Stanford

Jelena Vuckovic

Jensen Huang Professor of Global Leadership, Professor of Electrical Engineering and, by courtesy, of Applied Physics

Curriculum Vitae available Online Resume available Online

Bio

BIO

Jelena Vuckovic is the Jensen Huang Professor of Global Leadership, Professor of Electrical Engineering and, by courtesy, of Applied Physics at Stanford, where she leads the Nanoscale and Quantum Photonics Lab in the Ginzton Laboratory. She joined the Stanford Faculty in 2003, upon receiving her PhD degree from the California Institute of Technology (Caltech) in 2002. At Stanford, she also served as the Fortinet Founders Chair of the Electrical Engineering Department, and was the inaugural director of QFARM, the Stanford-SLAC Quantum Initiative.

Vuckovic is a member of the National Academy of Sciences and an External Scientific Member of the Max Planck Institute for Quantum Optics. Her awards include the R. W. Wood Prize from Optica, Zeiss Research Award, the Vannevar Bush Faculty Fellowship, Geoffrey Frew Fellowship from the Australian Academy of Sciences, the IET A. F. Harvey Engineering Research Prize, Distinguished Scholarship of the Max Planck Institute for Quantum Optics in Munich, Hans Fischer Senior Fellowship from the Institute for Advanced Studies at TU Munich, Marko V. Jaric Award for outstanding achievements in physics, Humboldt Prize, Presidential Early Career Award for Scientists and Engineers, DARPA Young Faculty Award, and the Office of Naval Research Young Investigator Award. She was the Mildred Dresselhaus Lecturer at MIT, and the James Gordon Memorial Speaker at Optica. She is a Fellow of the American Physical Society (APS), of the Optica, and of the Institute of Electronics and Electrical Engineers (IEEE).

Vuckovic is the lead editor of Physical Review Applied, member of the Editorial Board of the Proceedings of the National Academy of Sciences (PNAS), and is on the Editorial Advisory Boards of Advances in Optics in Photonics, NPJ Quantum Information, and APL Photonics.

Jelena Vuckovic's research interests are broadly in the areas of photonics, quantum science and engineering, quantum optics, photonics inverse design, nonlinear optics, and cavity QED. Her current projects include semiconductor quantum systems, heterogeneously integrated, inverse designed photonics, and on-chip integrated laser systems, including Ti:sapphire lasers.

ACADEMIC APPOINTMENTS

- Professor, Electrical Engineering
- Member, Bio-X
- Member, Stanford PULSE Institute
- Member, Wu Tsai Neurosciences Institute

ADMINISTRATIVE APPOINTMENTS

- Fortinet Founders Chair, Electrical Engineering Department, (2021-2023)

- Director, Q-FARM, Stanford-SLAC Quantum Science and Engineering Initiative, (2019-2021)

HONORS AND AWARDS

- R. W. Wood Prize, Optica (2026)
- Samsung Award, Samsung (2025)
- Zeiss Research Award, Zeiss Corporation (2025)
- External Scientific Member, Max Planck Institute for Quantum Optics (2024)
- Member, National Academy of Sciences (2023)
- Geoffrey Frew Fellowship, Australian Academy of Sciences (2023)
- Vannevar Bush Faculty Fellow, Department of Defense (2022)
- Mildred Dresselhaus Lecturer, MIT (2021)
- James P. Gordon Memorial Speaker, Optical Society (OSA) (2020)
- A. F. Harvey Engineering Research Prize, IET (2019)
- Jensen Huang Professor of Global Leadership, School of Engineering, Stanford University (2019)
- Distinguished Scholar, Max Planck Institute for Quantum Optics (MPQ) (2019)
- Fellow, Institute of Electronics and Electrical Engineers (IEEE). (2018)
- Fellow, Optical Society of America (OSA) (2015)
- Fellow, American Physical Society (APS) (2015)
- Hans Fischer Senior Fellow, Institute for Advanced Studies, Technical University Munich, Germany (2013)
- Marko V. Jaric Award, for outstanding achievements in physics (2012)
- Humboldt Prize (Humboldt Research Award), Alexander von Humboldt Foundation, Germany (2010)
- Teaching Excellence Award, Society of Women Engineers, Stanford University (2009)
- Chambers Faculty Scholar, Stanford University (2008)
- Young Faculty Award, DARPA (2008)
- Presidential Early Career Award for Scientists and Engineers (PECASE), United States (2007)
- Research Grant Recipient, Okawa Foundation, Japan (2006)
- Young Investigator Award, Office of Naval Research (2006)
- Frederick E. Terman Fellow, Stanford University (2003)

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Scientific Advisory Board Member, Munich Center for Quantum Science and Technology (MCQST) (2026 - present)
- Strategic Advisor, LightCom.ai (2026 - present)
- Editorial Board Member, Proceedings of the National Academy of Sciences (PNAS) (2025 - present)
- Editorial Advisory Board Member, Advances in Optics and Photonics (2024 - present)
- Lead Editor, Physical Review Applied (2024 - present)
- Scientific Advisor, SPINS Photonics (2022 - 2026)
- Editorial Advisory Board Member, APL Photonics (2019 - present)
- Advisory Committee Member, National Science Foundation (NSF), Engineering Directorate (2019 - 2021)
- Associate Editor, ACS Photonics (2018 - 2024)
- Scientific advisory board member, Max Planck Institute for Quantum Optics (MPQ) in Garching, Germany (2015 - 2023)

- Board member, Stanford SystemX Alliance (2015 - 2021)
- Scientific advisory board member, Ferdinand Braun Institute, Berlin, Germany (2015 - 2020)
- Editorial Advisory Board Member, NPJ Quantum Information (2014 - present)
- Editorial Advisory Board Member, ACS Photonics (2014 - 2018)
- Editorial Board Member, New Journal of Physics (2014 - 2014)
- Editorial Advisory Board Member, Nanophotonics (2012 - 2025)

PROGRAM AFFILIATIONS

- Stanford SystemX Alliance

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
- LinkedIn: https://www.linkedin.com/in/jelena-vuckovic-27496632a
- Zeiss Award video about my research and labs: https://www.youtube.com/watch?v=DNEOCkyC8PY

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

Jelena Vuckovic's research interests are broadly in the areas of nanophotonics, quantum and nonlinear optics. Her lab develops semiconductor-based photonic chip-scale systems with goals to probe new regimes of light-matter interaction, as well as to enable platforms for future classical and quantum information processing technologies. She also works on transforming conventional photonics with the concept of inverse design, where optimal photonic devices are designed from scratch using computer algorithms with little to no human input. Her current projects include quantum and nonlinear optics, cavity QED, and quantum information processing with color centers in diamond and in silicon carbide, heterogeneously integrated chip-scale photonic systems, and on-chip laser driven particle accelerators.

Teaching

COURSES

2026-27

- Applied Quantum Mechanics II: EE 223 (Win)
- Quantum Photonics: EE 340 (Spr)

2025-26

- Applied Quantum Mechanics II: EE 223 (Win)
- Quantum Photonics: EE 340 (Spr)

2024-25

- Applied Quantum Mechanics II: EE 223 (Win)
- Quantum Photonics: EE 340 (Spr)

2023-24

- Quantum Photonics: EE 340 (Spr)

STANFORD ADVISEES

Doctoral Dissertation Reader (AC)

Nahal Bagheri, Timothy Chang, Melanie Murillo, Nelson Ooi, Taewon Park, Erik Porter, Charlotte Wehner, Clarisse Woodahl

Postdoctoral Faculty Sponsor

Maxwell Drimmer, Sang Kyu Kim, Yazan Lampert, Jamison Sloan, Guido van de Stolpe

Doctoral Dissertation Advisor (AC)

Dominic Catanzaro, Roman Dimov, Sungjun Eun, Yakub Grzesik, Hannah Kleidermacher, Trung Kien Le, Richard Luhtaru, Sydney Mason, Louise Schul, Joseph Sheeran, Abigail Stein, Gerald Xu

Orals Evaluator

Kevin Crust

Master's Program Advisor

Connor Flanery, Chen-En Jang, Milena Mathew, Jacob Ruiz

Doctoral (Program)

Ben Ash, Dominik Buhl, Dominic Catanzaro, Sungjun Eun, Yihuai Gao, Jenni Solgaard, Adelynn Tang, Yujia Yuan, Justus von Boehmer

Publications

PUBLICATIONS

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

- **Quantum nanophotonic interface for tin-vacancy centers in thin-film diamond** *PHYSICAL REVIEW APPLIED*
  Lee, H., Kleidermacher, H. C., Stein, A. J. M., Oh, H., Wyatt, L., Kim, C. K., Basso, L., Mounce, A. M., Wang, Y., Su, S. S., Titze, M., Jayich, A., Vuckovic, et al
  2026; 25 (4)

- **Variational Processing of Multimode Squeezed Light** *PRX QUANTUM*
  Karnieli, A., Mor, P., Roques-Carmes, C., Lustig, E., Sloan, J., Vuckovic, J., Miller, D. A. B., Fan, S.
  2026; 7 (2)

- **Inverse design for scalable photonic systems** *NATURE REVIEWS MATERIALS*
  Schul, L., Mason, S., Eun, S., Ahn, G., Vuckovic, J.
  2026

- **Overcoming Memory Bandwidth Limitations In GPU-Accelerated Finite-Difference Time-Domain Simulations: A systolic update scheme** *IEEE ANTENNAS AND PROPAGATION MAGAZINE*
  Lu, J., Qu, D., Qu, J., Fong, R., Ahn, G., Vuckovic, J.
  2026

- **Three-wave-mixing element with quantum paraelectric materials** *PHYSICAL REVIEW APPLIED*
  Rosenthal, E. I., Wang, C. S., Sloan, J., Scuri, G., Shi, Y., Pezeshki, K., Noertoft, P., Vuckovic, J., Anderson, C. P.
  2026; 25 (2)

- **Many-body entanglement in solid-state emitters** *NATURE REVIEWS MATERIALS*
  Daggett, E., Lange, C. M., Windt, B., Danageozian, A., Senichev, A., Montana-Lopez, J., Chanchal, Barua, K., Gao, X., Zheng, Z., Kizhake Veetil, V., Biswas, S., Peterson, J. M., et al

2026

- **Challenges and opportunities for quantum information hardware.** *Science (New York, N.Y.)*
  Awschalom, D. D., Bernien, H., Hanson, R., Oliver, W. D., Vučković, J.
  2025; 390 (6777): 1004-1010
- **Quadrature-dependent lattice dynamics of dissipative microcombs** *NATURE PHOTONICS*
  Lustig, E., Guidry, M. A., Lukin, D. M., Fan, S., Vuckovic, J.
  2025
- **Quantum critical electro-optic and piezo-electric nonlinearities.** *Science (New York, N.Y.)*
  Anderson, C. P., Scuri, G., Chan, A., Eun, S., White, A. D., Ahn, G. H., Jilly, C., Safavi-Naeini, A., Van Gasse, K., Li, L., Vučković, J.
  2025; 390 (6771): 394-399
- **Cavity quantum electrodynamics in a finite-bandwidth squeezed reservoir** *PHYSICAL REVIEW APPLIED*
  Le, T., Lukin, D. M., Roques-Carmes, C., Karnieli, A., Lustig, E., Guidry, M. A., Fan, S., Vuckovic, J.
  2025; 24 (3)
- **Quantum sensitivity of parametric oscillators** *PHYSICAL REVIEW RESEARCH*
  Gu, A., Sloan, J., Roques-Carmes, C., Choi, S., Rosenthal, E. I., Horodynski, M., Salamin, Y., Vuckovic, J., Soljacic, M.
  2025; 7 (2)
- **High-Quality GaP(111) Grown by Gas-Source MBE for Photonic Crystals and Advanced Nonlinear Optical Applications.** *Nanomaterials (Basel, Switzerland)*
  Hestroffer, K., Rivoire, K., Vučković, J., Hatami, F.
  2025; 15 (8)
- **Low-Dissipation Nanomechanical Devices from Monocrystalline Silicon Carbide.** *Nano letters*
  Sementilli, L., Lukin, D. M., Lee, H., Yang, J., Romero, E., Vučković, J., Bowen, W. P.
  2025
- **Rapid, Sensitive Detection of Protein Biomarkers in Minimally-Processed Blood Products with a Monolithic Sandwich Immunoassay Reagent.** *Advanced materials (Deerfield Beach, Fla.)*
  Maganzini, N., Reschke, A., Cartwright, A. P., Gidi, Y., Thompson, I. A., Yee, S., Hariri, A., Dory, C., Rosenberg-Hasson, Y., Pan, J., Eisenstein, M., Vuckovic, J., Cornell, et al
  2025: e2412613
- **Cavity-Waveguide Coupling Modulation via an Optical Analogue of Superradiance in Microring Arrays** *ACS PHOTONICS*
  Tang, A., Audhkhasi, R., Saxena, A., Tara, V., Ahn, G., Vuckovic, J., Majumdar, A.
  2025
- **Continuous-variable quantum information processing in real and synthetic dimensions with self-configuring optics**
  Karnieli, A., Roques-Carmes, C., Mor, P., Lustig, E., Sloan, J., Vuckovic, J., Miller, D. A. B., Fan, S., IEEE
  IEEE.2025
- **Emerging quadrature lattices of Kerr combs**
  Lustig, E., Guidry, M., Lukin, D., Fan, S., Vuckovic, J., IEEE
  IEEE.2025
- **A general framework for interactions between electron beams and quantum optical systems**
  Grzesik, J., Roques-Carmes, C., Karnieli, A., Black, D. S., Catanzaro, D., Solgaard, O., Fan, S., Vuckovic, J., IEEE
  IEEE.2025
- **Narrowband wavelength division multiplexing enabled by co-optimization with distributed Bragg gratings**
  Mason, S., Ahn, G., Eun, S., Vuckovic, J., IEEE
  IEEE.2025
- **Mid-Infrared Microcomb Generation in Silicon-Carbide Microresonators**
  Bournet, Q., Amann, S., Deniel, L., Lukin, D. M., Guidry, M. A., Yang, J., Vuckovic, J., Haensch, T. W., Picque, N., IEEE
  IEEE.2025

- **Strong intracavity squeezing in a Kerr resonator**
  Trung Kien Le, Lustig, E., Schul, L., Guidry, M. A., Lukin, D. M., Fan, S., Vuckovic, J., IEEE
  IEEE.2025

- **Cavity Quantum Electrodynamics in Finite-Bandwidth Squeezed Reservoir**
  Trung Kien Le, Lukin, D., Roques-Carmes, C., Karnieli, A., Guidry, M. A., Lustig, E., Fan, S., Vuckovic, J., IEEE
  IEEE.2025

- **Editorial: A Vision for Physical Review Applied** *PHYSICAL REVIEW APPLIED*
  Vuckovic, J.
  2024; 22 (5)

- **Unified laser stabilization and isolation on a silicon chip** *NATURE PHOTONICS*
  White, A. D., Ahn, G., Luhtaru, R., Guo, J., Morin, T. J., Saxena, A., Chang, L., Majumdar, A., Van Gasse, K., Bowers, J. E., Vuckovic, J.
  2024

- **Single-Shot Readout and Weak Measurement of a Tin-Vacancy Qubit in Diamond** *PHYSICAL REVIEW X*
  Rosenthal, E. I., Biswas, S., Scuri, G., Lee, H., Stein, A. J., Kleidermacher, H. C., Grzesik, J., Rugar, A. E., Aghaeimeibodi, S., Riedel, D., Titze, M., Bielejec, E. S., Choi, et al
  2024; 14 (4)

- **Nonlinear mid-infrared meta-membranes.** *Nanophotonics (Berlin, Germany)*
  Sartorello, G., Bocanegra, J., Knez, D., Lukin, D. M., Yang, J., Vučković, J., Fishman, D. A., Shvets, G., Shcherbakov, M. R.
  2024; 13 (18): 3395-3402

- **Nonlinear mid-infrared meta-membranes** *NANOPHOTONICS*
  Sartorello, G., Bocanegra, J., Knez, D., Lukin, D. M., Yang, J., Vuckovic, J., Fishman, D. A., Shvets, G., Shcherbakov, M. R.
  2024

- **Publisher Correction: Titanium:sapphire-on-insulator integrated lasers and amplifiers.** *Nature*
  Yang, J., Van Gasse, K., Lukin, D. M., Guidry, M. A., Ahn, G. H., White, A. D., Vučković, J.
  2024

- **Titanium:sapphire-on-insulator integrated lasers and amplifiers.** *Nature*
  Yang, J., Van Gasse, K., Lukin, D. M., Guidry, M. A., Ahn, G. H., White, A. D., Vučković, J.
  2024; 630 (8018): 853-859

- **Efficient Photonic Integration of Diamond Color Centers and Thin-Film Lithium Niobate** *ACS PHOTONICS*
  Riedel, D., Lee, H., Herrmann, J. F., Grzesik, J., Ansari, V., Borit, J., Stokowski, H. S., Aghaeimeibodi, S., Lu, H., McQuade, P. J., Melosh, N. A., Shen, Z., Safavi-Naeini, et al
  2023; 10 (12): 4236-4243

- **Modular Aptamer Switches for the Continuous Optical Detection of Small-Molecule Analytes in Complex Media.** *Advanced materials (Deerfield Beach, Fla.)*
  Hariri, A. A., Cartwright, A. P., Dory, C., Gidi, Y., Yee, S., Thompson, I. A., Fu, K., Yang, K., Wu, D., Maganzini, N., Feagin, T., Young, B. E., Afshar, et al
  2023: e2304410

- **Quantum Photonic Circuits Integrated with Color Centers in Designer Nanodiamonds.** *Nano letters*
  Ngan, K., Zhan, Y., Dory, C., Vučković, J., Sun, S.
  2023

- **An antibody-based molecular switch for continuous small-molecule biosensing.** *Science advances*
  Thompson, I. A., Saunders, J., Zheng, L., Hariri, A. A., Maganzini, N., Cartwright, A. P., Pan, J., Yee, S., Dory, C., Eisenstein, M., Vuckovic, J., Soh, H. T.
  2023; 9 (38): eadh4978

- **An Inverse-Designed Nanophotonic Interface for Excitons in Atomically Thin Materials.** *Nano letters*
  Gelly, R. J., White, A. D., Scuri, G., Liao, X., Ahn, G. H., Deng, B., Watanabe, K., Taniguchi, T., Vučković, J., Park, H.
  2023

- **Microwave Spin Control of a Tin-Vacancy Qubit in Diamond** *PHYSICAL REVIEW X*
  Rosenthal, E. I., Anderson, C. P., Kleidermacher, H. C., Stein, A. J., Lee, H., Grzesik, J., Scuri, G., Rugar, A. E., Riedel, D., Aghaeimeibodi, S., Ahn, G., Van Gasse, K., Vuekovie, et al
  2023; 13 (3)
- **Inverse-designed silicon carbide quantum and nonlinear photonics.** *Light, science & applications*
  Yang, J., Guidry, M. A., Lukin, D. M., Yang, K., Vučković, J.
  2023; 12 (1): 201
- **Bounds on Efficiency Metrics in Photonics** *ACS PHOTONICS*
  Angeris, G., Diamandis, T., Vuckovic, J., Boyd, S. P.
  2023
- **Universal visible emitters in nanoscale integrated photonics** *OPTICA*
  Spektor, G., Carlson, D., Newman, Z., Skarda, J. L., Sapra, N., Su, L., Jammi, S., Ferdinand, A. R., Agrawal, A., Vuckovic, J., Papp, S. B.
  2023; 10 (7): 871-879
- **Multimode squeezing in soliton crystal microcombs** *OPTICA*
  Guidry, M. A., Lukin, D. M., Yang, K., Vuckovic, J.
  2023; 10 (6): 694-701
- **Inverse Designed Couplers for Use in Gallium Arsenide Photonics** *ACS PHOTONICS*
  Carfagno, H., Guidry, M., Yang, J., McCabe, L., Zide, J. M. O., Vuckovic, J., Doty, M. F.
  2023
- **Platform-agnostic waveguide integration of high-speed photodetectors with evaporated tellurium thin films** *OPTICA*
  Ahn, G., White, A. D., Kim, H., Higashitarumizu, N., Mayor, F. M., Herrmann, J. F., Jiang, W., Multani, K. K. S., Safavi-Naeini, A. H., Javey, A., Vuckovic, J.
  2023; 10 (3): 349-355
- **Two-Emitter Multimode Cavity Quantum Electrodynamics in Thin-Film Silicon Carbide Photonics** *PHYSICAL REVIEW X*
  Lukin, D. M., Guidry, M. A., Yang, J., Ghezellou, M., Mishra, S., Abe, H., Ohshima, T., Ul-Hassan, J., Vuckovic, J.
  2023; 13 (1)
- **Multi-dimensional data transmission using inverse-designed silicon photonics and microcombs.** *Nature communications*
  Yang, K. Y., Shirpurkar, C., White, A. D., Zang, J., Chang, L., Ashtiani, F., Guidry, M. A., Lukin, D. M., Pericherla, S. V., Yang, J., Kwon, H., Lu, J., Ahn, et al
  2022; 13 (1): 7862
- **Integrated passive nonlinear optical isolators** *NATURE PHOTONICS*
  White, A. D., Ahn, G., Gasse, K., Yang, K., Chang, L., Bowers, J. E., Vuckovic, J.
  2022
- **Inverse Design of Optical Vortex Beam Emitters** *ACS PHOTONICS*
  White, A. D., Su, L., Shahar, D. I., Yang, K., Ahn, G., Skarda, J. L., Ramachandran, S., Vuckovic, J.
  2022
- **Quantum Optical Microphone in the Audio Band** *PRX QUANTUM*
  Nold, R., Babin, C., Schmidt, J., Linkewitz, T., Zaballos, M., Stoehr, R., Kolesov, R., Vorobyov, V., Lukin, D. M., Boppert, R., Barz, S., Vuelovie, J., Gebhardt, et al
  2022; 3 (2)
- **Photonic Inverse Design of On-Chip Microresonators** *ACS PHOTONICS*
  Ahn, G., Yang, K., Trivedi, R., White, A. D., Su, L., Skarda, J., Vuckovic, J.
  2022; 9 (6): 1875-1881
- **Enhancing Superradiance in Spectrally Inhomogeneous Cavity QED Systems with Dynamic Modulation** *ACS PHOTONICS*
  White, A. D., Trivedi, R., Narayanan, K., Vuckovic, J.
  2022

- **Creating boundaries along a synthetic frequency dimension.** *Nature communications*
  Dutt, A., Yuan, L., Yang, K. Y., Wang, K., Buddhiraju, S., Vuckovic, J., Fan, S.
  2022; 13 (1): 3377
- **Low-overhead distribution strategy for simulation and optimization of large-area metasurfaces** *NPJ COMPUTATIONAL MATERIALS*
  Skarda, J., Trivedi, R., Su, L., Ahmad-Stein, D., Kwon, H., Han, S., Fan, S., Vuckovic, J.
  2022; 8 (1)
- **Few-particle scattering from localized quantum systems in spatially structured bosonic baths** *QUANTUM*
  Trivedi, R., Fischer, K., Fan, S., Vuckovic, J.
  2022; 6
- **Quantum optics of soliton microcombs** *NATURE PHOTONICS*
  Guidry, M. A., Lukin, D. M., Yang, K., Trivedi, R., Vuckovic, J.
  2021
- **Inverse-Designed Photonic Crystal Circuits for Optical Beam Steering** *ACS PHOTONICS*
  Vercruysse, D., Sapra, N., Yang, K., Vuckovic, J.
  2021; 8 (10): 3085-3093
- **Control Design for Inhomogeneous-Broadening Compensation in Single-Photon** *PHYSICAL REVIEW APPLIED*
  Mishra, S., Trivedi, R., Safavi-Naeini, A. H., Vuckovic, J.
  2021; 16 (4)
- **Quantum Photonic Interface for Tin-Vacancy Centers in Diamond** *PHYSICAL REVIEW X*
  Rugar, A. E., Aghaeimeibodi, S., Riedel, D., Dory, C., Lu, H., McQuade, P. J., Shen, Z., Melosh, N. A., Vuckovic, J.
  2021; 11 (3)
- **Optimal two-photon excitation of bound states in non-Markovian waveguide QED** *PHYSICAL REVIEW A*
  Trivedi, R., Malz, D., Sun, S., Fan, S., Vuckovic, J.
  2021; 104 (1)
- **Convex restrictions in physical design.** *Scientific reports*
  Angeris, G., Vuckovic, J., Boyd, S.
  2021; 11 (1): 12976
- **Electrical Tuning of Tin-Vacancy Centers in Diamond** *PHYSICAL REVIEW APPLIED*
  Aghaeimeibodi, S., Riedel, D., Rugar, A. E., Dory, C., Vuckovic, J.
  2021; 15 (6)
- **Site-Controlled Quantum Emitters in Monolayer MoSe2.** *Nano letters*
  Yu, L., Deng, M., Zhang, J. L., Borghardt, S., Kardynal, B., Vuckovic, J., Heinz, T. F.
  2021
- **Development of Quantum Interconnects (QuICs) for Next-Generation Information Technologies** *PRX QUANTUM*
  Awschalom, D., Berggren, K. K., Bernien, H., Bhave, S., Carr, L. D., Davids, P., Economou, S. E., Englund, D., Faraon, A., Fejer, M., Guha, S., Gustafsson, M., Hu, et al
  2021; 2 (1)
- **Quantum Simulators: Architectures and Opportunities** *PRX QUANTUM*
  Altman, E., Brown, K. R., Carleo, G., Carr, L. D., Demler, E., Chin, C., DeMarco, B., Economou, S. E., Eriksson, M. A., Fu, K. C., Greiner, M., Hazzard, K. R. A., Hulet, et al
  2021; 2 (1)
- **Heuristic methods and performance bounds for photonic design** *OPTICS EXPRESS*
  Angeris, G., Vuckovic, J., Boyd, S.
  2021; 29 (2): 2827–54
- **Generating arbitrary topological windings of a non-Hermitian band.** *Science (New York, N.Y.)*
  Wang, K., Dutt, A., Yang, K. Y., Wojcik, C. C., Vuckovic, J., Fan, S.

2021; 371 (6535): 1240–45

- **Quantum Control of Microwave-to-Optical Transducers for Inhomogeneous Broadening Compensation**
  Mishra, S., Trivedi, R., Safavi-Naeini, A. H., Vuckovic, J., IEEE
  IEEE.2021

- **Arbitrary control and direct measurement of topological windings of a non-Hermitian band**
  Wang, K., Dutt, A., Yang, K., Wojcik, C. C., Vuckovic, J., Fan, S., IEEE
  IEEE.2021

- **Narrow-linewidth tin-vacancy centers in diamond waveguides**
  Rugar, A. E., Aghaeimeibodi, S., Dory, C., Lu, H., McQuade, P. J., Mishra, S., Sun, S., Shen, Z., Melosh, N. A., Vuckovic, J., IEEE
  IEEE.2021

- **Inverse Spectral Design of Kerr Microcomb Pulses**
  Lucas, E., Yu, S., Ahn, G., Yang, K., Vuckovic, J., Papp, S. B.
  edited by Ilchenko, V. S., Armani, A. M., Sheldakova, J. V., Kudryashov, A. V., Paxton, A. H.
  SPIE-INT SOC OPTICAL ENGINEERING.2021

- **A fluorescence sandwich immunoassay for the real-time continuous detection of glucose and insulin in live animals.** *Nature biomedical engineering*
  Poudineh, M., Maikawa, C. L., Ma, E. Y., Pan, J., Mamerow, D., Hang, Y., Baker, S. W., Beirami, A., Yoshikawa, A., Eisenstein, M., Kim, S., Vuckovic, J., Appel, et al
  2020

- **Integrated Quantum Photonics with Silicon Carbide: Challenges and Prospects** *PRX QUANTUM*
  Lukin, D. M., Guidry, M. A., Vuckovic, J.
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