



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, PULSE Institute, SIMES Institute, and Bio-X 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 an Associate Editor of ACS Photonics, a member of the editorial advisory board of Nature Quantum Information, 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

- Associate Editor, ACS Photonics (2018 - present)
- 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

2017-18

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

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)

STANFORD ADVISEES

Doctoral Dissertation Reader (AC)

Dodd Gray

Postdoctoral Faculty Sponsor

Marina Radulaski, Shuo Sun, Kiyoul Yang

Doctoral Dissertation Advisor (AC)

Constantin Dory, Jingyuan Linda Zhang

Master's Program Advisor

Kevin Johnson

Doctoral (Program)

Constantin Dory, Dodd Gray

Postdoctoral Research Mentor

Yue Ma

Publications

PUBLICATIONS

- **On-Chip Laser-Power Delivery System for Dielectric Laser Accelerators** *PHYSICAL REVIEW APPLIED*
Hughes, T. W., Tan, S., Zhao, Z., Sapra, N. V., Leedle, K. J., Deng, H., Miao, Y., Black, D. S., Solgaard, O., Harris, J. S., Vuckovic, J., Byer, R. L., Fan, et al
2018; 9 (5)
- **Room temperature lasing unraveled by a strong resonance between gain and parasitic absorption in uniaxially strained germanium** *PHYSICAL REVIEW B*
Gupta, S., Nam, D., Vuckovic, J., Saraswat, K.
2018; 97 (15)
- **Dynamical modeling of pulsed two-photon interference (vol 18, 113053, 2016)** *NEW JOURNAL OF PHYSICS*
Fischer, K. A., Mueller, K., Lagoudakis, K. G., Vuckovic, J.
2018; 20
- **Quantum Properties of Dichroic Silicon Vacancies in Silicon Carbide** *PHYSICAL REVIEW APPLIED*
Nagy, R., Widmann, M., Niethammer, M., Dasari, D. R., Gerhardt, I., Soykal, O. O., Radulaski, M., Ohshima, T., Vuckovic, J., Nguyen Tien Son, Ivanov, I. G., Economou, S. E., Bonato, C., et al
2018; 9 (3)
- **Fully-automated optimization of grating couplers** *OPTICS EXPRESS*
Su, L., Trivedi, R., Sapra, N. V., Piggott, A. Y., Vercauteren, D., Vuckovic, J.
2018; 26 (4): 4023–34
- **Inverse Design and Demonstration of a Compact on-Chip Narrowband Three-Channel Wavelength Demultiplexer** *ACS PHOTONICS*
Su, L., Piggott, A. Y., Sapra, N. V., Petykiewicz, J., Vuckovic, J.
2018; 5 (2): 301–5
- **Strongly Cavity-Enhanced Spontaneous Emission from Silicon-Vacancy Centers in Diamond** *NANO LETTERS*
Zhang, J., Sun, S., Burek, M. J., Dory, C., Tzeng, Y., Fischer, K. A., Kelaita, Y., Lardakis, K. G., Radulaski, M., Shen, Z., Melosh, N. A., Chu, S., Loncar, et al
2018; 18 (2): 1360–65
- **Pulsed Rabi oscillations in quantum two-level systems: beyond the area theorem** *QUANTUM SCIENCE AND TECHNOLOGY*
Fischer, K. A., Hanschke, L., Kremser, M., Finley, J. J., Mueller, K., Vuckovic, J.

2018; 3 (1)

- **Fabrication-constrained nanophotonic inverse design** *SCIENTIFIC REPORTS*
Piggott, A. Y., Petykiewicz, J., Su, L., Vuckovic, J.
2017; 7
- **On-Chip Architecture for Self-Homodyned Nonclassical Light** *PHYSICAL REVIEW APPLIED*
Fischer, K. A., Kelaita, Y. A., Sapra, N. V., Dory, C., Lagoudakis, K. G., Mueller, K., Vuckovic, J.
2017; 7 (4)
- **On-Chip Architecture for Self-Homodyned Nonclassical Light** *PHYSICAL REVIEW APPLIED*
Fischer, K. A., Kelaita, Y. A., Sapra, N. V., Dory, C., Lagoudakis, K. G., Mueller, K., Vuckovic, J.
2017; 7 (4)
- **Scalable Quantum Photonics with Single Color Centers in Silicon Carbide.** *Nano letters*
Radulaski, M., Widmann, M., Niethammer, M., Zhang, J. L., Lee, S., Rendler, T., Lagoudakis, K. G., Son, N. T., Janzén, E., Ohshima, T., Wrachtrup, J., Vuckovic, J.
2017
- **Vertical-Substrate MPCVD Epitaxial Nanodiamond Growth.** *Nano letters*
Tzeng, Y., Zhang, J. L., Lu, H., Ishiwata, H., Dahl, J., Carlson, R. M., Yan, H., Schreiner, P. R., Vuckovic, J., Shen, Z., Melosh, N., Chu, S.
2017
- **Tuning the photon statistics of a strongly coupled nanophotonic system** *PHYSICAL REVIEW A*
Dory, C., Fischer, K. A., Mueller, K., Lagoudakis, K. G., Sarmiento, T., Rundquist, A., Zhang, J. L., Kelaita, Y., Sapra, N. V., Vuckovic, J.
2017; 95 (2)
- **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
- **Complete Coherent Control of Silicon-Vacancies in Diamond Nanopillars Containing Single Defect Centers**
Zhang, J., Lagoudakis, K. G., Tzeng, Y., Dory, C., Radulaski, M., Kelaita, Y., Fischer, K. A., Shen, Z., Melosh, N. A., Chu, S., Vuckovic, J., IEEE
IEEE.2017
- **Effects of Homodyne Interference on Jaynes-Cummings Emission for Single Photon Generation**
Fischer, K. A., Kelaita, Y. A., Sapra, N. V., Dory, C., Lagoudakis, K. G., Mueller, K., Vuckovic, J., IEEE
IEEE.2017
- **Scalable Quantum Photonics with Single Color Centers in Silicon Carbide**
Radulaski, M., Widmann, M., Niethammer, M., Zhang, J., Lee, S., Rendler, T., Lagoudakis, K. C., Nguyen Tien Son, Janzen, E., Ohshima, T., Wrachtrup, J., Vuckovic, J., IEEE
IEEE.2017
- **Nonclassical Light Generation From III-V and Group-IV Solid-State Cavity Quantum Systems** *ADVANCES IN ATOMIC, MOLECULAR, AND OPTICAL PHYSICS, VOL 66*
Radulaski, M., Fischer, K. A., Vuckovic, J., Arimondo, E., Lin, C. C., Yelin, S. F.
2017; 66: 111–79
- **Tuning the Photon Statistics of a Strongly Coupled Nanophotonic System**
Dory, C., Fischer, K. A., Mueller, K., Lagoudakis, K. G., Sarmiento, T., Rundquist, A., Zhang, J. L., Kelaita, Y., Sapra, N. V., Vuckovic, J., IEEE
IEEE.2017
- **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.
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- **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., Lichtmannecker, 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.
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