ADDRESS

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EDUCATION

Ph.D	Electrical Engineering	California Institute of Technology	2002
M.S.	Electrical Engineering	California Institute of Technology	1997
Diploma	Electrical Engineering	University of Nis, Serbia	1994

APPOINTMENTS

September 2014 – present: Professor of Electrical Engineering and by courtesy of Applied Physics, Stanford University; a faculty member of the Ginzton Lab, PULSE Institute, and Bio-X

February 2013 - present: Professor of Electrical Engineering, Stanford University; a faculty member of Ginzton Lab

Sept. 2008 – January 2013: Associate Professor of Electrical Engineering (with tenure), Stanford University

January 2003–Aug. 2008: Assistant Professor of Electrical Engineering, Stanford University.

September 2002–December 2002: Acting Assistant Professor of Electrical Engineering, Stanford University.

January 2002–August 2002: Postdoctoral Scholar, Stanford University, Applied Physics Department.

2002: Consultant, Luxtera Inc.

Sept 1996–December 2001: Research and Teaching Assistant, California Institute of Technology.

1996: Research and Teaching Assistant, Communications Science and Engineering Group, School of Electrical Engineering, University of Sydney, Australia.

1994–1995: Research and Teaching Assistant, Faculty of Electronic Engineering, University of Nis, Yugoslavia.

AWARDS and HONORS

2015: Fellow of the Optical Society of America (OSA)

2015: Fellow of the American Physical Society (APS), Division of Atomic Molecular and Optical Physics

2013: Hans Fischer Senior Fellow at the Institute for Advanced Studies, Technical University of Munich, Germany

2012: Marko V. Jaric Award for outstanding achievements in physics (the top physics prize in Serbia)

2010: Humboldt Prize (Humboldt Research Award), Alexander von Humboldt Foundation, Germany

2009: Teaching Excellence Award, Society of Women Engineers, Stanford University

2008: Chambers Faculty Scholar, Stanford University

2008: DARPA Young Faculty Award

2007: Presidential Early Career Award for Scientists and Engineers (PECASE)

2006: Okawa Foundation Research Grant Recipient

2006: Office of Naval Research Young Investigator Award

2003: Frederick E. Terman Fellowship, Stanford University

2002: Charles Lee Powell Foundation Faculty Award

1996: Postgraduate Research Award (UPRA) from the University of Sydney, Australia

1994: Silver Sign of the University of Nis, awarded to the best university student in the graduating class

1994: Best student at the Faculty of Electronic Engineering, University of Nis, Serbia

1993, 1991: The October Award (the highest award for student achievements at the University of Nis)

1989-1993 Fellowship from the Foundation for Development of Sciences and Arts, Yugoslavia, awarded to most talented high-school and university students in Yugoslavia (awarded as a high-school student, continued throughout university)

Before 1989: a number of top awards in physics and math competitions in Serbia and Former Yugoslavia.

RESEARCH ACTIVITIES & INTERESTS

Broad definition: experimental and theoretical research in nanophotonics and quantum photonics.

Topics include: Quantum optics, cavity QED, quantum information processing with semiconductor devices; nonlinear optics with nanophotonic structures; inverse nanophotonic design; nanophotonic intracellular sensors.

Recent selected achievements: inverse design and demonstration of a robust, ultra-compact, and broadband on-chip wavelength demultiplexer (*Nature Photonics, June 2015);* coherent generation of nonclassical light on a chip via detuned photon blockade (*Physical Review Letters, June 2015*); demonstration of wavelength demultiplexing grating coupler based on inverse design (*Scientific Reports, December 2014*); demonstration of single cell nanocavity probe (*Nano-Letters, November 2013*); demonstration of the ultrafast and efficient single mode photonic crystal LED (*Nature Communications*, Nov. 2011); demonstration of the lowest threshold (~180nA) electrically injected laser (*Nature Photonics, May 2011*); demonstration of the control of a photonic crystal cavity reflectivity with a single quantum dot and of the optical nonlinearity at a single photon level (*Nature, Dec. 2007*), of controlled phase shift with a single quantum dot in a photonic crystal cavity (*Science, May 2008*), of photon blockade and photon induced tunneling (*Nature Physics, Sept. 2008*), and of electrical control of a single quantum dot (*Phys. Rev. Letters, Feb. 2010*). Demonstration of a high directo modulation speed in photonic crystal laser (*Nature Physics, July 2006*).

PROFESSIONAL ACTIVITIES

Scientific Advisory Board Member, *Max Planck Institute of Quantum Optics (MPQ), Munich, Germany,* May 2015-December 2020

Scientific Advisory Board Member, *Ferdinand-Braun Institute, Leibnitz Institute for high frequency techniques, Berlin, Germany,* April 2015-March 2019

International Advisory Board Member, *PECS XII* The University of York, UK, April 2016

Editorial Advisory Board Member, *Nature Quantum Information,* Aug. 2014-present

Editorial Advisory Board Member, *ACS Photonics,* Jan. 2014-present

Topical Editor, *Nanophotonics*, May 2012-present

Editorial Board, New Journal of Physics, Jan. 2014 – Aug. 2014

Co-Editor of the *New Journal of Physics*, Focus Issue on the cavity QED in solids, 2012

Quantum Africa II, Sep. 2012, Program Committee member

Expert Adviser/External Panelist for the Nature Index (Nature Publishing Group), Aug. 2011

Special Issue of the IEEE Journal of Selected Topics in Quantum Electronics (JSTQE) on Quantum and Nanoscale Photonics, 2012 - Primary Guest Editor

Co-Editor of the *New Journal of Physics*, Focus Issue on integrated quantum photonics/optics, 2011

PECS IX (9th International Conference on Photonic and Electromagnetic Crystal Structures), 2010 – International Organizing Committee Member

CLEO/EQEC Europe 2009 – Semiconductor Lasers Committee Member

QELS 2008 - Subcommittee chair for "Fundamental optics in periodic and random media"

IEEE LEOS (*Lasers and Electro-Optics Society*) Nanophotonics Committee Member, 2006

Co-Editor of the *New Journal of Physics*, Focus Issue on Single-Photons on Demand, 2004

Principal Investigator of the ARO-IARPA MURI Center for Photonic Quantum Information Systems, 2003-2008

Regular reviewer of scientific publications for: *Nature, Science, Nature Physics, Nature Photonics, Nature Materials, Nature Communications, Nature Nanotechnology , Nano Letters, Applied Physics Letters, Physical Review Letters, Physical Reviews A, B, E, X, IEEE Journal of Quantum Electronics and Journal on Selected Topics in Quantum Electronics, Photonics Technology Letters, Optics Letters, Optics Express, New Journal of Physics,* etc.

Reviewer of research proposals for a number of funding agencies and institutes in the USA and abroad

Chair of sessions at numerous conferences including Gordon Research Conferences on Quantum Information Science and Plasmonics, CLEO/QELS, IEEE LEOS Annual Meetings, SPIE Annual Meeting - Photonics West, etc.

Co-organizer of the *Stanford Photonics Research Center Annual Symposium* (Sept. 2003, 2005, 2008, 2010, 2012), *Nanophotonics Workshop at Stanford University* (Jan. 2004), *MURI Center for Photonic Quantum Information Systems Kick-Off and Review Meetings* (Oct. 2003, 2006 and 2007), and the *Quantum Repeater Workshop* (Harvard, November 2005).

Advisor for Stanford Women in Engineering (WEE) Society (2005-present), Stanford Nanoscience & Nanotechnology Student Society (2008-present), and Stanford EE Undergraduates Society FUSE (2014-present)

Panelist at various student and professional events

TEACHING AND COURSE DEVELOPMENT

Stanford University, 2003-present:
Introduced, developed, and taught one graduate and three undergraduate classes:

- "Advanced Topics in Optics and Quantum Optics: *Optical Microcavities"* (EE340)
- "Introduction to nanophotonics and nanostructures" (EE136)
- "Freshman seminar: From science fiction to science and engineering" (EE016N)

- Introductory engineering electromagnetics (EE42 – in progress)

Also lectured and helped develop the following classes:

- Applied Quantum Mechanics I (EE222)
- Applied Quantum Mechanics II (EE223)
- Photonics Laboratory (EE234)
- Engineering electromagnetics (EE141/EE142)
- Optics and Quantum Electronics Seminar (AP483)

California Institute of Technology (1996-2001):
Teaching assistant for Solid-state physics (APh114abc), Solid-state devices (EE/APh180), Solid-state electronics for integrated circuits laboratory (APh9)

University of Sydney (1996) and *University of Nis, Serbia* (1994-1995):
Teaching assistant for a number of courses on solid-state devices, analog and digital circuits.

MENTORING and ADVISING

Present and former PhD students (Stanford University, 2003-present)

1. Hatice Altug (PhD Appl. Phys., 2006): Associate Professor, Bioengineering, EPFL
2. Dirk Englund (PhD Appl. Phys., 2008): Assistant Professor, Electrical Engineering and Computer Science, MIT
3. Ilya Fushman (PhD Appl. Phys., 2008): General partner at Index Ventures
4. Andrei Faraon (PhD Appl. Phys., 2009): Assistant Professor, Applied Physics, Materials Science, and Biomedical Engineering, Caltech
5. Maria Makarova (PhD EE, 2010): Lecturer, Technologico de Monterrey, Monterrey, Mexico
6. Yiyang Gong (PhD EE, 2010): Assistant Professor of Biomedical Engineering at Duke
7. Bryan Ellis (PhD EE, 2011): Research Scientist, Foveon
8. Kelley Rivoire (PhD EE, 2012): Data Scientist, Stripe
9. Arka Majumdar (PhD EE, 2012): Assistant Professor of Electrical Engineering and Physics, University of Washington, Seattle
10. Gary Shambat (PhD EE, 2013): Optics & display technical program manager for virtual reality, Google
11. Jesse Lu (PhD EE, 2013): Software Engineer, Google/YouTube
12. Sonia Buckley (PhD Appl. Phys., 2014): NRC postdoctoral fellow, NIST, Boulder
13. Armand Rundquist (PhD EE, 2015)
14. Jan Petykiewitz (PhD EE, expected 2016)
15. Marina Radulaski (PhD Appl. Phys., expected 2016)
16. Yousif Kelaita (PhD EE, expected 2017)
17. Kevin Fischer (PhD EE, expected 2017)
18. Alexander Piggott (PhD EE, expected 2017)
19. Linda Zhang (PhD Appl. Phys., expected 2018)

20. Neil Sapra (PhD Physics, expected 2020)

Present and former postdocs

1. Edo Waks (2003-2006): Associate Professor of Electrical and Computer Engineering, University of Maryland and JQI
2. Vanessa Sih (2007-2008): Associate Professor of Physics, University of Michigan
3. Erik Kim (2009-2011): Research Scientist, HGST
4. Michal Bajcsy (2010-2013): Assistant Professor, Institute for Quantum Computing (IQC) and Electrical and Computer Engineering, University of Waterloo, Canada
5. Tom Babinec (2012-2015): Research scientist, Army Research Laboratory
6. Kai Mueller (2013-2015): Senior research scientist, Schottky Institute, Technical University Munich, Germany
7. Konstantinos Lagoudakis (2012-)
8. Tomas Sarmiento (2013-)

OTHER INTERESTS AND SKILLS

Languages: Serbian (native), English (fluent), French (intermediate).
Computer languages: C, C++,Tcl
Nanofabrication techniques (etching, e-beam lithography, etc)

PUBLICATIONS

As of September 2015, ~160 published in refereed journals. Work cited more than 14500 times, h-index of 61 (Google Scholar)
13 book chapters
12 issued US patents, several pending
Over 200 invited talks, seven plenary, and two keynote talks
(the list follows; selected publications available online on the website)

PUBLICATIONS LIST

REFEREED JOURNAL PUBLICATIONS

Published

1. Jingyuan Linda Zhang, Hitoshi Ishiwata, Thomas M. Babinec, Marina Radulaski, Kai Müller, Konstantinos G. Lagoudakis, Constantin Dory, Jeremy Dahl, Robert Edgington, Veronique Soulièr, Gabriel Ferro, Andrey A. Fokin, Peter R. Schreiner, Zhi-Xun Shen, Nicholas A. Melosh, Jelena Vučković, "Hybrid group IV nanophotonic structures incorporating diamond Silicon-Vacancy Color Centers," *Nano Letters,* Article ASAP DOI: 10.1021/acs.nanolett.5b03515 (2015)
2. Kevin A. Fischer, Kai Müller, Armand Rundquist, Tomas Sarmiento, Alexander Y. Piggott, Yousif Kelaita, Constantin Dory, Konstantinos G. Lagoudakis, Jelena Vuckovic, "Self-homodyne measurement of a pulsed Mollow triplet in the solid state," to appear in *Nature Photonics* (2015)
3. David S. Sukhdeo, Jan Petykiewicz, Shashank Gupta, Daeik Kim, Sungdae Woo, Youngmin Kim, Jelena Vučković, Krishna C. Saraswat, and Donguk Nam,, "Ge Microdisk with Lithographically-Tunable Strain using CMOS-Compatible Process," *Optics Express,* ol. 23, No. 26, pp. 33249-33254 (2015)
4. Edward T. Fei, Xiaochi Chen, Kai Zang, Yijie Huo, Gary Shambat, Gerald Miller, Xi Liu, Raj Dutt, Theodore I. Kamins, Jelena Vuckovic, James S. Harris, "Investigation of Ge Quantum-Well Light Sources," *Optics Express,* vol. 23, No. 17, pp. 22424-22430 (2015)
5. G. Reithmaier, F. Flassig, S. Lichtmannecker, K. Müller, A. Andrejew, J. Vuckovic, R. Gross, M. Kaniber and J. J. Finley, "On-chip generation, routing and detection of resonance fluorescence," *Nano Letters,* DOI: 10.1021/acs.nanolett.5b01444 (2015)
6. Kai Mueller, Kevin A. Fischer, Armand Rundquist, Konstantinos G. Lagoudakis, Constantin Dory, Tomas Sarmiento, Victoria Borish, Yousif A. Kelaita, and Jelena Vuckovic, "Ultrafast polariton-phonon dynamics of strongly coupled quantum dot-nanocavity systems," *Physical Review X,* vol. 5, 031006 (2015)

   Also highlighted by APS (at http://physics.aps.org/): "Good Vibrations," by Jessica Thomas
7. Kai Mueller, Armand Rundquist, Kevin Fischer, Tomas Sarmiento, Konstantinos G Lagoudakis, Yousif Kelaita, Carlos Sanchez Munoz, Elena del Valle, Fabrice P. Laussy, and Jelena Vuckovic, "Coherent generation of nonclassical light on chip via detuned photon blockade" *Physical Review Letters,* vol. 114, 233601 (2015)
8. Alexander Y. Piggott, Jesse Lu, Konstantinos G. Lagoudakis, Jan Petykiewicz, Thomas M. Babinec, and Jelena Vuckovic, "Inverse design and demonstration of a robust, ultra-compact, and broadband on-chip wavelength demultiplexer," *Nature Photonics,* vol. 9, pp. 374-377 (2015)

   Featured:

- on the cover of the June 2015 issue of *Nature Photonics*
- in the *News and Views* article by K. Aydin, "Integrated optics: nanostructured silicon success," *Nature Photonics,* vol. 9, pp. 353-355 (2015)
- and in numerous media outlets, including *Stanford University News, San Jose Mercury News, Scientific American, Phys.org, Motherboard/Vice, Laser Focus World, Optics and Photonics News, Y Combinator News, ACM News, EurekAlert, Science Alert, Nanotechnology Now, E&T Magazine, R&D magazine, Gizmodo, Futurity*, etc

9. Sanfeng Wu, Sonia Buckley, John Schaibley, Liefeng Feng, Jiaqiang Yan, David G. Mandrus, Fariba Hatami, Wang Yao, Jelena Vučković, Arka Majumdar, Xiaodong Xu, "Ultra-low threshold monolayer semiconductor nanocavity lasers," *Nature,* vol. 520, pp. 69-72 (2015)
10. Marina Radulaski, Thomas M. Babinec, Kai Müller, Konstantinos G. Lagoudakis, Jingyuan Linda Zhang, Sonia Buckley, Yousif A. Kelaita, Kassem AlAssaad, Gabriel Ferro and Jelena Vučković, "Photoluminescence from cubic (3C) silicon carbide microdisks coupled to high quality whispering gallery modes," *ACS Photonics,*vol. 2, 14-19 (2014)
11. Alexander Y. Piggott, Jesse Lu, Thomas M. Babinec, Konstantinos G. Lagoudakis, Jan Petykiewicz, and Jelena Vuckovic, "Inverse design and implementation of a wavelength demultiplexing grating coupler," *Scientific Reports,* vol. 4, article 7210 (2014)

    Featured in Stanford University News, DOE Office of Science, Phys.org, Fast Company, Gizmodo, IFLScience, MSN, Daily Mail, Silicon Valley Business Journal, etc

    Selected by Phys.org as one of the top ten science and technology developments in 2014
12. Sonia Buckley, Marina Radulaski, Jingyuan Linda Zhang, Jan Petykiewicz, Klaus Biermann, Jelena Vuckovic, "Multimode nanobeam cavities for nonlinear optics: high quality resonances separated by an octave," *Optics Express,* Vol. 22, Iss. 22, pp. 26498–26509 (2014)
13. Sonia Buckley, Marina Radulaski, Linda Zhang, Jan Petykiewicz, Klaus Biermann, Jelena Vuckovic, "Nonlinear frequency conversion using high quality modes in GaAs nanobeam cavities," *Optics Letters,* vol. 39, No. 19, pp. 5673–5676 (2014)
14. Konstantinos G. Lagoudakis, Kevin A. Fischer, Tomas Sarmiento, Kai Mueller and & Jelena Vuckovic, "Hole Spin Pumping and Repumping in a p-type δ-doped InAs Quantum Dot," to appear in *Physical Review B,* vol. 90, 121402(R), (2014)
15. G. Reithmaier, F. Flassig, P. Hasch, S. Lichtmannecker, K. Mueller, M. Bichler, J. Vuckovic, R. Gross, M. Kaniber, and J. J. Finley, "A carrier relaxation bottleneck probed in single InGaAs quantum dots using integrated superconducting single photon detectors," *Applied Physics Letters,* vol. 105, 081107 (2014)
16. A. Rundquist, M. Bajcsy, A. Majumdar, T. Sarmiento, K. Fischer, K. Lagoudakis, S. Buckley, and J. Vuckovic, "Non-classical three photon correlations with a quantum dot strongly coupled to a photonic-crystal nanocavity," *Physical Review A,* vol. 90, 023846 (2014)

17. Alexander Y. Piggott, Konstantinos G. Lagoudakis, Tomas Sarmiento, Michal Bajcsy, Gary Shambat, and Jelena Vuckovic, "Photo-oxidative tuning of individual and coupled GaAs Photonic Crystal Cavities," *Optics Express,* Vol. 22, 12, pp. 15017-15023 (2014)
18. Sonia Buckley, Marina Radulaski, Jan Petykiewicz, Konstantinos G. Lagoudakis, Ju-Hyung Kang, Mark Brongersma, Klaus Biermann, Jelena Vuckovic, "Below bandgap second harmonic generation in GaAs photonic crystal cavites in (111)B and (001) crystal orientations," *ACS Photonics*, vol. 1, No. 6, pp 516–523 (2014)
19. Sanfeng Wu, Sonia Buckley, Aaron M. Jones, Jason S. Ross, Nirmal J. Ghimire, Jiaqiang Yan, David G. Mandrus, Wang Yao, Fariba Hatami, Jelena Vuckovic, Arka Majumdar, Xiaodong Xu, "Control of Two-Dimensional Excitonic Light Emission via Photonic Crystal," *2D Materials*, vol. 1 . 011001 (2014)
20. Waqas Mustafeez, Arka Majumdar, Jelena Vuckovic and Alberto Salleo, "A direct measurement of the electronic structure of Si nanocrystals and its effect on optoelectronic properties," *Journal of Applied Physics*, vol. 115, 103515 (2014)
21. Marina Radulaski, Thomas M. Babinec, Sonia Buckley, Armand Rundquist, J Provine, Kassem Alassaad, Gabriel Ferro, and Jelena Vučković, "Photonic Crystal Cavities in Cubic Polytype Silicon Carbide Films," *Optics Express*, Vol. 21, No. 26, pp. 32623-32629 (2013)
22. Konstantinos G. Lagoudakis, Kevin Fischer, Tomas Sarmiento, Arka Majumdar, Armand Rundquist, Jesse Lu, Michal Bajcsy and Jelena Vučković, "Deterministically Charged Quantum Dots in Photonic Crystal Nanoresonators for Efficient Spin-Photon Interfaces," *New Journal of Physics*, vol. 15, 113056 (2013)
23. Sonia Buckley, Marina Radulaski, Klaus Biermann, and Jelena Vuckovic, "Second Harmonic Generation in Photonic Crystal Cavities in [111]-Oriented GaAs," *Applied Physics Letters*, vol. 103, 211117 (2013)
24. Arka Majumdar, Jonghwan Kim, Jelena Vuckovic and Feng Wang, "Graphene for Tunable Nanophotonic Resonators," *IEEE Journal of Selected Topics in Quantum Electronics*, VOL. 20, No. 1, article 4600204, (Jan-Feb 2014) [invited article]

    One of the top downloaded articles from IEEE JSTQE, September 2013
25. Arka Majumdar, Per Kaer, Michal Bajcsy, Erik D. Kim, Armand Rundquist, Konstantinos Lagoudakis, and Jelena Vuckovic, "Proposed Coupling of an Electron Spin in a Semiconductor Quantum Dot to a Nanosize Optical Cavity," *Physical Review Letters, vol.* 111, 027402 (2013)
26. Donguk Nam, David Sukhdeo, Juhyung Kang, Jan Petykiewicz, Jae Hyung Lee, Woo Shik Jung, Jelena Vuckovic, Mark Brongersma, and Krishna Saraswat, "Strain-Induced Homo-Compositional Heterostructure Nanowires Confining Carriers at Room Temperature with Nanoscale-Tunable Band Profiles," *Nano-Letters,* vol. *13* (7), pp 3118–3123 (June 2013)
27. Jesse Lu and Jelena Vuckovic, "Nanophotonic Computational Design," *Optics Express,* Vol. 21, No. 11, pp. 13351-13367 (2013)

28. Gary Shambat, Sri Rajashekhar Kothapalli, J Provine, Tomas Sarmiento, James Harris, Sanjiv Sam Gambhir, and Jelena Vuckovic, "Single-cell photonic nanocavity probes," *Nano-Letters*, vol. 13, No. 11, pp. 4999-5005 (2013)

    Selected for the cover of Nano Letters (November 2013), and featured in the Stanford Report (Feb. 2013), Stanford Engineering News, Popular Science, Laser Focus World, ScienceDaily, Photonics.com, Phys.org, Compound Semiconductor News, IEEE Spectrum, Biofutur, BioOptics World…

29. M. Bajcsy, A. Majumdar, A. Rundquist, and J. Vuckovic, "Photon blockade with a four-level quantum emitter coupled to a photonic-crystal Nanocavity," *New Journal of Physics*, vol. 15 025014 (2013)

30. Arka Majumdar, Jonghwan Kim, Jelena Vuckovic , Feng Wang, "Electrical Control of Silicon Photonic Crystal Cavity by Graphene," *Nano Letters*, vol. *13* (2), pp 515–518 (2013)

31. Arka Majumdar, Armand Rundquist, Michal Bajcsy, Vaishno Daisika, Seth Bank, and Jelena Vuckovic, "Design and analysis of photonic crystal coupled cavity arrays for quantum simulation," *Physical Review B*, vol. 86, 195312 (2012)

32. Sonia Buckley, Kelley Rivoire, and Jelena Vuckovic, ""Engineered quantum-dot single photon sources," *Reports on Progress in Physics*, vol. 75, 126503 (2012) [invited article]

33. Sonia Buckley, Kelley Rivoire, Fariba Hatami, and Jelena Vuckovic, "Quasiresonant Excitation of GaP/InGaP Quantum Dots Using Intra-Cavity Second Harmonic Generation," *Applied Physics Letters*, vol. 101, 161116 (2012)

34. Arka Majumdar, Michal Bajcsy, Dirk Englund, and Jelena Vuckovic, "All Optical Switching with a Single Quantum Dot Strongly Coupled to a Photonic Crystal Cavity," *IEEE Journal of Selected Topics in Quantum Electronics, Focus Issue on Nanoscale and Quantum Photonics*, Vol 18, pp. 1812-1817 (2012)

35. Gary Shambat, Bryan Ellis, Jan Petykiewicz, Marie A. Mayer, Arka Majumdar, Tomas Sarmiento, James Harris, Eugene E. Haller, and Jelena Vuckovic, "Electrically driven photonic crystal nanocavity devices," *IEEE Journal of Selected Topics in Quantum Electronics, Focus Issue on Nanoscale and Quantum Photonics*, Vol 16, pp. 1700-1710 (2012)

36. Arka Majumdar, Armand Rundquist, Michal Bajcsy, and Jelena Vuckovic, "Cavity Quantum Electrodynamics of a Single Quantum Dot Coupled to a Photonic Molecule," *Physical Review B, vol.* 86, 045315 (2012)

37. Jan Petykiewicz, Gary Shambat, Bryan Ellis, Jelena Vuckovic, "Electrical properties of GaAs photonic crystal cavity lateral PIN diodes," *Applied Physics Letters*, vol. 101, 011104 (2012)

38. Gary Shambat, Sri Rajasekhar Kothapalli, Aman Khurana, J Provine, Tomas Sarimento, Kai Cheng, Zhen Cheng, James Harris, Heike Daldrup-Link, Sanjiv Sam Gambhir, and Jelena Vuckovic, "A photonic crystal cavity-optical fiber tip nanoparticle sensor for biomedical applications," *Applied Physics Letters*, vol. 100, 213702 (2012)

39. Arka Majumdar, Michal Bajcsy, Armand Rundquist, Erik Kim, and Jelena Vuckovic, "Phonon-mediated coupling between quantum dots through an off-resonant microcavity," *Physical Review B,* vol. 85, 195301 (2012)

40. Arka Majumdar, Michal Bajcsy, Armand Rundquist, and Jelena Vuckovic, " Loss-enabled sub-Poissonian light generation in a bimodal nanocavity," *Physical Review Letters,* vol. 108, 183601 (2012)

41. Arka Majumdar*, Michal Bajcsy*, and Jelena Vuckovic, "Probing the ladder of dressed states and nonclassical light generation in quantum dot-cavity QED," *Physical Review A* 85, 041801(R) (2012) *[* equal contributors]*

42. Jesse Lu and Jelena Vuckovic, "High-Efficiency, Small-Footprint Couplers Between Arbitrary Nanophotonic Waveguide Modes," *Optics Express*, Vol. 20, No. 7, pp. 7221-7236 (2012)

43. Arka Majumdar, Dirk Englund, Michal Bajcsy, and Jelena Vuckovic, "Nonlinear Temporal Dynamics of Strongly Coupled Quantum dot-Cavity System," *Physical Review A,* 85, 033802 (2012)

44. Dirk Englund, Arka Majumdar, Michal Bajcsy, Andrei Faraon, Pierre Petroff, and Jelena Vuckovic, " Ultrafast photon-photon interaction in a strongly coupled quantum dot-cavity system," *Physical Review Letters,* vol. 108, 093604 (2012)

45. Kelley Rivoire, Sonia Buckley, Yuncheng Song, Paul J. Simmonds, Minjoo Larry Lee, Jelena Vuckovic, "Photoluminescence from $In_{0.5}Ga_{0.5}As$/GaP quantum dots coupled to photonic crystal cavities," *Physical Review B,* vol. 85, 045319 (2012)

46. Alexander Papageorge, Arka Majumdar, Erik D. Kim, and Jelena Vuckovic, "Bichromatic Driving of a Solid State cavity QED System," *New Journal of Physics,* vol. 14, 013028 (2012)

47. Armand Rundquist, Arka Majumdar, and Jelena Vuckovic, "Off-resonant coupling between a single quantum dot and a nanobeam photonic crystal cavity," *Applied Physics Letters,* vol. 99, 251907 (2011)

48. Gary Shambat, Bryan Ellis, Arka Majumdar, Jan Petykiewicz, Marie Mayer, Tomas Sarmiento, James Harris, Eugene E. Haller, and Jelena Vuckovic, "Ultrafast direct modulation of a single mode photonic crystal nanocavity light-emitting diode, *Nature Communications,* 2:539 doi: 10.1038/ncomms1543 (2011)

    Featured in Stanford Report, San Francisco Chronicle, Stanford Daily, Wired, Forbes, Physorg, Science Codex, Stanford School of Engineeering News, Laser Focus World, Science Daily, BBC Mundo, Fox News, etc.

    One of top downloaded and top e-mailed articles from Nature Communications

49. Gary Shambat, J Provine, Kelley Rivoire, Tomas Sarmiento, James Harris, and Jelena Vuckovic, "Optical fiber tips functionalized with semiconductor photonic crystal cavities," *Applied Physics Letters,* vol. 99, 191102 (2011)

    One of the top read articles in Applied Physics Letters in Nov. 2011

50. Arka Majumdar, Erik Kim, and Jelena Vuckovic, " The effect of photo-generated carriers on the spectral diffusion of a quantum dot coupled to a photonic crystal cavity," *Physical Review B,* vol. 84, 195304 (2011)

51. Kelley Rivoire, Sonia Buckley, and Jelena Vuckovic, "Multiply resonant photonic crystal cavities for nonlinear frequency conversion," *Optics Express Focus Issue:* "Collective phenomena in photonic, plasmonic and hybrid structures," *vol.* 19, pp. 22198-22207 (2011) [invited article]

52. Seongjae Cho, Robert Chen, Sukmo Koo, Gary Shambat, Namkyoo Park, Jelena Vučković, Theodore I. Kamins, Byung-Gook Park, and James S. Harris, Jr., "Fabrication and Analysis of Epitaxially Grown $Ge_{1-x}Sn_x$ Microdisk Resonator with 20-nm Free Spectral Range," *IEEE Photonics Technology Letters,* Vol. 23, No. 20, pp. 1535-1537 (2011)

53. Arka Majumdar, Alexander Papageorge, Erik D. Kim, Michal Bajcsy, Hyochul Kim, Pierre Petroff & Jelena Vuckovic, "Probing of Single Quantum Dot Dressed States Via an Off-Resonant Cavity," *Physical Review B,* vol. 84, 085310 (2011)

54. Arka Majumdar, Yiyang Gong, Erik D. Kim, Michal Bajcsy, and Jelena Vuckovic, " Phonon-mediated off-resonant quantum dot-cavity coupling under resonant excitation of the quantum dot," *Physical Review B,* vol. 84, 085309 (2011)

55. Gary Shambat, Bryan Ellis, Jan Petykiewicz, Marie A. Mayer, Tomas Sarmiento, James Harris, Eugene E. Haller, and Jelena Vuckovic, "Nanobeam Photonic Crystal Cavity Light-Emitting Diodes," *Applied Physics Letters,* vol. 99, 071105 (2011)

    One of the top downloaded articles from *Applied Physics Letters* in August 2011

56. Kelley Rivoire, Sonia Buckley, and Jelena Vuckovic, "Multiply resonant photonic crystal nanocavities," *Applied Physics Letters,* vol. 99, 013114 (2011)

57. Szu-Lin Cheng, Gary Shambat, Jesse Lu, Hyun-Yong Yu, Krishna Saraswat, Ted Kamins, Yoshio Nishi, and Jelena Vuckovic, "Cavity-enhanced direct band electroluminescence near 1550nm from germanium microdisk resonator diode on silicon," *Applied Physics Letters,* Vol. 98, 211101 (2011)

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PLENARY AND KEYNOTE TALKS

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2. Jelena Vuckovic, *CLEO (Conference on Lasers and Electro-Optics)*, San Jose, CA, June 5-10, 2016 [plenary]
3. Jelena Vuckovic, "Nanophotonic devices: from nanolasers to single cell probes," *58th International Conference on Electron, Ion, Photon Beam Technology, and Nanofabrication (EIPBN2014,also known as "Three Beams")*, Washington, DC, May 27-30, 2014 [plenary]
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5. Gary Shambat and Jelena Vuckovic, "Single Cell Nanocavity Probes," Plenary session of the *BiOS Hot Topics*, BiOS/Photonics West conference, San Francisco February 1st, 2014
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14. Jelena Vuckovic, "Quantum nanophotonics," *Kavli Institute for Theoretical Physics* (*KITP) conference on non-equilibrium dynamics of strongly interacting photons*, KITP, UCSB, Santa Barbara, Oct 5-9, 2015.
15. Jelena Vuckovic, "Quantum Nanophotonics," *Fundamental Optical Processes in Semiconductors (FOPS)*, Breckenridge, Colorado, August 2-7, 2015

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19. Jelena Vuckovic, *Atomic Physics Gordon Conference,* Salve Regina University, Newport, RI June 14 - 19, 2015.
20. Jelena Vuckovic, *Photonics North 2015, Special Symposium on Quantum Information with Atoms, Molecules, and Photons,* Ottawa June 9th to 11th, 2015
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32. Jelena Vuckovic, "Optical nanocavities: from light sources to single cell probes," *IEEE Photonics Conference 2013*, Bellevue, Washington, September 2013
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77. Dirk Englund, Jelena Vuckovic, "Classical and quantum light sources based on photonic crystals," *SPIE Optics and Photonics Meeting,* San Diego, Aug. 10-14, 2008
78. Jelena Vuckovic, Andrei Faraon, Ilya Fushman, Dirk Englund, "Controlling photonic crystal cavity reflectivity with a single quantum dot: from quantum information processing to single photon nonlinear optics," *European Materials Research Society (EMRS) Spring Meeting*, Symposium on Active materials in photonic crystals for (strong) light matter coupling, Strasbourg, France, May 26-30, 2008
79. Jelena Vuckovic, Dirk Englund, Ilya Fushman, Bryan Ellis, and Hatice Altug, "Ultrafast photonic crystal nanocavity lasers and optical switches," *SPIE Photonics West Conference*, Conference on "Physics and Simulation of Optoelectronic Devices," San Jose, CA, Jan. 2008
80. Jelena Vuckovic, Dirk Englund, Andrei Faraon, Ilya Fushman, Vanessa Sih "Quantum information processing with quantum dots in photonic crystals," *SPIE Photonics West Conference*, Conference on "Advanced Optical Concepts in Quantum Computing, Memory and Communication," San Jose, CA, Jan. 2008

81. Jelena Vuckovic, Dirk Englund, Andrei Faraon, Ilya Fushman, Bryan Ellis, and Hatice Altug "Photonic crystal chips for optical interconnects and quantum information processing," *SPIE Photonics West Conference*, Conference on "Photonic Crystal Materials and Devices," San Jose, CA, Jan. 2008
82. Jelena Vuckovic, Ilya Fushman, Andrei Faraon, Dirk Englund, Bryan Ellis, Yiyang Gong, and Maria Makarova, "Photonic crystal chips for classical and quantum information processing," *ISCS (International Symposium on Compound Semiconductors)*, Kyoto, Japan, Oct. 15-18, 2007
83. Jelena Vuckovic, Ilya Fushman, Andrei Faraon, Dirk Englund, and Bryan Ellis, "Nonlinear optical processes in photonic nanocavities," *OSA Nonlinear Optics Topical Meeting*, Kona, Hawaii, July 30-August 3 2007
84. Jelena Vuckovic, Hatice Altug, Dirk Englund, and Bryan Ellis, "Coupled photonic crystal nanocavity arrays," *CLEO/EUROPE-IQEC 2007*, Munich, Germany, 17 – 22 June 2007
85. Jelena Vuckovic, Andrei Faraon, Dirk Englund, and Ilya Fushman, "Cavity QED with quantum dots in photonic crystals," *the 9th Rochester Conference on Coherence and Quantum Optics (CQO9)*, the University of Rochester, the Symposium on quantum optics in mesoscopic condensed matter devices June 10-13, 2007.
86. Hatice Altug, Dirk Englund and Jelena Vučković, "High Speed Dynamics of Photonic Crystal Nanocavity Laser," *IEEE LEOS Annual Meeting*, Montreal, Canada, Nov. 2006
87. Jelena Vuckovic, "Quantum optics and quantum information processing with photonic crystal devices" *APS LS/OSA XXII Meeting (Quantum Optics in Photonic Materials)*, Rochester, NY, Oct. 2006.
88. Edo Waks, Dirk Englund, Andrei Faraon, Ilya Fushman, Jelena Vuckovic "Nanophotonic devices for quantum information processing," *Third Feynman Festival*, University of Maryland, August 2006.
89. Jelena Vuckovic, Dirk Englund, Ilya Fushman, Andrei Faraon, and Edo Waks, "Quantum information processing with quantum dot-photonic crystal devices," *IEEE/LEOS Summer Topical Meeting on Quantum Information*, Quebec City, Digest. pp. 6-7, Canada, July 2006.
90. Jelena Vuckovic, Ilya Fushman, Dirk Englund, Andrei Faraon, Edo Waks, "Quantum information processing with quantum dot-photonic crystal devices," *Conference on Coherent Control of the Fundamental Processes in Optics and X-Ray Optics*, Nizhny Novgorod – Kazan, Russia, June 29-July 4, 2006.
91. Jelena Vuckovic, "Photonic crystal microcavities for classical and quantum information processing," *ICTON06 (8th International Conference on Transparent Optical Networks)*, Special Session on Microresonators and Photonic Molecules: Trapping, Harnessing, and Releasing Light, Proceedings pp. 75-76, Nottingham, U.K., June 2006.
92. Jelena Vuckovic, Dirk Englund, Edo Waks, Ilya Fushman, and Andrei Faraon, "Nanophotonic devices for quantum information processing," *CLEO/QELS, Joint CLEO/QELS Session on Enabling Technologies for Quantum Communication*, Long Beach, CA, May 2006.
93. Jelena Vuckovic, Dirk Englund, Hatice Altug, Ilya Fushman, Edo Waks, "Nanophotonic

devices for classical and quantum information processing," *NIMS Conference on Photonic Processes in Semiconductor Nanostructures*, Tsukuba, Japan, March 2005.

94. Jelena Vuckovic, Dirk Englund, Hatice Altug, Ilya Fushman, Edo Waks, "Photonic crystal devices for quantum and nanoscale photonics," *SPIE (The International Society for Optical Engineering) Optics East Conference*, Boston, MA, October 2005.

95. Jelena Vuckovic, Dirk Englund, David Fattal, Edo Waks, Bingyang Zhang, Glenn Solomon, Toshihiro Nakaoka,Yasuhiko Arakawa, and Yoshihisa Yamamoto, "Single Photon Source Based on a Quantum Dot in Photonic Crystal," *IQEC/CLEO Pacific Rim*, Tokyo, Japan, July 2005.

96. Edo Waks, Dirk Englund, David Fattal, and Jelena Vuckovic, "Photonic-crystal based single photon source," *SPIE Annual Meeting*, San Diego, CA, July 2005

97. Jelena Vuckovic, "Quantum Dot-Photonic Crystal Devices and Circuits for Quantum Information Processing," *Quantum Communications Research Conference (QCRC)*, Boulder, CO, June 1-3, 2005.

98. Jelena Vuckovic, Dirk Englund, David Fattal, Hatice Altug, Edo Waks, and Yoshihisa Yamamoto, "Photonic Crystal Devices for Quantum and Nanoscale Photonics," *NDSI'05 (Second Conference on Nanoscale Devices and System Integration)*, Houston, Texas, April 4-6, 2005.

99. Jelena Vuckovic, "Photonic Crystal Devices for Quantum and Nanoscale Photonics," *American Physical Society (APS) March Meeting*, Los Angeles, CA, March 2005.

100. Jelena Vuckovic, "Nanophotonic Devices for Quantum Information Science," *Gordon Research Conference on Quantum Information Science*, Ventura, CA, Feb. 2005.

101. Edo Waks, David Fattal, Dirk Englund, Jelena Vuckovic, and Yoshihisa Yamamoto, "Single Photon Generation Using a Single Quantum Dot in a Photonic Crystal Cavity," *Physics of Quantum Electronics 2005*, Snowbird, Utah, Jan. 2005.

102. J. Vuckovic, D. Fattal, D. Englund, E. Waks, C. Santori, G. Solomon, and Y. Yamamoto, "Cavity Enhanced Single Photons From a Quantum Dot," Presented at *SPIE Photonics West, Single Photon Devices Minisymposium*, San Jose, CA, Jan. 2005. Published in *Proc. SPIE*, Vol. 5722, pp. 19-29. 2005.

103. Jelena Vuckovic, David Fattal, Edo Waks, Charles Santori, Dirk Englund, Hatice Altug, and Yoshihisa Yamamoto, "Photonic crystal components for solid- state photonicquantum information systems," *European Materials Research Society (EMRS) Annual Meeting, Symposium on Nanophotonic Materials*, Strasbourg, France, May 2004.

104. J. Vuckovic, H. Altug, E. Waks, D. Fattal, Y. Yamamoto, and D. Englund "Photonic Crystal Structures With Large Density of Optical States," *CLEO (Conference on Lasers and Electro-Optics), Special Symposium on Nonlinear Optical Lattices*, San Francisco, CA, May 2004.

105. J. Vuckovic, D. Fattal, C. Santori, G. Solomon, and Y. Yamamoto "Cavity Enhanced Single and Entangled Photons From a Quantum Dot," *QELS (Quantum Electronics and Laser Science) Conference*, Baltimore, MD, June 2003.

106. J. Vuckovic, C. Santori, D. Fattal, M. Pelton, G. Solomon, B. Zhang, J. Plant, and Y. Yamamoto, "Single Photons and Entangled Photons From a Quantum Dot," *Proc. IEEE Int'l Electron Devices Meeting (IEDM 2002)*, San Francisco, CA, pp. 87-90, December 2002.

107. J. Vuckovic, T. Yoshie, M. Loncar, H. Mabuchi, and A. Scherer, "Nano-Scale Optical and Quantum Optical Devices Based on Photonic Crystals," *Proc. IEEE Conf. on Nanotechnology (IEEE-NANO 2002)*, Washington, DC, August 26-28, 2002, pp. 319-321, 2002.

108. J. Vuckovic, A. Scherer, M. Loncar, T. Yoshie, O. Painter, "Applications of Photonic Crystals in Lasers and Light Emitting Diodes," *MRS (Materials Research Society) Spring Meeting*, San Francisco, CA, April 2002.

109. J. Vuckovic, M. Loncar, T. Yoshie, M. Armen, J. Williams, H. Mabuchi and A. Scherer, "High-Q Optical Nanocavities in Planar Photonic Crystals," *Proc. SPIE Photonics West (LASE 2002)*, San Jose, CA, January 2002, Vol. 4629, pp. 190 199, 2002.

110. A. Scherer, A, O. Painter, J. Vuckovic, M. Loncar, T. Yoshie, D. Dapkus, I. Kim, and T. Pearsall, "Photonic Crystal Cavities and Waveguides," *Conf. Digest of Device Research Conference (DRC)*, University of Notre Dame, Notre Dame, Indiana, June 2001, pp. 115-118, 2001.

111. J. Vuckovic, M. Loncar, O. Painter, and A. Scherer, "Surface Plasmon Enhanced LED," *CLEO/QELS (Conference on Lasers and Electro-Optics/Quantum Electronics and Laser Science)*, San Francisco, CA, May 2000. *Technical Digest, Post-Conference Edition*, Vol. 40, pp. 41-42, and Vol. 39, pp. 123-124, 2002.

SHORT COURSES AT MAJOR INTERNATIONAL CONFERENCES / SUMMER SCHOOLS

112. Jelena Vuckovic, *Nano-Cavity Quantum Electrodynamics and Applications*, CLEO-QELS, San Jose, CA, June 2016

113. Jelena Vuckovic, *Nano-Cavity Quantum Electrodynamics and Applications*, CLEO-QELS, San Jose, CA, May 2015

114. Jelena Vuckovic, *Nano-Cavity Quantum Electrodynamics and Applications*, CLEO-QELS, San Jose, CA, May 2014

115. Jelena Vuckovic, *Ecole de Physique des Houches, Quantum Optics and Nanophotonics Summer School*, Les Houches, France, August 2013.

116. Jelena Vuckovic, *Nano-Cavity Quantum Electrodynamics and Applications*, CLEO-QELS, San Jose, CA, May 2013

117. D. Englund, J. Vuckovic, "Silicon Nanophotonics," Frontiers *in Optics/Laser Science, XXIV annual meeting*, Rochester, NY, Oct. 19-23, 2008

INVITED TALKS AT SYMPOSIA, MEETINGS, AND WORKSHOPS

118. Kai Mueller, Jelena Vuckovic, *Workshop on "Light-matter interactions in low dimensions", Institute for Theoretical Atomic, Molecular, and Optical Physics (ITAMP) at the Harvard-Smithsonian Center for Astrophysics,* Cambridge, MA June 29th-July 1st, 2015

119. Marina Radulaski, Jelena Vuckovic, *First International Symposium on SiC Spintronics*, Vadstena, Sweden, June 15-17 (2015)

120. Jelena Vuckovic, *System-X meeting*, May 2015

121. Jelena Vuckovic, *Stanford University Photonics Retreat*, Pacific Grove, CA, on April 10-12, 2015

122. Jelena Vuckovic, *Kick-off workshop of the European Cooperation in Science and Technology (EU COST) Action MP1403 Nanoscale Quantum Optics*, Belgrade, Serbia, April 2015

123. Tom Babinec, Jelena Vuckovic, *Workshop on Quantum Plasmonics*, Benasque, Spain, March 2015

124. Jelena Vuckovic, "Quantum technologies," *Systems-X kick-off meeting*, Stanford, CA, Nov. 2014

125. Jan Petykiewicz and Jelena Vuckovic, "Design and implementation of nanophotonic circuits for communications and biosensing," *CIS Round Table and Review*, Stanford University, CA, May 2014

126. Jelena Vuckovic, "Coherent control of quantum dots in optical nanocavities," Topical Workshop on *"From atomic to mesoscale: the role of quantum coherence in systems of various complexities," Institute for Theoretical Atomic, Molecular, and Optical Physics (ITAMP),* Cambridge, Massachusetts, USA March 10-12, 2014

127. Jelena Vuckovic, *PRACQSYS 13 (Principles and Applications of Control in Quantum Systems),* August 20-23, 2013, Monterey, CA

128. Armand Rundquist, Arka Majumdar, Michal Bajcsy, Dirk Englund, Andrei Faraon, Erik D. Kim, and Jelena Vuckovic, "Strong photon–photon and photon–phonon interactions in a coupled quantum dot–photonic crystal nanocavity," *The 11th International Workshop on Nonlinear Optics and Excitation Kinetics in Semiconductors (NOEKS 11),* Stuttgart, Germany, September 23 -27, 2012

129. Jelena Vuckovic, *2012 Karles Invitational Quantum Information Science and Technology Conference*, Naval Research Laboratory, Washinton DC, Aug 27-28, 2012

130. Sonia Buckley, Jelena Vuckovic, "Gallium phosphide photonic crystal cavities for enhancing NV center emission," *Frontiers of Diamondoid Science*, Stanford University, Stanford, CA, June 2012.

131. Gary Shambat, Jelena Vuckovic, *CIS Adcom Meeting*, Stanford University, May 2012

132. Gary Shambat, Jelena Vuckovic, *CMOS Emerging Technologies Meeting*, Whistler, BC, June 2011

133. Jelena Vuckovic, "Ultralow threshold electrically injected nanocavity lasers and modulators," *CIS Roundtable and review meeting*, Stanford, CA, May 2011

134. Erik Kim, Jelena Vuckovic, *Quantum Dot Day*, University of Bristol, Bristol, UK (Jan 10, 2010)

135. Jelena Vuckovic, *EE Centennial at CALTECH*, Caltech, Pasadena, CA, Nov. 5-6, 2010.

136. Jelena Vuckovic, *CeNS Workshop "Nanosciences – Merging Disciplines,"* at the Venice International University (VIU), Italy, Sept. 20-24, 2010

137. Jelena Vuckovic, "Photonic crystal nanocavity lasers," *Micro/Nano Laser session at the IEEE Photonics Society Semiconductor Laser Workshop*, *CLEO/QELS*, San Jose, May, 2010

138. Jelena Vuckovic, "Nanophotonics for optical interconnects and light sources," *Center for Integrated Systems Round Table and Review*, Stanford University, May 18-19, 2010

139. Jelena Vuckovic, *Stanford University Photonics Retreat*, Napa, April 2010

140. Yiyang Gong, Jelena Vuckovic, "Nanophotonic devices for classical and quantum information processing," *NNIN Workshop on "Bridging the gap between theory and experiment: what theoretical approach is most suited to solve real problems in nanotechnology and biology,"* Stanford University, Feb. 2010

141. Jelena Vuckovic, Frontiers in Nanoscale Science and Technology Workshop, Harvard University, Cambridge, MA, May 29-31, 2009

142. Jelena Vuckovic, "Quantum nanophotonics: from optical switching with aJ control pulses at 10GHz speed, to quantum information processing," *CIS Roundtable and review meeting*, Stanford, CA, May 2009

143. Dirk Englund, Jelena Vuckovic, *Nanoscience Winterschool*, St. Anton, Arlberg, Austria, March 1-7, 2009.

144. Andrei Faraon and Jelena Vuckovic, workshop on Optical approaches to Topological Cluster State Computing, National Institute for Informatics (NII), Tokyo, Japan (Dec. 2008)

145. Yiyang Gong and Jelena Vuckovic, "Plasmonic enhancement of emission from silicon nanocrystals," G-COE International Symposium for Young Scientists, Kyoto, Japan, October 2008

146. Andrei Faraon, Jelena Vuckovic, "Strong light-matter interaction between quantum dots and photonic crystal cavities," *International Workshop on Fundamentals of Light-Matter Interaction*, Recife, Brazil, October 20-22, 2008

147. Ilya Fushman, Jelena Vuckovic, "Quantum dots in photonic crystals: from quantum information processing to single photon nonlinear optics," *Quantum Cairns International Workshop*, Palm Cove, Cairns, Australia, June 30-July 3, 2008.

148. Dirk Englund, Jelena Vuckovic, "Classical and quantum information processing with quantum dots in photonic crystals," CIPS Annual Meeting, Nanophotonics Session, MIT, *Cambridge*, MA, May 2008

149. Andrei Faraon, Jelena Vuckovic, "Classical and quantum information processing using photonic crystals," *Annual Meeting of CUDOS (Centre for Ultrahigh-bandwidth Devices for Optical Systems, an ARC Centre of Excellence)*, Sydney, Australia, Feb. 2008.

150. Jelena Vuckovic, Dirk Englund, Andrei Faraon, and Ilya Fushman, "Quantum information processing with quantum dots in photonic crystals," *Stanford Photonics Research Center Annual Meeting*, Stanford University, September 2007

151. Ilya Fushman and Jelena Vuckovic, "Photonic Crystal Cavities for Quantum and Classical Information Processing," *Workshop on Physics of Microresonators*, University of North Carolina, Charlotte, NC, June 6-9, 2007

152. Jelena Vuckovic, “Quantum dot-photonic crystal chips for quantum information processing,” *Workshop on Hybrid approaches to scalable quantum information systems*, ITAMP - Harvard, May 24-27 2007.

153. Jelena Vuckovic, “Nanophotonic chips for optical interconnects and quantum communication,” *CIS Spring Round Table and Review*, Stanford, May 2007

154. Jelena Vuckovic, “Nanophotonic chips for optical interconnects and quantum communication,” French-Californian Workshop on Nanophotonics, Stanford March 19th

155. Jelena Vuckovic, “Photonic crystal chips for classical and quantum information processing,” *Stanford-NEC Day*, Stanford University, Feb. 16 2007.

156. Hatice Altug and Jelena Vuckovic, "Photonic crystal devices for nano- and bio-photonics," *NNIN review*, U. of Texas in Austin, Feb. 2006.

157. Jelena Vuckovic, "Photonic Crystal Devices for Optical Interconnects," *MARCO Interconnect Focus Center (IFC) Workshop*, Stanford University, Stanford, CA March 2006.

158. Jelena Vuckovic, "Photonic crystal devices for nanoscale and quantum photonics," *NNIN CIS Round Table and Review Meeting*, Stanford University, Stanford, CA, May 10-11 2005.

159. Jelena Vuckovic, " Photonic crystal devices for quantum and nanoscale photonics," *DARPA Workshop on Frontiers in Quantum Device Engineering*, Los Angeles, CA, Jan. 18-19 2005.

160. Jelena Vuckovic, "Photonic Crystal Devices for Nanophotonics and Quantum Information Processing," *Joint US-Japan Workshop on "Nanophotonics: Beyond the limit of optical technology" (NSF-MEXT Joint Symposium and Public Lecture)*, Tokyo, Japan, October 2004.

161. Jelena Vuckovic, "MURI Center for Photonic Quantum Information Systems," *Advanced Research and Development Activity (ARDA)/Intelligence Technology Innovation Center (ITIC) Quantum Cryptography Research Conference* McLean, VA, Aug.31-Sept. 1, 2004.

162. Jelena Vuckovic, "Photonic crystal devices for nanophotonics and quantum information processing," *Workshop on Mesoscopic Physics, Quantum Optics, and Quantum Information, Institute for Theoretical Atomic and Molecular Physics*, Harvard University, May 2004.

163. Jelena Vuckovic, “Quantum optical devices based on quantum dots in photonic crystals,” *International Symposium on Quantum Entanglement*, Stanford University, Stanford, CA, December 2003.

164. Jelena Vuckovic, “Quantum optical devices based on quantum dots in microcavities,” *Quantum Enabled Science and Technology (QUEST) Workshop*, Santa Fe, NM, August 2003.

165. Jelena Vuckovic, “Quantum information applications of microcavities,” *NSF DARPA Photonics Technology Access Program (PTAP) Optical Microresonators Workshop*, San Diego, CA July 2003.

166. Jelena Vuckovic, “Photonic crystal-based optical and quantum optical devices,” *Symposium of the Center for Fundamental Materials Research*, Michigan State University, East Lansing, MI, March 2003.

167. Jelena Vuckovic, "Paradigm shifts in devices for optoelectronics," *CIS Autumn Roundtables and advisory committee meetings*, Stanford University, Stanford, CA, November 2002.

168. Jelena Vuckovic, "Optical and quantum optical devices in photonic crystals: from nanocavities to single-photon sources," *Stanford Photonics Research Center (SPRC) Annual Meeting*, Stanford University, Stanford, CA, September 2002.

169. Jelena Vuckovic, "Single photons and entangled photons from a quantum dot microcavity," *International Symposium on Quantum Entanglement*, College de France, Paris, France, June 2002.

170. Jelena Vuckovic, "Photonic bandgap materials," *CNOM (Center for Nonlinear Optical Materials) Annual Meeting*, Stanford University, Stanford, CA, September 2000.

INVITED COLLOQUIA AND SEMINARS

171. Jelena Vuckovic, "Inverse design and demonstration of nanophotonic devices," *Global Foundries*, Santa Clara, CA, Aug 2015

172. Jelena Vuckovic, *HQOC/ITAMP Joint Quantum Sciences Seminar*, Harvard, ITAMP, April 2015 [postponed]

173. Jelena Vuckovic, *Physics Colloquium, University of California San Diego*, La Jolla, CA, February 2015

174. Jelena Vuckovic, *IEEE Seminar, University of Toronto, Canada*, September 2014

175. Jelena Vuckovic, *Physics Colloquium, University of Washington, Seattle*, WA, April 2014

176. Jelena Vuckovic, *Institute for Advanced Studies, Technical University Munich*, Germany, March 2014

177. Jelena Vuckovic, *Knowledge at Noon, EE staff seminar*, Stanford, July 2013

178. Jelena Vuckovic, *Seminar at the University of Nis*, Serbia, May 2013

179. Jelena Vuckovic, *Colloquium at the University of Belgrade*, Serbia, May 2013

180. Jelena Vuckovic, *Seminar at Institute for Physics, Humboldt University,* Berlin, Germany, April 2013

181. Jelena Vuckovic, *Alexander Von Humboldt Lecture, Technical University of Berlin,* Berlin, Germany, April 2013

182. Jelena Vuckovic, *Neils Bohr Institute Seminar*, Coppenhagen, Denmark May 2013

183. Jelena Vuckovic, *Schottky Seminar*, Technical University Munich, Germany, April 2013

184. Jelena Vuckovic, "Optical nanocavities with quantum dots: from nano-lasers to bio-probes," *Optics and Quantum Electronics Seminar, MIT*, March 2013

185. Jelena Vuckovic, "Quantum dots in optical nanocavities: from cavity QED to applications," *Physics Colloquim, UC Berkeley*, Oct. 2012

186. Jelena Vuckovic, "Nonlinear optics at the single photon level in optical nanocavities," *Optics and Quantum Electronics Seminar, Ginzton Lab*, Stanford University, Nov. 2011

187. Jelena Vuckovic, " Quantum dots in optical nanocavities: from cavity QED to device applications," *MIT Physics Colloquium*, Nov. 2011

188. Jelena Vuckovic, *IFC e-seminar*, Nov. 2011.

189. Jelena Vuckovic, " Quantum dots in optical nanocavities: from cavity QED to device applications," *Humboldt University*, Berlin, Germany, May 2011

190. Jelena Vuckovic, " Quantum dots in optical nanocavities: from cavity QED to device applications," *Institute Colloquium, Max Planck Institute for Quantum Optics (MPQ)*, Munich-Garching, Germany, May 2011

191. Jelena Vuckovic,"Quantum dots in optical nanocavities: from cavity QED to device applications," *Physics Colloquium, Stanford University*, Stanford, CA, Feb. 15, 2011

192. Jelena Vuckovic, "Quantum dots in nanocavities: from cavity QED to optical switches" *U.C. Berkeley Nanoscale Science and Engineering (NSE) seminars*, Berkeley, October 2010

193. Jelena Vuckovic, *MARCO IFC e-seminar*, May 2010.

194. Jelena Vuckovic, "Quantum dots in photonic crystals for classical and quantum information processing," *U.C. Berkeley, EECS Department*, Photonics and plasmonics seminar, April 2010.

195. Jesse Lu, Jelena Vuckovic, "Inverse design of nanophotonics structures using complementary convex optimization," *U.C. Berkeley, EECS Department*, Photonics and plasmonics seminar, March 2010.

196. Jelena Vuckovic, *Caltech, Materials Research Lectures (MRL)*, March 2010

197. Jelena Vuckovic, Physics Colloquium, *Harvard University*, February 2010.

198. Jelena Vuckovic, " Quantum dots in photonic crystals: from quantum information processing to single photon nonlinear optics," MIT, *Optics and Quantum Electronics Seminar*, Nov. 2008

199. Jelena Vuckovic, "Quantum dots in photonic crystals: from quantum information processing to single photon nonlinear optics," *Harvard – MIT Center for Ultracold Atoms Talk Series*, November 2008

200. Jelena Vuckovic, "Quantum dots in photonic crystals: from quantum information processing to single photon nonlinear optics," Stanford University, *Ginzton Lab Seminar*, April 2008

201. Jelena Vuckovic, " Photonic crystal devices for classical and quantum information processing," Columbia University, *Department of Physics Colloquium*, November 2006.

202. Ilya Fushman and Jelena Vuckovic, "Quantum information processing with quantum dots in photonic crystals," UC Berkeley, *Quantum Computation Seminar*, April 2006.

203. Jelena Vuckovic, "Photonic crystal devices for classical and quantum information processing," University of Connecticut, Department of Physics, *Hascoe Lecture*, April. 2006.

204. Jelena Vuckovic, "Photonic crystal devices for classical and quantum information processing," Harvard University, *Engineering and Applied Science Seminar Series*, March 2006.

205. Jelena Vuckovic, "Photonic crystal devices for classical and quantum information processing," University of Toronto, *Optics and Quantum Optics Seminar*, March 2006.

206. Jelena Vuckovic, "Nanoscale and quantum photonic devices," Stanford University, *Electrical Engineering Graduate Seminar*, February 2006.

207. Jelena Vuckovic, "Generation and manipulation of classical and nonclassical light using photonic crystals," University of California Santa Barbara, *Materials Colloquium*, October 2005.

208. Jelena Vuckovic, "Generation and manipulation of classical and nonclassical light using photonic crystals," Caltech, *Joint EE-AP seminar*, May 2005.

209. Jelena Vuckovic, "Photonic crystal devices for quantum and nanoscale photonics," UC Berkeley, *AMO Seminar*, December 2004.

210. Jelena Vuckovic, "Photonic crystal devices for nanophotonics and quantum information processing," Harvard University, *Joint Atomic Physics Colloquium*, March 2004.

211. Jelena Vuckovic, "Photonic crystals and their applications in optoelectronics and quantum optics," Stanford University, Materials Science and Engineering Department, May 2003.

212. Jelena Vuckovic, "Optical and quantum optical devices based on photonic crystals," Palo Alto Research Center (PARC), February 2003.

213. Jelena Vuckovic, "Quantum optical devices based on photonic crystals," Los Alamos National Laboratory, *Quantum Lunch Seminar Series*, January 2003.

214. Jelena Vuckovic, "Optical and quantum optical devices based on photonic crystals," Princeton University, Electrical Engineering Department, April 2002.

215. Jelena Vuckovic, "Optical and quantum optical devices based on photonic crystals," Stanford University, Electrical Engineering Department, April 2002.

216. Jelena Vuckovic, "Optical and quantum optical devices based on photonic crystals," California Institute of Technology (Caltech), Applied Physics Department, April 2002.

217. Jelena Vuckovic, "Optical and quantum optical devices based on photonic crystals," Massachusetts Institute of Technology (MIT), Electrical Engineering Department, March 2002.

218. Jelena Vuckovic, "Photonic crystals," Stanford University, Applied Physics Department, November 2001.

219. Jelena Vuckovic, "Photonic crystals," University of California San Diego, Electrical Engineering Department, April 2001.

REFEREED CONFERENCE PUBLICATIONS

1. "3C-SiC microdisks for visible photonics," M. Radulaski, T. M. Babinec, J. L. Zhang, S. M. Buckley, Y. A. Kelaita, K. Müller, K. G. Lagoudakis, K. AlAssaad, G. Ferro, J. Vučković, *16th International Conference on Silicon Carbide and Related Materials*, Giardini Naxos, Italy, October 4 - 9, 2015
2. "Strained Ge Nanowire with High-Q Optical Cavity for Ge Laser Applications," Donguk Nam, Jan Petykiewicz, David S. Sukhdeo, Shashank Gupta, Sonia Buckley, Jelena Vučković and Krishna C. Saraswat, *IEEE Group IV Photonics Conference*, Vancouver, BC, Aug. 2015
3. "Nanophotonics in novel $\chi^{(2)}$-materials: (111)-GaAs and 3C-SiC ," Marina Radulaski, Sonia M. Buckley, Jingyuan L. Zhang, Jan Petykiewicz, Kai Mueller, Konstantinos G. Lagoudakis, Thomas M. Babinec, Kassem Alassaad, Gabriel Ferro, Klaus Biermann and Jelena Vuckovic, *OSA Nonlinear Optics Topical meeting*, Hawaii, July 2015

   Highlight: best student paper and presentation award.
4. "Optical Pumping of Individual Spins in Self-Assembled and Site-Controlled Quantum Dots," K. G. Lagoudakis, P. L. McMahon, K. Fischer, K. M. Mueller, T. Sarmiento, D. Dalacu, P. J. Poole, M. E. Reimer, V. Zwiller, Y. Yamamoto and J. Vuckovic, *CLEO-QELS*, San Jose, CA, May 2015
5. "Inverse design and implementation of a wavelength demultiplexing grating coupler," Alexander Y. Piggott, Jesse Lu, Thomas M. Babinec, Konstantinos G. Lagoudakis, Jan Petykiewicz, and Jelena Vuckovic, *CLEO-QELS*, San Jose, CA, May 2015
6. "A novel, highly-strained structure with an integrated optical cavity for a low threshold germanium laser," Shashank Gupta, Donguk Nam, Jan Petykiewicz, David Sukhdeo, Jelena Vuckovic, Krishna Saraswat, *CLEO-QELS*, San Jose, CA, May 2015
7. "Fluorescent Nanodiamonds from Molecular Diamond Seed," Hitoshi Ishiwata, Jingyuan Linda Zhang, Robert Edgington, Thomas M. Babinec, Kai Müller, Konstantinos G. Lagoudakis, Nicholas A. Melsoh, Zhi-Xun Shen, and Jelena Vučković, *CLEO-QELS*, San Jose, CA, May 2015
8. "Visible Photoluminescence in Cubic (3C) Silicon Carbide Coupled to High Quality Microdisk Resonators," Marina Radulaski, Thomas M. Babinec, Kai Müller, Konstantinos G. Lagoudakis, Jingyuan Linda Zhang, Sonia Buckley, Yousif A. Kelaita, Kassem Alassaad, Gabriel Ferro and Jelena Vučković, *CLEO-QELS*, San Jose, CA, May 2015
9. "Hybrid diamond-silicon carbide structures incorporating Si-vacancies in diamond as quantum emitters," Jingyuan Linda Zhang, Hitoshi Ishiwata, Marina Radulaski, Thomas M. Babinec, Kai Mueller, Konstantinos G. Lagoudakis, Gabriel Ferro, Nicholas A. Melosh, Zhi-Xun Shen, Jelena Vuckovic, *CLEO-QELS*, San Jose, CA, May 2015
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