Kartik Srinivasan

Curriculum Vitae, Jan 2020

Contact Information:

Fellow
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Fellow
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Education:

California Institute of Technology, Department of Applied Physics
Ph.D./M.S./B.S. with Honors 2006/2002/2000

Professional and Academic Experience:

National Institute of Standards and Technology (NIST)
Fellow 7/2019-present
Project Leader 9/2007-7/2019

University of Maryland
Fellow, Joint Quantum Institute, College Park, MD 3/2019-present
Adjunct Professor , Department of Physics, College Park, MD 4/2018-present

California Institute of Technology
Postdoctoral Scholar, Center for the Physics of Information 7/2006-8/2007
Graduate Research Assistant, Department of Applied Physics 9/2001-6/2006
Thesis advisor: Professor Oskar Painter

XPonent Photonics
Associate Member of Technical Staff 7/2000-7/2001

Research Summary:

My lab develops nanophotonic devices for quantum information science, metrology, and sensing. These transducers rely on the ability to strongly enhance light-matter interactions, such as parametric nonlinear optical processes, coupling to quantum emitters, and acousto-optic effects, in suitably engineered geometries. We study both the basic device-level physics and also tailor devices for specific applications. We have expertise in computational modeling, nanofabrication, and optoelectronic and quantum photonic characterization. Recent topics have included quantum frequency conversion, single-photon and entangled-photon generation, microresonator frequency combs, and cavity optomechanical transducers.

Selected Awards:

- Elected OSA Fellow in 2017 for 'Outstanding contributions to nanophotonics and quantum optics, including cavity-QED, frequency conversion, and integrated optics such as photonic crystals'
- Department of Commerce Bronze Medal in 2014 for 'The development of single-photon up-conversion methods for efficient quantum communication'

- NIST Sigma Xi Young Scientist Award in 2011 for 'Pioneering studies in nanophotonic systems'
- Presidental Early Career Award in Science and Engineering in 2010 for 'Developing measurement methods aimed at probing the nature of strong light-matter interactions in semiconductor optical cavities with unparalelled sensitivity, and for developing processes to fabricate low-loss, on-chip nanophotonic devices'
- Fannie and John Hertz Foundation Graduate Research Fellowship (2001-2006)
- Caltech Carnation Undergraduate Merit Scholarships (1996-2000)

Selected Publications (full list on pages 9-16):

[Total number of publications (non-conference) > 100; *h*-index = 50 from Google Scholar]

1. Efficient telecom-to-visible spectral translation through ultra-low power nonlinear nanophotonics, X. Lu, G. Moille, Q. Li, D.A. Westly, A. Singh, A. Rao, S.-P. Yu, T.C. Briles, S.B. Papp, and K. Srinivasan, *Nature Photonics*, **13**, 593-601 (2019).
2. Chip-integrated visible-telecom entangled photon pair source for quantum communication, X. Lu, Q. Li, D.A. Westly, G. Moille, A. Singh, V. Anant, and K. Srinivasan, *Nature Physics*, **15**,373-381 (2019).
3. An integrated-photonics optical-frequency synthesizer, D.T. Spencer *et al*, *Nature*, **557** (7703), 81-85 (2018).
4. A heterogeneous III-V/Si integration platform for on-chip quantum photonic circuits with single quantum dot devices, M. Davanço, J. Liu, L. Sapienza, C.-Z. Zhang, J.V.D.M. Cardoso, V. Verma, R. Mirin, S.W. Nam, L. Liu, and K. Srinivasan, *Nature Communications,* **8***:*889 (2017).
5. Quantum correlations from a room-temperature optomechanical device, T.P. Purdy, K.E. Grutter, K. Srinivasan, and J.M. Taylor, *Science*, **356**, 1265-1268 (2017).
6. Stably accessing octave-spanning microresonator frequency combs in the soliton regime, Q. Li, T.C. Briles, D.A. Westly, T.E. Drake, J.R. Stone, B.R. Ilic, S.A. Diddams, S.B. Papp, and K. Srinivasan, *Optica*, **4**(2), 193-203 (2017).
7. Efficient and low-noise single-photon-level frequency conversion interfaces using silicon nanophotonics, Q. Li, M. Davanço, and K. Srinivasan, *Nature Photonics,* **10**, 406-414 (2016).
8. Coherent coupling between radiofrequency, optical, and acoustic waves in piezo-optomechanical circuits, K.C. Balram, M. Davanço, J.D. Song, and K. Srinivasan, *Nature Photonics*, **10**, 346-352 (2016).
9. Nanoscale optical positioning of single quantum dots for bright and pure single-photon emission, L. Sapienza, M. Davanço, A. Badolato, and K. Srinivasan, *Nature Communications*, **6**: 7833 (2015).
10. Electromagnetically induced transparency and wideband wavelength conversion in silicon nitride microdisk optomechanical resonators, Y. Liu, M. Davanço, V. Aksyuk, and K. Srinivasan, *Physical Review Letters*, **110**, 223603 (2013).
11. Manipulating the color and shape of single photons, M.G. Raymer and K. Srinivasan, *Physics Today*, 32-37 (2012).
12. Two-photon interference using background-free quantum frequency conversion of single photons from a semiconductor quantum dot, S. Ates, I. Agha, A. Gulinatti, I. Rech, M. T. Rakher, A. Badolato, and K. Srinivasan, *Physical Review Letters*, **109**, 147405 (2012).
13. Telecommunications-band heralded single photons from a silicon nanophotonic chip, M. Davanço, J. R. Ong, A. B. Shehata, A. Tosi, I. Agha, S. Assefa, F. Xia, W. Green, S. Mookherjea, and K. Srinivasan, *Applied Physics Letters*, **100**, 261104 (2012).
14. Spectral line-by-line pulse shaping of on-chip microresonator frequency combs, F. Ferdous et al, *Nature Photonics*, **5**, 770-776 (2011).
15. Quantum transduction of telecommunications-band single photons from a quantum dot by frequency upconversion, M. T. Rakher, L. Ma, O. T. Slattery, X. Tang, and K. Srinivasan, *Nature Photonics*, **4**, 786-791 (2010).

16. Linear and nonlinear optical spectroscopy of a strongly-coupled microdisk-quantum dot system, K. Srinivasan and O. Painter, *Nature*, **450**, 862-865 (2007).
17. Quantum cascade surface-emitting photonic crystal laser, R. Colombelli, K. Srinivasan, M. Troccoli, O. Painter, C. Gmachl, D.M. Tennant, A.M. Sergent, D.L. Sivco, A.Y. Cho, and F. Capasso, *Science*, **302**(5649),1374-1377 (2003).
18. Momentum space design of high-Q photonic crystal cavities, K. Srinivasan and O. Painter, *Optics Express*, **10**(15), 670-685 (2002).

Group Members Advised:

Postdoctoral Scholar	***Years***	***Research Topics***	***Current Position***
Matthew Rakher	2008-2010	Quantum frequency conversion	Staff Scientist, HRL
Marcelo Davanço	2008-2013	Quantum dot single-photon sources and nanocavity optomechanics	Staff Scientist, NIST
Serkan Ates	2011-2013	Quantum dot single-photon sources and quantum frequency conversion	Assistant Professor, Izmir Institute of Technology
Imad Agha	2011-2013	Quantum frequency conversion	Assistant Professor, University of Dayton
Yuxiang Liu	2011-2013	Nanocavity optomechanical transducers	Assistant Professor, Worcester Polytechnic Institute
Luca Sapienza	2013-2014	Optical location of single quantum dots	Associate Professor, University of Southampton
Karen Grutter	2014-2016	Multimode cavity optomechanical systems	Staff Scientist, LPS
Krishna Balram	2013-2017	Piezoelectric cavity optomechanical systems	Associate Professor, University of Bristol
Jin Liu	2015-2017	Single quantum dot nanophotonic devices	Assistant Professor, Sun-Yat Sen University
Qing Li	2013-2018	Integrated quantum frequency converters and microcombs	Assistant Professor, Carnegie Mellon University
Anshuman Singh	2016 – 2019	Coupling quantum dots to integrated frequency converters	Staff Scientist, Raytheon/BBN Technologies
Xiyuan Lu	2016 – present	Nonlinear quantum photonics on a chip	Postdoc, NIST/UMD
Gregory Moille	2017 – present	Microcavity frequency combs for optical atomic clocks	Postdoc, NIST/UMD
Marcelo Wu	2017 – present	Piezoelectric cavity optomechanical systems	Postdoc, NIST/UMD
Ashutosh Rao	2018 – present	Quantum and classical spectral translation	Postdoc, NIST/UMD
Biswarup Guha	2018 – present	Piezoelectric cavity optomechanical systems	Postdoc, NIST/UMD

Graduate Student	***Years Advised***	***Research Topics***	***Current Position***
Edgar Perez	2018 – present	Efficient interfaces to nanophotonic devices	Graduate student, UMD

Activities/Service within the Research Community:

Conferences

- Co-chair, Quantum Photonic Devices Conference, SPIE Optics+Photonics, Nanoscience + Engineering Section, 2016-2018
- Executive Program Committee, 6th International Conference on Metamaterials, Photonics Crystals, and Plasmonics (META) 2015
- Member, Silicon Photonics Sub-Committee, CLEO-PR conference, 2019 - present
- Member, Micro, Nano, and Quantum Photonics: Science and Applications Sub-Committee, Asia Communications and Photonics Conference, 2019 - present
- Member, Micro- and Nano-Photonics Committee, CLEO conference, 2011-2013
- Member, Nonlinear Optical Technologies Committee, CLEO conference, 2015 – 2018
- Member, Nanophotonics Committee, IEEE Photonics Society Annual Meeting (formerly LEOS), 2010-2013
- Member, Quantum Electronics Committee, Frontiers in Optics conference, 2012-2013
- Member, Nano-optics, Nano-optoelectronics, and Nano-photonics Committee, 14th IEEE International Conference on Nanotechnology, 2014
- Abstract review committee, Conference on Electron, Ion, and Photon Beams and Nanotechnology (EIPBN) 2015

Peer-reviewed publications

- Associate Editor, SPIE *Journal of Nanophotonics*
- Referee for *Nature, Nature Physics, Nature Photonics, Nature Communications, Nature Nanotechnology, Scientific Reports, Science, Science Advances, Physical Review Letters, Physical Review A, B, X, and Applied, Applied Physics Letters, APL Photonics, Optica, Optics Letters, Optics Express, Journal of the Optical Society of America B, IEEE Photonics Technology Letters, IEEE Journal on Selected Areas in Communications, Photonics and Nanostructures, Japanese Journal of Applied Physics, IET Optoelectronics, Journal of Vacuum Science and Technology B, Optics Communications*
- 2017 OSA Outstanding Reviewer Recognition (selected by Editors-in-Chief and Topical/Associate Editors)

Other NIST Activities/Service:

- NIST Summer Undergraduate Research Fellowship Director for CNST, 2007 – 2018
- NIST Division Laser Safety Representative, 2007 – present
- NIST-on-a-Chip Steering Group Member, 2013 – present
- NIST SBIR grant reviewer and NIST-CNST unsolicited grant reviewer

Patents/Invention Disclosures:

1. Microfabricated optical probe, Vladimir Aksyuk, Kartik Srinivasan, Thomas Michels, US Patent Application published on July 26, 2018 (Pub No. 2018/0210009)

2. Microscope probe and method for use of same, Vladimir Aksyuk, Kartik Srinivasan, Houxun Miao, Ivo Rangelow, Thomas Michels, US Patent No. 8997258
3. Method and apparatus for optical synthesis with dual microresonator frequency combs, Kerry Vahala, John E. Bowers, Kartik A. Srinivasan, Scott B. Papp, and Scott A. Diddams, US Patent No. 10067031
4. Unipolar, intraband optoelectronic transducers with micro-cavity resonators, Federico Capasso, Alfred Yi Cho, Raffaele Colombelli, Claire F. Gmachl, Oskar Jon Painter, Arthur Mike Sergent, Deborah Lee Sivco, Kartik Srinivasan, Donald Milan Tennant, and Mariano Trocolli, US Patent No. 7092421.
5. Fiber-coupled solid state microcavity light emitters, Kartik Srinivasan and Oskar Painter, US Patent No. 8208502.

Invited Seminars at Universities/National Labs:

1. Nonlinear nanophotonics: progress and opportunities, NIST Gaithersburg, Oct. 10, 2019
2. Nonlinear microresonators for integrated quantum photonics and optical atomic clocks, A-STAR, Singapore, Jun. 24, 2019
3. Nonlinear microresonators for integrated quantum photonics and optical atomic clocks, University of Calgary, Mar. 1, 2019
4. Nonlinear microresonators for integrated quantum photonics and optical atomic clocks, Stanford University, Feb. 5, 2019
5. Integrated quantum photonics with nonlinear microresonators and single quantum dots, Ecole Polytechnique Federal de Lausanne (EPFL), Mar. 23, 2018
6. Kerr microresonators for quantum photonics and time/frequency metrology, University of Bristol, Mar. 16, 2018
7. Kerr microresonators for quantum photonics and time/frequency metrology, Joint Quantum Institute at the University of Maryland, Mar. 12, 2018
8. Nanoscale transducers for quantum science and metrology, NIST Boulder, Mar. 8, 2018
9. Chip-scale optical frequency combs, NIST-on-a-chip workshop, Feb. 22, 2018
10. Nanoscale transducers for photonic quantum information science and metrology, City College of New York, Feb. 16, 2018
11. Nanoscale transducers for photonic quantum information science and metrology, Rutgers University, Feb. 15, 2018
12. Nanoscale transducers for photonic quantum information science and metrology, University of Sydney, Dec. 15, 2017
13. Nanoscale transducers for photonic quantum information science and metrology, West Virginia University, Nov. 16, 2017
14. Nonlinear and quantum nanophotonics based on silicon nitride devices, Chalmers University of Technology, May 5, 2017
15. Chip-based signal transducers based on nanophotonics, University of Illinois at Urbana-Champaign, Nov. 29, 2016
16. Chip-based signal transducers based on nanophotonics, Massachusetts Institute of Technology, Nov. 9, 2016
17. Chip-based signal transducers based on nanophotonics, National Institute of Standards and Technology, Aug. 30, 2016
18. Generation and manipulation of single photons from epitaxial quantum dots using nanodevices, Naval Research Laboratory, Apr. 27, 2016

19. Chip-based classical and quantum signal transducers using nanophotonics, TU Delft, Apr. 4, 2016
20. Chip-based signal transducers using nanophotonics, Danish Technical University, Dec. 9, 2015
21. Chip-based signal transducers using nanophotonics, University of Copenhagen, Dec. 7, 2015
22. Chip-based signal transducers using nanophotonics, Laboratory for Physical Sciences, Oct. 7, 2015
23. Quantum frequency conversion of single photon states, University of Dayton, Apr. 23, 2015
24. Nanoscale optomechanical systems, George Washington University, Apr. 16, 2015
25. Quantum frequency conversion of single photon states, University of Southampton, Mar. 16, 2015
26. Quantum frequency conversion and nanophotonic devices, University of Maryland Joint Quantum Institute, Nov. 3, 2014
27. New applications and devices for quantum frequency conversion, University of Glasgow, Aug. 22, 2014
28. Nanocavity optomechanical transducers, George Washington University, May 14, 2014
29. Manipulating the color and shape of single photons, Georgia Tech, Apr. 7, 2014
30. Nanophotonic transducers for sensing and quantum science research, University of Maryland Institute for Research in Electronics and Applied Physics, Mar. 28, 2014
31. Nanophotonic transducers for sensing and quantum science research, HRL, Mar. 14, 2014
32. Nanophotonic transducers for sensing and photonic quantum information science, UC Merced, Feb. 7, 2014
33. Quantum frequency conversion of single photon states of light, University of Rochester, Oct. 31, 2013
34. Nanophotonic devices for quantum information science, University of Oregon, Sept. 20, 2013
35. Frequency conversion interfaces for photonic quantum systems, Caltech, May 14, 2013
36. Nanophotonic sensors and signal transducers using cavity optomechanics, Rutgers, Apr. 18, 2013
37. Manipulating the color and shape of single photons generated by quantum nanophotonic devices, Army Research Laboratory, Apr. 10, 2013
38. Manipulating the color and shape of single photons generated by quantum nanophotonic devices, Argonne National Laboratory, Mar. 29, 2013
39. Manipulating the color and shape of single photons from quantum nanophotonic devices, Harvard University, Oct. 26, 2012
40. Strong light-matter interactions in nanophotonic devices, University of Campinas, Brazil, Oct. 17, 2012
41. Manipulating the color and shape of single photons generated by quantum nanophotonic devices, Heriot-Watt University, Sept. 12, 2012
42. Nanophotonic technologies for quantum optics and metrology, Washington University, Mar. 30, 2012
43. Strong light-matter interactions in nanophotonic devices, Columbia University, Jan. 30, 2012
44. Strong light-matter interactions in nanophotonic devices, NIST Sigma Xi Lecture, Jan. 20, 2012
45. Nanophotonic technologies for quantum optics and metrology, IBM, Dec. 9, 2011
46. Nanophotonic technologies for quantum optics and metrology, Johns Hopkins University, Nov. 3, 2011
47. Nanophotonic technologies for quantum optics and metrology, Yale University, Apr. 20, 2011
48. Nanophotonic technologies for quantum optics and metrology, Stanford University, Feb. 23, 2011
49. Nanophotonic technologies for quantum optics and metrology, Northwestern University, Feb. 4, 2011
50. Quantum and classical light-matter interactions in nanophotonic systems, Northwestern University, Nov. 1, 2010
51. Nanophotonics with near-infrared epitaxial and colloidal quantum dots, University of Rochester, Dec. 3, 2009

52. Semiconductor optical microcavities for chip-based cavity QED, HP Labs, Feb. 2, 2007
53. Microphotonic technologies for quantum optics, NIST Gaithersburg, Dec. 18, 2006
54. Semiconductor optical microcavities for chip-based cavity QED, Harvard University, Mar. 21, 2006
55. Semiconductor optical microcavities for chip-based cavity QED, UC Berkeley, Mar. 7, 2006
56. Semiconductor optical microcavities for chip-based cavity QED, UC Berkeley, Feb. 23, 2006

Invited Talks at Conferences/Workshops:

1. Integrated nonlinear nanophotonic resonators for quantum and classical links, 21st Winterschool on New Developments in Solid-State Physics, Feb. 27, 2020
2. Dispersion-engineered nanophotonics resonators for visible-telecom nonlinear optics, SPIE Photonics West, Feb. 5, 2020
3. Microresonator frequency combs for optical clocks, SPIE Photonics West, Feb. 3, 2020
4. Nonlinear nanophotonics for connecting distant quantum nodes, NQN Workshop on Qubit Transduction, Nov. 14, 2019
5. Quantum source and frequency conversion technology based on integrated nanophotonics, Single Photon Workshop, Oct. 24, 2019
6. Recent developments in chip-integrated photonic technologies for quantum information science, Quantum.Tech, September 11, 2019
7. Quantum device technologies based on silicon nitride nanophotonics, IEEE Summer Topicals, Jul. 9, 2019
8. Integrated quantum photonics with single located and epitaxially-grown quantum dots, ICMAT Symposium on Diamond and Other Single Quantum Emitters, June 25, 2019
9. Chip-integrated quantum light sources and frequency converters for quantum communication, SPIE Photonics West, Feb. 6, 2019
10. Integrated photonics with single, optically-located quantum dots, 6th International Workshop on Engineering of Quantum Emitter Properties, Dec. 6, 2018
11. Quantum state generation and frequency conversion using nanophotonics, Latin America Optics and Photonics Conference, Nov. 15, 2018
12. Integrated photonics in nonlinear resonators, IEEE IPC Meeting, Hot Topics in Research, Collaboration, and Professional Development, Sept. 30, 2018
13. Microwave-to-optical frequency conversion using coupled piezoelectric and optomechanical resonators, INQNET Quantum Transduction Workshop, Sept. 21, 2018
14. Quantum state generation and frequency-domain manipulation using nanophotonics, Frontires in Optics Conference, Sept. 20, 2018
15. Coupling RF-driven acoustic wave devices with nanocavity optomechanics, DPG/EPS Spring Meeting, March 15, 2018.
16. Heterogeneous integration for quantum photonics with quantum dots, Physics of Quantum Electronics (PQE) Conference, Jan. 11, 2017.
17. Quantum optical connections between visible, near-infrared, and telecom wavelengths with Kerr nonlinear resonators, SPIE Nanophotonics Australasia, Dec. 12, 2017
18. Integration of electromechanical and cavity optomechanical systems, AVS Symposium, Oct. 30, 2017
19. Telecom-band frequency conversion interfaces using nanophotonic resonators, 2nd Workshop for Quantum Repeaters and Networks, Sept. 26, 2017
20. Connecting the optical spectrum through four-wave-mixing in nonlinear microresonators, OSA Nonlinear Optics Technical Group Meeting, Sept. 18, 2017

21. Piezo-optomechanical transducers as a link between radio frequency, optical, and acoustic waves, Hybrid Quantum Systems Worskhop, Sept. 12, 2017
22. Heterogeneous integration platform for integrated quantum/nonlinear photonics, IEEE Group IV Photonics Conference, Aug. 24, 2017
23. Heterogeneous integration of InAs/GaAs quantum dot devices with silicon nitride photonic circuits, OSA Incubator Meeting on Integrated Semiconductor Quantum Photonic Devices, Jun. 20, 2017
24. Piezo-optomechanical transducers as a link between radio frequency, optical, and acoustic waves, SPIE Photonics West, Jan. 31, 2017
25. Nanophotonic tools for metrology: photonically-integrated atomic vapor cells and octave-spanning microcombs, SPIE Photonics West, Jan. 30, 2017
26. Nanophotonic device technologies for integrated quantum photonics on a silicon platform, International Semiconductor Devices Research Symposium (ISDRS), Dec. 7, 2016
27. Nanophotonic systems for quantum frequency conversion, Frontiers in Optics/Laser Science (FiO/LS) Conference, Oct. 19, 2016
28. Coupling radio frequency, optical, and acoustic waves in GaAs piezo-optomechanical circuits, Opto- and Electro-Mechanical Technologies (OET) Conference, Jul. 27, 2016
29. Octave-spanning comb generation and low-noise frequency conversion in Si_3N_4 microresonators, Nano-Tera Microresonator Frequency Combs and Applications Conference (MFCA), Jul. 7, 2016
30. Generation and manipulation of single photons from epitaxial quantum dots using nanodevices, Quantum Dot (QD) 2016 Conference, May 25, 2016
31. Single-photon-level frequency conversion interfaces using silicon nitride microring resonators, SPIE Photonics Europe, Apr. 6, 2016
32. Quantum frequency conversion platforms, Third Annual Workshop on Scalable Information Processing with Quantum Nanophotonics (SIPQNP), Mar. 31, 2016
33. Nanophotonics, DOE Workshop on Quantum Sensors, Feb. 25, 2016
34. Chip-scale frequency conversion interfaces for quantum emitters, NSF Workshop on Quantum Information on a Chip, Oct. 12, 2015
35. Chip-based quantum frequency converters using silicon nanophotonics, IEEE Photonics Conference (IPC), Oct. 5, 2015
36. Piezo-optomechanical circuits, IEEE Electron Device Society (EDS) Colloquium, Oct. 1, 2015
37. Single quantum dot nanophotonic devices through photoluminescence imaging, Progress in Electromagnetics Research Symposium (PIERS), July 5, 2015
38. GaAs piezo-optomechanical circuits, Integrated Photonics Research (IPR) Conference, Jun 30, 2015
39. Chip-based quantum frequency converters using silicon nanophotonics, 1st Workshop on Quantum Repeaters and Networks, May 17, 2015
40. Quantum dot single photon sources and chip-scale quantum frequency converters, 2nd Annual Workshop on Scalable Information Processing with Quantum Nanophotonics (SIPQNP), Mar. 13, 2015
41. GaAs and Si3N4 optomechanical crystals, SPIE Photonics West, Feb. 12, 2015
42. Silicon nitride optomechanical crystals, Frontiers in Optics/Laser Science (FiO/LS) Conference, Oct. 22, 2014
43. Quantum dot single photon sources: Deterministic fabrication and blinking, IEEE Photonics Conference (IPC), Oct. 15, 2014
44. Nanocavity optomechanical transducers, International Conference on Optical MEMS and Nanophotonics, Aug. 18, 2014
45. Nanocavity optomechanical transducers, International Seminar on Nanomechanical Systems, Jul 1, 2014

46. New applications and devices for quantum frequency conversion, Conference on Lasers and Electro-Optics (CLEO), Jun. 10, 2014
47. Nancavity optomechanical transducers, International Conference on Electron, Ion, and Photon Beam Technology and Nanofabrication (EIPBN), May 29, 2014
48. Frequency conversion interfaces for photonic quantum systems, SPIE Photonics West, Feb. 6, 2014
49. Quantum frequency conversion and single photon generation with quantum dots, Workshop on Scalable Information Processing with Quantum Nanophotonics (SIPQNP), Jan. 23, 2014
50. Quantum frequency conversion and nanophotonic devices, Frontiers in Optics/Laser Science (FiO/LS) Conference, Oct. 3, 2013 [talk given by Serkan Ates due to US government shutdown]
51. Frequency conversion interfaces for photonic quantum systems, Fifth Conference on Quantum Information and Quantum Computing, Aug. 12, 2013
52. Nanophotonic devices for the generation and manipulation of quantum states of light, Integrated Photonics Research (IPR) Conference, Jul. 15, 2013
53. Force/displacement sensors and signal transducers using cavity optomechanics, SPIE Photonics West, Feb. 7, 2013
54. Efficient generation, frequency conversion, and amplitude modulation of single photons from single quantum dots, IEEE Photonics Conference (IPC), Sep. 26, 2012
55. Efficient generation, frequency conversion, and amplitude modulation of single photons from single quantum dots, SPIE Defense+Security and Sensing (DSS) Conference, Apr. 25, 2012
56. Light-matter interactions in chip-based optical cavities, Beyond Moore's Law Workshop, Apr. 8, 2011
57. Cavity optomechanical transduction of an integrated silicon cantilever probe, IEEE Lasers and Electro-Optics (LEOS) Conference, Nov. 8, 2010
58. Single quantum dots in fiber-coupled nanophotonic cavities and waveguides, IEEE Photonics Society Annual Meeting, Oct. 6, 2009

Full Publication List by Category:

[Note: Total number of publications (non-conference) > 100; *h*-index = 50 from Google Scholar]

Integrated quantum photonics

1. Tunable quantum beat of single photons using silicon nanophotonics, Q. Li, A. Singh, X. Lu, J. Lawall, V. Verma, R. Mirin, S.W. Nam, and K. Srinivasan, *Physical Review Applied*, **12**, 054054 (2019)
2. Indistinguishable photons from deterministically integrated single quantum dots in heterogeneous GaAs/Si_3N_4 quantum photonic circuits, P. Schnauber, A. Singh, J. Schall, S.I. Park, J.D. Song, S. Rodt, K. Srinivasan, S. Reitzenstein, and M. Davanço, *Nano Letters*, **19**, 7164-7172 (2019).
3. Chip-integrated visible-telecom entangled photon pair source for quantum communication, X. Lu, Q. Li, D.A. Westly, G. Moille, A. Singh, V. Anant, and K. Srinivasan, *Nature Physics*, **15**,373-381 (2019).
4. A solid-state entangled photon pair source with high brightness and indistinguishability, J. Liu, R. Su, Y.Wei, B. Yao, S.F.C. da Silva, Y. Yu, J. Iles-Smith, K. Srinivasan, A. Rastelli, J. Li, and X. Wang, *Nature Nanotechnology*, **14**, 586-593 (2019)
5. Quantum frequency conversion of a quantum dot single-photon source on a nanophotonic chip, A. Singh, Q. Li, S. Liu, Y. Yu, X. Lu, C. Schneider, S. Hofling, J. Lawall, V. Verma, R. Mirin, S.W. Nam, J. Liu, and K. Srinivasan, *Optica*, **6**(5), 563-569 (2019)
6. Single self-assembled InAs/GaAs quantum dots in photonic nanostructures: the role of nanofabrication, J. Liu, K. Konthasinghe, M. Davanço, J. Lawall, V. Anant, V. Verma, R. Mirin, S.W.

Nam, J.D. Song, B. Ma, Z. Sheng Chen, H.Q. Ni, Z.C. Niu, and K. Srinivasan, *Phys. Rev. Applied*, **9**, 064019 (2018).

7. A heterogeneous III-V/Si integration platform for on-chip quantum photonic circuits with single quantum dot devices, M. Davanço, J. Liu, L. Sapienza, C.-Z. Zhang, J.V.D.M. Cardoso, V. Verma, R. Mirin, S.W. Nam, L. Lou, and K. Srinivasan, *Nature Communications,* **8***:*889 (2017).
8. Cryogenic photoluminescence imaging system for nanoscale positioning of single quantum emitters, *Review of Scientific Instruments*, **88**, 023116 (2017).
9. Combined atomic force microscopy and photoluminescence imaging to select single InAs/GaAs quantum dots for quantum photonic devices, L. Sapienza, J. Liu, J.D. Song, S. Falt, W. Wegscheider, A. Badolato, and K. Srinivasan, *Scientific Reports*, **7** (2017)
10. Efficient fiber-coupled single-photon source based on quantum dots in a photonic-crystal waveguide, R.S. Daveau, K.C. Balram, T. Pregnolato, J. Liu, E.H. Lee, J.D. Song, V. Verma, R. Mirin, S.W. Nam, L, Midolo, S. Stobbe, K. Srinivasan, and P. Lodahl, *Optica*, **4**(2), 178-184 (2017)
11. Deterministic implementation of a bright, on-demand single-photon source with near-unity indistinguishability via quantum dot imaging, Y.-M. He, J. Liu, S. Maier, M. Emmerling, S. Gerhardt, M. Davanço, K. Srinivasan, C. Schneider, and S. Hoffling, *Optica*, **4**(7), 802-808 (2017).
12. Efficient and low-noise single-photon-level frequency conversion interfaces using silicon nanophotonics, Q. Li, M. Davanco, and K. Srinivasan, *Nature Photonics*, **10**, 406-414 (2016).
13. Nanoscale optical positioning of single quantum dots for bright and pure single-photon emission, L. Sapienza, M. Davanço, A. Badolato, and K. Srinivasan, *Nature Communications* **6**, 7833 (2015).
14. Spectrally multiplexed and tunable-wavelength photon pairs at 1.55 um from a silicon coupled-resonator optical waveguide, R. Kumar, J.R. Ong, J. Recchio, K. Srinivasan, and S. Mookherjea, *Optics Letters*, **38** (16), 2969-2971 (2013).
15. Improving the performance of bright single photon sources by amplitude modulation, S. Ates, I. Agha, A. Gulinatti, I. Rech, A. Badolato, and K. Srinivasan, *Scientific Reports*, **3**: 1397 (2013)
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Other topics

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