Scherer, A., Yoshie, T., Loncar, M., Vuckovic, J., Okamoto, K., Deppe, D.
2003; 42: 768–773
- **Indistinguishable single photons for quantum information systems** *6th International Conference on Quantum Communication, Measurement and Computing (QCMC 02)*
Santori, C., Waks, E., Inoue, K., Fattal, D., Vuckovic, J., Solomon, G. S., Yamamoto, Y.
RINTON PRESS, INC.2003: 511–515
- **Indistinguishable single photons from a single-quantum-dot microcavity** *Conference on Laser Resonators and Beam Control VI*
Santori, C., Fattal, D., Vuckovic, J., Solomon, G. S., Yamamoto, Y.
SPIE-INT SOC OPTICAL ENGINEERING.2003: 156–166
- **Secure communication: Quantum cryptography with a photon turnstile** *NATURE*
Waks, E., Inoue, K., Santori, C., Fattal, D., Vuckovic, J., Solomon, G. S., Yamamoto, Y.
2002; 420 (6917): 762–762

- **Efficient source of single photons: A single quantum dot in a micropost microcavity** *PHYSICAL REVIEW LETTERS*
Pelton, M., Santori, C., Vuckovic, J., Zhang, B. Y., Solomon, G. S., Plant, J., Yamamoto, Y.
2002; 89 (23)
- **Indistinguishable photons from a single-photon device** *NATURE*
Santori, C., Fattal, D., Vuckovic, J., Solomon, G. S., Yamamoto, Y.
2002; 419 (6907): 594-597
- **Optimization of three-dimensional micropost microcavities for cavity quantum electrodynamics** *PHYSICAL REVIEW A*
Vuckovic, J., Pelton, M., Scherer, A., Yamamoto, Y.
2002; 66 (2)
- **Optimization of the Q factor in photonic crystal microcavities** *IEEE JOURNAL OF QUANTUM ELECTRONICS*
Vuckovic, J., Loncar, M., Mabuchi, H., Scherer, A.
2002; 38 (7): 850-856
- **Experimental and theoretical confirmation of Bloch-mode light propagation in planar photonic crystal waveguides** *APPLIED PHYSICS LETTERS*
Loncar, M., Nedeljkovic, D., Pearsall, T. P., Vuckovic, J., Scherer, A., Kuchinsky, S., Allan, D. C.
2002; 80 (10): 1689-1691
- **Photonic crystals for confining, guiding, and emitting light** *IEEE TRANSACTIONS ON NANOTECHNOLOGY*
Scherer, A., Painter, O., Vuckovic, J., Loncar, M., Yoshie, T.
2002; 1 (1): 4-11
- **Three-dimensionally confined modes in micropost microcavities: Quality factors and Purcell factors** *IEEE JOURNAL OF QUANTUM ELECTRONICS*
Pelton, M., Vuckovic, J., Solomon, G. S., Scherer, A., Yamamoto, Y.
2002; 38 (2): 170-177
- **Single photons and entangled photons from a quantum dot** *IEEE International Electron Devices Meeting*
Vuckovic, J., Santori, C., Fattal, D., Pelton, M., Solomon, G. S., Zhang, B. Y., Plant, J., Yamamoto, Y.
IEEE.2002: 87-90
- **Nanophotonics based on planar photonic crystals** *15th Annual Meeting of the IEEE-Lasers-and-Electro-Optics-Society*
Loncar, M., Yoshie, T., Vuckovic, J., Scherer, A., Chen, H., Deppe, D., Gogna, P., Qiu, Y. M., Nedeljkovic, D., Pearsall, T. P.
IEEE.2002: 671-672
- **Optimization of Q factor in optical nanocavities based on free-standing membranes** *Conference on Photonic Bandgap Materials and Devices*
Vuckovic, J., Scherer, A.
SPIE-INT SOC OPTICAL ENGINEERING.2002: 192-199
- **Optical Characterization of High Quality Two Dimensional Photonic Crystal Cavities**
Yoshie, T., Vuckovic, J., Loncar, M., Scherer, A., Chen, H., Deppe, D.
2002
- **Design, Fabrication, and Characterization of Photonic Crystal Nanocavities**
Scherer, Yoshie, T., Loncar, M., Vuckovic, J., Painter, O., Deppe, D.
2002
- **Nanophotonics Based on Planar Photonic Crystals**
Loncar, M., Yoshie, T., Vuckovic, J., Scherer, A., Chen, H., Deppe, D.
2002
- **Experimental and Theoretical Confirmation of Bloch-Mode Light Propagation in Planar Photonic Crystal Waveguides** *Appl. Phys. Lett.*
Loncar, M., Nedeljkovic, D., Pearsall, T., P., Vuckovic, J., Scherer, A., Kuchinsky, S.
2002; 80 (10): 1689-1691
- **Optical and quantum optical devices based on photonic crystals**
Vuckovic, J.
2002

- **Optimization of Q-factor in photonic crystal microcavities** *IEEE Journal of Quantum Electronics*
Vuckovic, J., Loncar, M., Mabuchi, H., Scherer, A.
2002; 38 (7): 850-856
- **Optical and quantum optical devices based on photonic crystals**
Vuckovic, J.
2002
- **Optimization of the Q Factor in Optical Microcavities Based on Free Standing Membranes**
Vuckovic, J., Scherer, A.
2002
- **An Efficient Source of Single Photons: A Single Quantum Dot in a Micropost Microcavity**
Pelton, M., Santori, C., Solomon, G., S., Yamamoto, Y., Vuckovic, J., Scherer, A.
2002
- **Single Optical Mode-Spontaneous Emission Coupling of a Quantum Dot in a Three-Dimensional Microcavity**
Solomon, G., S., Pelton, M., Vuckovic, J., Yamamoto, Y.
2002
- **Surface Plasmon Enhanced LED**
Vuckovic, J., Loncar, M., Painter, O., Scherer, A.
2002
- **Three Dimensionally Confined Modes in Micropost Microcavities: Quality Factors and Purcell Factors** *IEEE J. Quantum Electronics*
Pelton, M., Vuckovic, J., Solomon, G., S., Scherer, A., Yamamoto, Y.
2002; 38 (2): 170-177
- **Optical and quantum optical devices based on photonic crystals**
Vuckovic, J.
2002
- **Applications of Photonic Crystals in Lasers and Light Emitting Diodes**
Vuckovic, J., Scherer, A., Loncar, M., Yoshie, T., Painter, O.
2002
- **Experimental and Theoretical Characterization of H2 PC Cavities Defined in Silicon on Insulator**
Loncar, M., Williams, J., B., Vuckovic, J., Mabuchi, H., Scherer, A.
2002
- **Localized Modes With High Quality Factor Defined by Two-Dimensional Photonic Crystal Cavities**
Yoshie, T., Vuckovic, J., Loncar, M., Chen, H., Deppe, D., Scherer, A.
2002
- **Optical and quantum optical devices based on photonic crystals**
Vuckovic, J.
2002
- **High-Q optical nanocavities in planar photonic crystals** *Conference on Laser Resonators and Beam Control V*
Vuckovic, J., Loncar, M., Yoshie, T., Scherer, A., Armen, M., Williams, J., Mabuchi, H.
SPIE-INT SOC OPTICAL ENGINEERING.2002: 190-199
- **Photonic crystal nanocavities and waveguides** *6th Joint Conference on Information Sciences*
Scherer, A., Vuckovic, J., Loncar, M., Yoshie, T., Painter, O.
ASSOC INTELLIGENT MACHINERY.2002: 34-35
- **Nano-scale optical and quantum optical devices based on photonic crystals** *2nd IEEE Conference on Nanotechnology*
Vuckovic, J., Yoshie, T., Loncar, M., Mabuchi, H., Scherer, A.
IEEE.2002: 319-321

- **Design of photonic crystal microcavities for cavity QED** *PHYSICAL REVIEW E*
Vuckovic, J., Loncar, M., Mabuchi, H., Scherer, A.
2002; 65 (1)
- **High quality two-dimensional photonic crystal slab cavities** *APPLIED PHYSICS LETTERS*
Yoshie, T., Vuckovic, J., Scherer, A., Chen, H., Deppe, D.
2001; 79 (26): 4289-4291
- **QUANTUM NETWORKS BASED ON CAVITY QED** *QUANTUM INFORMATION & COMPUTATION*
Mabuchi, H., Armen, M., Lev, B., Loncar, M., Vuckovic, J., Kimble, H. J., Preskill, J., Roukes, M., Scherer, A., van Enk, S. J.
2001; 1: 7-12
- **Methods for controlling positions of guided modes of photonic-crystal waveguides** *JOURNAL OF THE OPTICAL SOCIETY OF AMERICA B-OPTICAL PHYSICS*
Loncar, M., Vuckovic, J., Scherer, A.
2001; 18 (9): 1362-1368
- **Photonic crystal light sources and waveguides** *4th Pacific Rim Conference on Lasers and Electro-Optics*
Scherer, A., Vuckovic, J., Loncar, M., Yoshie, T., Painter, O.
IEEE.2001: 20-21
- **Waveguiding in planar photonic crystals** *Conference on Silicon-based and Hybrid Optoelectronics III*
Loncar, M., Nedeljkovic, D., Doll, T., Vuckovic, J., Scherer, A., Pearsall, T. P.
SPIE-INT SOC OPTICAL ENGINEERING.2001: 94-99
- **Experimental characterization of dispersion properties of leaky modes in planar photonic crystal waveguide** *27th European Conference on Optical Communication (ECOC 01)*
Loncar, M., Nedeljkovic, D., Pearsall, T. P., Vuckovic, J., Scherer, A., Kuchinsky, S., Allan, D. C.
IEEE.2001: A28-A29
- **Experimental characterization of dispersion properties of the leaky modes in planar photonic crystal waveguide** *14th Annual Meeting of the IEEE Lasers-and-Electro-Optics-Society*
Loncar, M., Nedeljkovic, D., Pearsall, T. P., Vuckovic, J., Scherer, A., Kuchinsky, S., Allan, D. C.
IEEE.2001: 273-274
- **Photonic crystals**
Vuckovic, J.
2001
- **Experimental Characterization of Dispersion Properties of the Leaky Modes in Planar Photonic Crystal Waveguide**
Loncar, M., Nedeljkovic, D., Pearsall, T. P., Vuckovic, J., Scherer, A., Kuchinsky, S.
2001
- **Quantum Networks Based on Cavity QED** *Quantum Information and Computation, Special Issue on "Implementation of Quantum Computation"*
Mabuchi, H., Armen, M., Lev, B., Loncar, M., Vuckovic, J., Kimble, H. J.
2001; 1: 7-12
- **Quantum networks based on cavity QED** *1st International Conference on Experimental Implementation of Quantum Computation*
Mabuchi, H., Armen, M., Lev, B., Loncar, M., Vuckovic, J., Kimble, H. J., Preskill, J., Roukes, M., Scherer, A., van Enk, S. J.
RINTON PRESS, INC.2001: 208-213
- **Photonic crystals**
Vuckovic, J.
2001
- **Experimental Characterization of Dispersion Properties of the Leaky Modes in Planar Photonic Crystal Waveguide**
Loncar, M., Nedeljkovic, D., Pearsall, T. P., Vuckovic, J., Scherer, A., Kuchinsky, S.
2001
- **Low Complexity Soft-Decision Decoding Algorithms for Reed-Solomon Codes** *IEICE Trans. Communications (Special Issue on Innovative Mobile Communication Technologies at the Dawn of the 21st Century)*

-
- Vucetic, B., Ponampalam, V., Vuckovic, J.
2001; E84-B: 392-399
- **High Quality Two Dimensional Photonic Crystal Slab Cavities** *Appl. Phys. Lett.*
Yoshie, T., Vuckovic, J., Scherer, A., Chen, H., Deppe, D.
2001; 79 (26): 4289-4291
 - **Design of photonic crystal optical microcavities** *Conference on Physics and Simulation of Optoelectronic Devices IX*
Vuckovic, J., Loncar, M., Scherer, A.
SPIE-INT SOC OPTICAL ENGINEERING.2001: 415-419
 - **Waveguiding in Planar Photonic Crystals**
Loncar, M., Nedeljkovic, D., Doll, T., Vuckovic, J., Scherer, A., Pearsall, T., P.
2001
 - **Quality Factors of Localized Defect Modes in Planar Photonic Crystal Structures**
Vuckovic, J., Loncar, M., Mabuchi, H., Scherer, A.
2001
 - **Methods for Controlling Positions of Guided Modes in Photonic Crystal Waveguides** *J. Optical Society of America B*
Loncar, M., Vuckovic, J., Scherer, A.
2001; 18 (9): 1362-1368
 - **Photonic crystals and their applications to efficient light emitters** *14th Annual Meeting of the IEEE Lasers-and-Electro-Optics-Society*
Scherer, A., Vuckovic, J., Loncar, M., Yoshie, T., Painter, O.
IEEE.2001: 736-737
 - **Photonic crystal nanocavities and waveguides** *International Semiconductor Device Research Symposium (ISDRS 01)*
Scherer, A., Vuckovic, J., Loncar, M., Yoshie, T., Painter, O.
IEEE.2001: 511-513
 - **Surface plasmon enhanced light-emitting diode** *IEEE JOURNAL OF QUANTUM ELECTRONICS*
Vuckovic, J., Loncar, M., Scherer, A.
2000; 36 (10): 1131-1144
 - **Design and fabrication of silicon photonic crystal optical waveguides** *JOURNAL OF LIGHTWAVE TECHNOLOGY*
Loncar, M., Doll, T., Vuckovic, J., Scherer, A.
2000; 18 (10): 1402-1411
 - **Waveguiding in planar photonic crystals** *APPLIED PHYSICS LETTERS*
Loncar, M., Nedeljkovic, D., Doll, T., Vuckovic, J., Scherer, A., Pearsall, T. P.
2000; 77 (13): 1937-1939
 - **Low-energy electron beam focusing in self-organized porous alumina vacuum windows** *APPLIED PHYSICS LETTERS*
Doll, T., Vuckovic, J., Hochberg, M., Scherer, A.
2000; 76 (24): 3635-3637
 - **Photonic crystal microcavities for strong coupling between an atom and the cavity field** *13th Annual Meeting of the IEEE Lasers-and-Electro-Optics-Society*
Vuckovic, J., Loncar, M., Mabuchi, H., Scherer, A.
IEEE.2000: 840-841
 - **FDTD calculation of the spontaneous emission coupling factor in optical microcavities** *Conference on Micro- and Nano-photonic Materials and Devices*
Vuckovic, J., Painter, O., Xu, Y., Yariv, A., Scherer, A.
SPIE-INT SOC OPTICAL ENGINEERING.2000: 2-11
 - **Surface Plasmon Enhanced LED**
Vuckovic, J., Loncar, M., Painter, O., Scherer, A.
2000
 - **Modal Analysis of Waveguides Based on Triangular Photonic Crystal Lattice**
Loncar, M., Vuckovic, J., Scherer, A.

2000

- **Waveguiding in Planar Photonic Crystals** *Appl. Phys. Lett.*
Loncar, M., Nedeljkovic, D., Doll, T., Vuckovic, J., Scherer, A., Pearsall, T., P.
2000; 77 (13): 1937-1939
- **Finite-Difference Time-Domain Calculation of the Spontaneous Emission Coupling Factor in Optical Microcavities**
Vuckovic, J., Painter, O., Xu, Y., Yariv, A., Scherer, A.
2000
- **Low-Energy Electron Beam Focusing in Self-Organized Porous Alumina Vacuum Windows** *Appl. Phys. Lett.*
Doll, T., Vuckovic, J., Hochberg, M., Scherer, A.
2000; 76 (24): 3635-3637
- **Surface Plasmon Enhanced Light Emitting Diode** *IEEE J. Quantum Electronics*
Vuckovic, J., Loncar, M., Scherer, A.
2000; 36 (10): 1131-1144
- **Modal analysis of waveguides based on a triangular photonic crystal lattice** *13th Annual Meeting of the IEEE Lasers-and-Electro-Optics-Society*
Loncar, M., Vuckovic, J., Scherer, A.
IEEE.2000: 844-845
- **Two Dimensional Photonic Crystal Nanocavities for Light Localization**
Painter, O., Vuckovic, J., Scherer, A.
2000
- **Photonic crystal lasers and waveguides** *Conference on Physics and Simulation of Optoelectronic Devices VIII*
Scherer, A., Loncar, M., Painter, O., Husain, A., Vuckovic, J., Doll, T.
SPIE-INT SOC OPTICAL ENGINEERING.2000: 2-8
- **Finite-difference time-domain calculation of the spontaneous emission coupling factor in optical microcavities** *IEEE JOURNAL OF QUANTUM ELECTRONICS*
Vuckovic, J., Painter, O., Xu, Y., Yariv, A., Scherer, A.
1999; 35 (8): 1168-1175
- **Finite-difference time-domain calculation of spontaneous emission lifetime in a microcavity** *JOURNAL OF THE OPTICAL SOCIETY OF AMERICA B-OPTICAL PHYSICS*
Xu, Y., Vuckovic, J. S., Lee, R. K., Painter, O. J., Scherer, A., Yariv, A.
1999; 16 (3): 465-474
- **Defect modes of a two-dimensional photonic crystal in an optically thin dielectric slab** *JOURNAL OF THE OPTICAL SOCIETY OF AMERICA B-OPTICAL PHYSICS*
Painter, O., Vuckovic, J., Scherer, A.
1999; 16 (2): 275-285
- **Finite-Difference Time-Domain Calculation of the Spontaneous Emission Coupling Factor in Optical Microcavities** *IEEE J. Quantum Electron.*
Vuckovic, J., Painter, O., Xu, Y., Yariv, A., Scherer, A.
1999; 35 (8): 1168-1174
- **Photonic Crystal Nanocavity Lasers**
Scherer, A., Painter, O., Husain, A., Vuckovic, J., Dapkus, D., O'Brien, J.
1999
- **Finite-Difference Time Domain Calculation of Spontaneous Emission Lifetime in a Microcavity** *J. Optical Society of America B*
Xu, Y., Vuckovic, J., S., Lee, R., K., Painter, O., J., Scherer, A., Yariv, A.
1999; 16 (3): 465-474
- **Maximum-Likelihood Decoding of Reed Solomon Codes**
Vuckovic, J., S., Vucetic, B., S.
1997