LAN YANG

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EDUCATION

Ph.D. in Applied Physics, May 2005, Caltech
M.S. in Materials Science, June 2000, Caltech
M.S. in Solid State Physics, June 1999, University of Science and Technology of China
B.S. in Materials Physics, June 1997, University of Science and Technology of China

ACADEMIC POSITIONS

Edwin H. and Florence G. Skinner Professor Jan 2015--present
The Preston M. Green Department of Electrical and Systems Engineering
Washington University in St. Louis

Professor June 2016--present
Physics Department (courtesy appointment)
Washington University in St. Louis

Professor Dec 2014--present
Institute of Materials Science and Engineering
Washington University in St. Louis

Professor Dec 2014--present
The Preston M. Green Department of Electrical and Systems Engineering
Washington University in St. Louis

Associate Professor July 2012-Nov 2014
The Preston M. Green Department of Electrical and Systems Engineering
Washington University in St. Louis

Assistant Professor Jan 2007 – June 2012
The Preston M. Green Department of Electrical and Systems Engineering
Washington University in St. Louis

Research Associate May 2006 – Dec 2006
Department of Applied Physics, Caltech

Post-doctoral Scholar May 2005 – May 2006
Department of Applied Physics, Caltech

PROFESSIONAL EXPERIENCE

Co-Founder, Board Member, and Chief Technology Officer Nov 2019-present
DeepSight Technology, Inc. (https://deepsight.com/)

DeepSight is a MedTech company focused on developing transformative diagnostic and therapeutic platforms by integrating novel sensor technologies with innovations in hardware, software, and AI. Its mission is to redefine ultrasound imaging and image-guided interventions to improve public health and patient outcomes.

AWARDS AND HONORS

- Named one of the **Top 50 Women Chief Technology Officers of 2025** by *Women We Admire*, recognizing women leaders for advancing technology and innovation across industries (https://thewomenweadmire.com/2025/07/the-top-50-women-chief-technology-officers-of-2025/)
- **Highly Cited Researchers™, Clarivate™,** 2019-2024
  *"*Recognizing the true pioneers in their fields over the last decade, demonstrated by the production of multiple highly-cited papers that rank in the top 1% by citations for field and year in the Web of Science™"*
- **Fellow of American Institute for Medical and Biological Engineering,** 2024
  "For pioneering contributions in optical sensing technologies with transformative impact on biomedical research, and for leadership in translational research."
- **Senior Member, National Academy of Inventors,** 2023
- **Fellow of the American Association for the Advancement of Science,** 2020.
  "*For groundbreaking contributions to the fields of photonics, particularly her pioneering experimental studies on non-Hermitian photonics, optical sensing and light-matter interactions in optical resonators*."
- **Fellow of the American Physical Society,** 2020.
  "For seminal contributions to non-Hermitian photonics, optical sensing, and nanophotonics."
- **Fellow of the Institute of Electrical and Electronics Engineers,** 2020.
  "For contributions to optical sensing and non-Hermitian photonics"
- **Friedrich Wilhelm Bessel Research Award,** Alexander von Humboldt Foundation, 2019.
- **Fellow of Optica, formerly the Optical Society of America,** 2017.
  "*For her seminal contribution in nanophotonics and photonic sensing."*
- **Chancellor's Award for Innovation and Entrepreneurship,** Washington University in St. Louis, 2015
- **Presidential Early Career Award for Scientists and Engineers (PECASE)**, 2010.
  (Final citation/recognition determined by DOD and the Office of Science and Technology Policy (an office in the Executive Office of the President): *"for innovative research in microlasers on a silicon wafer and development of photonic devices with applications from optical communications to ultrasensitive biochemical sensing; and for pioneering studies of real-time, in-situ detection and sizing of nanoparticles using low-power on-chip devices.")*
- **NSF CAREER Award**, National Science Foundation, 2010.
- **Caltech Doctoral Award**, 1999

NEWS AND MEDIA COVERAGE

- **Interview with the National Academy of Inventors**

Featured for the Asian American, Native Hawaiian, and Pacific Islander (AANHPI) Heritage Month (https://academyofinventors.org/aanhpi-heritage-month-an-interview-with-dr-lan-yang-smnai/)

- **Podcast interview: "Applying nano-optics to ultrasound: Lan Yang"**
  Midwest Moxie, highlighting high-quality company builders in the Midwest/Great Lakes region and provide inspiration and information for younger entrepreneurs
  NPR: https://www.npr.org/podcasts/1086065302/midwest-moxie
  Apple Podcasts: https://podcasts.apple.com/us/podcast/applying-nano-optics-to-ultrasound-lan-yang/id1613980431?i=1000666181577

- **Product Launch Coverage: NeedleVue™**
  "*DeepSight™ Technology Introduces NeedleVue™ Solution: Revolutionizing the Future of Ultrasound-Guided Interventional Tool Guidance*"
  Radiological Society of North America (RSNA) Virtue Press Room: https://rsna.vporoom.com/DeepSight/DeepSight-TM-Technology-Introduces-NeedleVue-TM-Solution-Revolutionizing-the-Future-of-Ultrasound-Guided-Interventional-Tool-Guidance

- **Keynote speaker for annual Women in Innovation and Technology (WIT) Luncheon**
  Talk entitled "*Beyond Academia: My Path to Driving Innovation in Medical Imaging Technology*," Washington University in St. Louis, Nov. 2023
  WashU Office of Technology Management Event Page: https://otm.wustl.edu/calendar_event/women-in-innovation-technology-luncheon/

- **Startup Recognition: DeepSight Technology**
  "*The Future of Medicine: 15 Startups Reshaping Healthcare in San Francisco*"
  U.S. Venture News: https://usventure.news/the-future-of-medicine-15-startups-reshaping-healthcare-in-san-francisco/

- **Alumna profile: Caltech ENGenuity**
  Alumna Profile: Lan Yang (MS '00, PhD '05): https://engenuity.caltech.edu/stories/alumna-profile-lan-yang-phd-05, July 06, 2023.

- **Mid-America Emmy Award, Health/Science – Program Feature Segment, 2020**
  "*Changing the World Through Science: Lan Yang*"
  Produced by Kathleen Berger, Peter Foggy, HEC Media
  Emmy Listing, Mid-America Chapter: https://emmymid-america.org/emmy-awards/nominees-winners/
  HEC Media Story: https://hecmedia.org/posts/changing-the-world-through-science-lan-yang-is-an-inspiration-for-women-at-washington-university)

- **"St. Louis Character—Lan Yang pushes science and technology forward through innovation", 2019**
  Featured in the *St. Louis Business Journal*'s *St. Louis Character* series, which highlights individuals demonstrating exceptional character and innovation in the business community. This weekly feature recognizes diverse leaders making unique contributions to St. Louis's professional landscape. Published March 6, 2019.
  https://www.bizjournals.com/stlouis/news/2019/03/06/st-louis-character-lan-yang-pushes-science-and.html

- **"The Discoverer: Lan Yang", 2018**

WashU Fuse: Innovation and Entrepreneurship, Nov. 2018.
https://fuse.wustl.edu/the-discoverer-lan-yang/

FIELD OF STUDY

Nanophotonics, High-quality microresonators, Sensing and imaging, Spectroscopy, Non-Hermitian photonics, Parity-time symmetric photonics, Lasers, Integrated photonics

SELECTED PUBLICATIONS

5 book chapters, ~140 peer-reviewed journal papers

Citation Metric: Google scholar: 27,640 citations, h-index = 71

Significant publications:

J1 "Whispering-Gallery-Mode Resonators for Detection and Classification of Free-Flowing Nanoparticles and Cells through Photoacoustic Signatures," J Liao, M Adolphson, H Li, DK Sikder, C Lu, **L Yang**, in press, ***Light: Science & Applications*** (2025)

J2 "On-chip reconfigurable transmission in spatially chirped Floquet parity-time symmetric photonics," W Mao, F Li, Q Zhang, W Xu, K Awan, **L. Yang**, ***Science Advances***, 11 (10), ea-du4653 (2025)

J3 "Exceptional-point-enhanced phase sensing," W. Mao, Z. Fu, Y. Li, F. Li, **L. Yang**, ***Science Advances***, 10 (14), eadl5037 (2024)

J4 "A whispering-gallery scanning microprobe for Raman spectroscopy and imaging," W. Mao, Y. Li, X. Jiang, Z. Liu, **L. Yang**, 12, Article number: 247, ***Light: Science & Applications*** (2023)

J5 "Photonic van der Waals integration from 2D materials to 3D nanomembranes", Y. Meng, J. Feng, S. Han, Z. Xu, W. Mao, T. Zhang, J. S Kim, I. Roh, Y. Zhao, D.-H. Kim, Y. Yang, J.-W. Lee, **L. Yang**, C.-W. Qiu, S.-H. Bae, ***Nature Reviews Materials***, 1-20 (2023)

J6 "Fully integrated parity–time-symmetric electronics", W Cao, C Wang, W Chen, S Hu, H Wang, **L Yang**, X Zhang, ***Nature Nanotechnology***, 1-7 (2022)

J7 "Optomechanical dissipative solitons," J. Zhang, B. Peng, S. Kim, F. Monifi, X. Jiang, Y. Li, P. Yu, L. Liu, Y. Liu, A. Alù, **L. Yang**, ***Nature*** 600 (7887), 75-80 (2021)

J8 "Coherent perfect absorption at an exceptional point," C Wang, WR Sweeney, AD Stone, L. Yang, ***Science*** 373 (6560), 1261-1265 (2021)

J9 "Optical whispering gallery mode barcodes for high-precision and wide-range temperature measurements," J. Liao, and **L. Yang**, ***Light: Science & Applications***, 10 (1), 1-11 (2021)

J10 "Induced transparency by interference or polarization," C. Wang, X. Jiang, W. R. Sweeney, C. W. Hsu, Y. Liu, G. Zhao, B. Peng, M. Zhang, L. Jiang, A. D. Stone, and **L. Yang**, ***Proceedings of the National Academy of Sciences (PNAS)***, 118 (3) e2012982118 (2021)

J11 "Angle-based wavefront sensing enabled by the near fields of flat optics," S Yi, J Xiang, Zhou, Z Wu, **L Yang**, Z Yu, ***Nature communications*** 12 (1), 1-8 (2021)

J12 "Nonreciprocal Transmission of Microwave Acoustic Waves using Nonlinear Parity-Time Symmetric Resonators," L. Shao, W. Mao, S. Maity, N. Sinclair, Y. Hu, **L. Yang**, and M. Lončar, ***Nature Electronics***, 3, 267–272 (2020)

J13 "Electromagnetically induced transparency at a chiral exceptional point," C. Wang, X. Jiang, G. Zhao, M. Zhang, C. Hsu, B. Peng, A D. Stone, L. Jiang, and **L. Yang**, ***Nature Physics*****,** 16, 334–340 (2020)

J14 "Symmetry-breaking-induced nonlinear optics at a microcavity surface," X Zhang, QT Cao, Z Wang, Y Liu, CW Qiu, **L Yang**, Q Gong, YF Xiao, ***Nature Photonics***, 13, 21-24 (2019)

J15 "Parity–time symmetry and exceptional points in photonics," ŞK Özdemir, S Rotter, F Nori, **L Yang**, ***Nature materials*** 18 (8), 783-798 (2019)

J16 "Wireless whispering-gallery-mode sensor for thermal sensing and aerial mapping," X. Xu, W. Chen, G. Zhao, Y. Li, C. Lu and **L. Yang**, ***Light: Science & Applications***, 7, Article number 62 (2018)

J17 "A phonon laser operating at an exceptional point," J. Zhang, B. Peng, Ş. K. Özdemir, K. Pichler, D. O. Krimer, G. Zhao, F. Nori, Y. Liu, S. Rotter, and **L. Yang**, ***Nature Photonics***, 12, 479-484 (2018)

J18 "Chaos-assisted broadband momentum transformation in optical microresonators," X. Jiang, L. Shao, S. X. Zhang, X. Yi, J. Wiersig, L. Wang, Q. Gong, M. Lončar, **L. Yang**, and Y.-F. Xiao, ***Science***, 358, 344-347 (2017)

J19 "Exceptional points enhanced sensing in an optical microcavity," W. Chen, Ş. K. Özdemir, G. Zhao, J. Wiersig, and **L. Yang**, ***Nature***, 548, 192-196 (2017)

J20 "Optomechanically-induced stochastic resonance and chaos transfer between optical fields," F. Monifi, J. Zhang, S. K. Ozdemir, B. Peng, Y.X. Liu, F. Bo, F. Nori, and **L. Yang**, ***Nature Photonics***, 10, 399–405 (2016)

J21 "Anomalous time delays and quantum weak measurements in optical micro-resonators,"M Asano, KY Bliokh, YP Bliokh, AG Kofman, R Ikuta, T Yamamoto, YS Kivshar, **L Yang**, N Imoto, ŞK Özdemir, F Nori, ***Nature communications*** 7, 13488 (2016)

J22 "Chiral modes and directional lasing at exceptional points," B. Peng, S. K. Özdemir, M. Liertzer, W. Chen, J. Kramer, H. Yilmaz, J. Wiersig, S. Rotter, and **L. Yang**, ***Proceedings of the National Academy of Sciences (PNAS)***, Vol. 113 no. 25, 6845–6850 (2016)

J23 "Loss induced suppression and revival of lasing," B. Peng, Ş. K. Özdemir, S. Rotter, H. Yilmaz, M. Liertzer, F. Monifi, C. M. Bender, F. Nori, and **L. Yang**, ***Science***. Vol. 346, Issue 6207, 328-332. (2014)

J24 "What is – and What is not-Electromagnetically-induced-Transparency in Whispering-Gallery-Microcavities," B. Peng, SK. Ozdemir, W. Chen, F. Nori and **L. Yang**, ***Nature Communication,*** 5, Article No: 5082 (2014)

J25 "Highly sensitive detection of nanoparticles with a self-referenced and self- heterodyned whispering –gallery Raman microlaser," SK Ozdemir, J. Zhu, X. Yang, B. Peng, H. Yilmaz, L He, F. Monifi, GL. Long, and **L. Yang**, ***Proceeding of the National Academy of Science (PNAS),*** vol. 111 no. 37, E3836–E3844 (2014)

J26 "Parity-time-symmetric microcavities," B. Peng, S. K. Ozdemir, F. Lei, F. Monifi, M. Gianfreda, G. L. Long, S. Fan, F. Nori, C. M. Bender, and **L. Yang**, ***Nature Physics***, 10, 394–398 (2014)

J27 "Detecting single viruses and nanoparticles using an on-chip whispering gallery micro-laser", L. He, S.K. Ozdemir, J. Zhu, and **L. Yang**, ***Nature Nanotechnology***, Vol. 6, 428-432 (2011)

J28 "On-chip Single Nanoparticle Detection and Sizing by Mode-splitting in an Ultra-high-Q Microresonator", J. Zhu, S.K. Ozdemir, Y.F.Xiao, L. Li, L. He, D.R. Chen and **L. Yang**, ***Nature Photonics***, Vol. 4, p46-49 (2010)

J29 "High-Q plasmon-polariton whispering-gallery microcavity", B. Min, E. Ostby, V. Sorger, E. Ulin-Avila, **L. Yang**, X. Zhang, and K. J. Vahala, ***Nature***, Vol. 457, 455-458 (2009)

Peer-reviewed Journal Papers

Review articles:

J30 "From Whispering Gallery Mode Resonators to Biochemical Sensors," M Loyez, M Adolphson, J Liao, **L Yang**, ACS sensors 8 (7), 2440-2470 (2023)

J31 "Non-Hermitian optics and photonics: from classical to quantum," C Wang, Z Fu, W Mao, J Qie, AD Stone, **L Yang**, *Advances in Optics and Photonics* 15 (2), 442-523 (2023) ***Invited***

J32 "Whispering-Gallery Sensors," X Jiang, AJ Qavi, SH Huang, **L Yang**, *Matter* 3 (2), 371-392 (2020) ***Invited***

J33 Optothermal dynamics in whispering-gallery microresonators, X Jiang, **L Yang**, *Light: Science & Applications* 9 (1), 1-15 (2020)

J34 "Nonreciprocity in synthetic photonic materials with nonlinearity," W Chen, D Leykam, YD Chong, **L Yang**, *MRS Bulletin* 43 (6), 443-451 (2018) ***Invited***

J35 "Whispering gallery microcavity lasers", L. He, S. Ozedemir, and **L. Yang**, *Lasers & Photonics Reviews*, Vol. 7, No. 1, 60-82 (2013) ***Invited***

J36 "Label-free detection with high-Q microcavities: a review of Biosensing mechanisms for integrated devices," F. Vollmer and **L. Yang**, *Nanophotonics*, Vol. 1, 267-291 (2012) ***Invited***

Papers published in peer-reviewed journals:

J37 "On-Chip Multimode WGM Microresonator with Cross-Correlation Algorithm for Enhanced Sensing," W Mao, F Li, D Jia, Q Zhang, **L Yang**, *Laser & Photonics Reviews*, 2301303 (2024)

J38 "Multimode Sensing by Optical Whispering-gallery-mode Barcodes: A New Route to Expand Dynamic Range for High-resolution Measurement," J Liao, **L Yang**, IEEE Transactions on Instrumentation and Measurement (2024)

J39 "Local chirality at exceptional points in optical whispering-gallery microcavities," J Zhu, C Wang, C Tao, Z Fu, H Liu, F Bo, **L Yang**, G Zhang, J Xu, Physical Review A 108 (4), L041501 (2023)

J40 "Chirality Induced Nonreciprocity in a Nonlinear Optical Microresonator," J Qie, C Wang, **L Yang**, *Laser & Photonics Reviews*, 2200717 (2023)

J41 "Non-Hermitian chiral heat transport," G Xu, X Zhou, Y Li, Q Cao, W Chen, Y Xiao, **L Yang**, CW Qiu, Physical Review Letters 130 (26), 266303 (2023)

J42 "Rapid detection of an Ebola biomarker with optical microring resonators," Abraham J Qavi, Krista Meserve, M Javad Aman, Hong Vu, Larry Zeitlin, John M Dye, Jeffrey W Froude, Daisy W Leung, **L. Yang**, Frederick W Holtsberg, Ryan C Bailey, Gaya K Amarasinghe, *Cell Reports Methods*, Vol. 2, Iss. 6, 100234 (2022)

J43 "Optomechanically induced thermal bistability in an optical microresonator," Z Fu, **L Yang**, *Physical Review A* 105 (6), L061504 (2022)

J44 "A Monolithic 3D Printed Axisymmetric Co-Flow Single and Compound Emulsion Generator,"A Ghaznavi, Y Lin, M Douvidzon, A Szmelter, A Rodrigues, M Blackman, D Eddington, T Carmon, L Deych, **L Yang**, J Xu, *Micromachines* 13 (2), 188 (2022)

J45 "High-Q WGM Resonators Encapsulated in PDMS for Highly Sensitive Displacement Detection," J Liao, A Qavi, M Adolphson, **L Yang**, *Journal of Lightwave Technology* (2022)

J46 "Synchronization in PT-symmetric optomechanical resonators," CL Zhu, YL Liu, **L Yang**, YX Liu, J Zhang, *Photonics Research* 9 (11), 2152-2166 (2021)

J47 "Toward transformable photonics: Reversible deforming soft cavities, controlling their resonance split and directional emission", M. Douvidzon, S. Maayani, H. Nagar, T. Admon, V. Shuvayev, **L. Yang**, L. Deych, Y. Roichman, T. Carmon, *APL Photonics* 6 (7), 071304 (2021)

J48 "A fiber optic–nanophotonic approach to the detection of antibodies and viral particles of COVID-19," N. Rajil, A. Sokolov, Z. Yi, G. Adams, G. Agarwal, V. Belousov, R. Brick, K. Chapin, J. Cirillo, V. Deckert, S. Delfan, S. Esmaeili, A. Fernández-González, E. Fry, Z. Han, P. Hemmer, G. Kattawar, M. Kim, M. Lee, C. Lu, J. Mogford, B. Neuman, J.-W. Pan, T. Peng, V. Poor, S. Scully, Y. Shih, S. Suckewer, A. Svidzinsky, A. Verhoef, D. Wang, K. Wang, **L Yang**, A. Zheltikov, S. Zhu, S. Zubairy, M. Scully, Nanophotonics 10 (1), 235-246 (2021)

J49 "Effects of the magnetodipole corrections on the spectra of spheroidal whispering gallery mode resonators interacting with a dielectric nanoparticle," L Deych, **L Yang**, Optics Letters 45 (6), 1435-1438 (2020)

J50 "Optothermally induced mechanical oscillation in a silk fibroin coated high-Q microsphere," Y Liu, X Jiang, C Wang, **L Yang**, *Applied Physics Letters* 116 (20), 201104 (2020)

J51 "Microstar cavities: An alternative concept for the confinement of light," J Kullig, X Jiang, **L Yang**, J Wiersig, *Physical Review Research* 2 (1), 012072 (2020)

J52 "First-principles Studies of Second-Order Nonlinear Optical Properties of Organic-Inorganic Hybrid Halide Perovskites," W Song, GY Guo, S Huang, **L Yang**, L Yang, Physical Review Applied 13 (1), 014052 (2020)

J53 What limits limits? YC Liu, K Huang, YF Xiao, **L Yang**, and CW Qiu, National Science Review, nwaa210, https://doi.org/10.1093/nsr/nwaa210 (2020)

J54 "Highly efficient optical add-drop filter with an angle-polished fiber coupler," R Dong, Z Fan, J Liao, A Qavi, GL Long, **L Yang**, IEEE Photonics Technology Letters, 32 (1), 71-74 (2020)

J55 "Enhanced Directional Coupling of Light with a Whispering Gallery Microcavity," F Lei, G Tkachenko, X Jiang, JM Ward, **L Yang**, S Nic Chormaic, ACS Photonics, 7 (2), 361-365 (2020)

J56 "Quantum noise theory of exceptional point amplifying sensors," M Zhang, W Sweeney, CW Hsu, **L Yang**, AD Stone, L Jiang, *Physical review letters* 123 (18), 180501 (2019)

J57 "Enhanced sideband responses in a -symmetric-like cavity magnomechanical system," SN Huai, YL Liu, J Zhang, **L Yang**, Y Liu, *Physical Review A* 99 (4), 043803 (2019).

J58 "Raman Laser Switching Induced by Cascaded Light Scattering," S Kasumie, F Lei, JM Ward, X Jiang, **L Yang**, S Nic Chormaic, Laser & Photonics Reviews 13 (10), 1900138 (2019).

J59 "Parity-time-symmetric whispering-gallery mode nanoparticle sensor," W Chen, J Zhang, B Peng, ŞK Özdemir, X Fan, **L Yang**, *Photonics Research* 6 (5), A23-A30 (2018) (***Invited***).

J60 "Surface-enhanced Raman scattering on dielectric microspheres with whispering gallery mode resonance," SH Huang, X Jiang, B Peng, C Janisch, A Cocking, ŞK Özdemir, Z Liu, and **L. Yang**, *Photonics Research* 6 (5), 346-356 (2018).

J61 "Whispering gallery mode resonator sensor for in situ measurements of hydrogel gelation," SH Huang, S Sheth, E Jain, X Jiang, SP Zustiak, **L Yang**, *Optics express* 26 (1), 51-62 (2018).

J62 “Scatterer assisted whispering gallery mode microprobe,” F Shu, X Jiang, G Zhao, **L Yang**, *Nanophotonics*, 7(8), 1455-1460 (2018)

J63 “Optomechanically Induced Transparency at Exceptional Points,” H Lü, C Wang, **L Yang**, H Jing, *Physical Review Applied* 10 (1), 014006 (2018)

J64 "Single nanoparticle detection using optical microcavities," Y Zhi, XC Yu, Q Gong, **L Yang**, YF Xiao, *Advanced Materials* 29 (12) (2017)

J65 “Polymer encapsulated microcavity optomechanical magnetometer,” J Zhu, G Zhao, I Savukov, **L Yang**, *Scientific Reports* 7 (1), 8896 (2017)

J66 “Controllable oscillatory lateral coupling in a waveguide-microdisk-resonator system,” F Bo, ŞK Özdemir, F Monifi, J Zhang, G Zhang, J Xu, **L Yang**, *Scientific Reports* 7 (1), 8045 (2017)

J67 “Controllable optical response by modifying the gain and loss of a mechanical resonator and cavity mode in an optomechanical system Yu-Long Liu, Rebing Wu, Jing Zhang, Şahin Kaya Özdemir, **L. Yang**, Franco Nori, and Yu-xi Liu, *Phys. Rev. A* 95, 013843 (2017)

J68 "Structural Protein-Based Whispering Gallery Mode Resonators," H Yılmaz, A Pena-Francesch, R Shreiner, H Jung, Z Belay, MC Demirel, S. K. Ozdemir, **L. Yang**, *ACS Photonics* 4 (9), 2179-2186 (2017)

J69 "Tunable erbium-doped microbubble laser fabricated by sol-gel coating," Y Yang, F Lei, S Kasumie, L Xu, JM Ward, **L Yang**, SN Chormaic, *Optics Express* 25 (2), 1308-1313 (2017)

J70 "Raman lasing and Fano lineshapes in a packaged fiber-coupled whispering-gallerymode microresonator", G. Zhao, S. K. Ozdemir, T. Wang, L. Xu, G.-L. Long, **L. Yang**, *Science Bulletin*, 62 (12), 875-878 (2017)

J71 "Four-wave mixing parametric oscillation and frequency comb generation at visible wavelengths in a silica microbubble resonator," Yong Yang, Xuefeng Jiang, Sho Kasumie, Guangming Zhao, Linhua Xu, Jonathan M Ward, **L. Yang**, Síle Nic Chormaic, *Optics Letters*, 41(22), 5266-5269 (2016)

J72 "Metrology with PT-symmetric cavities: Enhanced sensitivity near the PT-phase transition,"ZP Liu, J Zhang, ŞK Özdemir, B Peng, H Jing, XY Lü, CW Li, **L Yang**, F. Nori, Y. Liu, *Physical Review Letters*, 117 (11), 110802 (2016)

J73 "Observation of optomechanical coupling in a microbottle resonator", M. Asano, Y. Takeuchi, W. Chen, S. K. Özdemir, R. Ikuta, N. Imoto, **L. Yang**, Tak Yamamoto, *Laser & Photonics Reviews*, 10(4), 603-611 (2016).

J74 "Stimulated Brillouin scattering and Brillouin-coupled four-wave-mixing in a silica microbottle resonator", M Asano, Y Takeuchi, SK Ozdemir, R Ikuta, **L Yang**, N Imoto, T Yamamoto, *Optics Express* 24 (11), 12082-12092 (2016).

J75 "Chiral symmetry breaking in a microring optical cavity by engineered dissipation," FJ Shu, CL Zou, XB Zou, **L Yang**, *Physical Review A* 94 (1), 013848 (2016)

J76 "Controlling slow and fast light and dynamic pulse-splitting with tunable optical gain in a whispering-gallery-mode microcavity", M Asano, S. K Ozdemir, W Chen, R Ikuta, **L Yang**, N Imoto, T Yamamoto, *Applied Physics Letters*, 108 (18), 181105 (2016).

J77 "Gain competition induced mode evolution and resonance control in erbium-doped whispering-gallery microresonators", XF Liu, F Lei, M Gao, X Yang, C Wang, ŞK Özdemir, **L Yang**, GL Long, *Optics express*, 24 (9), 9550-9560 (2016).

J78 "A simple method for characterizing and engineering thermal relaxation of an optical microcavity", W. Chen, J. Zhu, S. K. Ozdemir, B. Peng and **L. Yang**, *Appl. Phys. Lett*. 109, 061103 (2016)

J79 "High-Q silk fibroin whispering gallery microresonator", L. Xu, X. Jiang, G. Zhao, D. Ma, H. Tao, Z. Liu, F. G. Omenetto, **L. Yang**, *Optics Express*, Vol. 24, Issue 18, 20825-20830 (2016)

J80 "Phone-sized whispering-gallery microresonator sensing system", X. Xu, X. Jiang, G. Zhao, **L. Yang**, *Optics Express*, 24 (23), 25905-25910 (2016)

J81 "Vertically coupled microresonators and oscillatory mode splitting in photonic molecules," F Bo, ŞK Özdemir, B Peng, J Wang, G Zhang, J Xu, **L Yang**, *Optics Express,* 23 (24), 30793-30800 (2015).

J82 "Raman gain induced mode evolution and on-demand coupling control in whispering-gallery-mode microcavities," X Yang, ŞK Özdemir, B Peng, H Yilmaz, FC Lei, GL Long, **L Yang**, *Optics Express*, 23 (23), 29573-29583 (2015).

J83 "Transient microcavity sensor," FJ Shu, CL Zou, ŞK Özdemir, **L Yang**, GC Guo, *Optics Express,* 23 (23), 30067-30078 (2015).

J84 "Lithium-Niobate–Silica Hybrid Whispering-Gallery-Mode Resonators," F Bo, J Wang, J Cui, SK Ozdemir, Y Kong, G Zhang, J Xu, **L Yang**, *Advanced Materials*, 27 (48), 8075-8081 (2015).

J85 "Giant nonlinearity via breaking parity-time symmetry: A route to low-threshold phonon diodes," J Zhang, B Peng, ŞK Özdemir, Y Liu, H Jing, X Lü, Y Liu**, L Yang**, F Nori, *Physical Review B* 92 (11), 115407 (2015).

J86 "Quantum entanglement distillation with metamaterials," MA al Farooqui, J Breeland, MI Aslam, M Sadatgol, ŞK Özdemir, M. Tame, **L. Yang**, D. Ö Güney, *Optics express*, 23 (14), 17941-17954 (2015).

J87 "Optomechanically-induced transparency in parity-time-symmetric microresonators," H Jing, ŞK Özdemir, Z Geng, J Zhang, XY Lü, B Peng, **L Yang**, F Nori, *Scientific reports* 5 (2015)

J88 M. Sadatgol, S. K. Ozdemir, **L. Yang**, and D. O. Guney, Plasmon injection to compensate and control losses in negative index metamaterials, *Phys. Rev. Lett*. 115, 035502 (2015).

J89 M. A. al Farooqui, J. Breeland, M. I. Aslam, M. Sadatgol, S. K. Ozdemir, M. Tame, **L. Yang**, and D. O. Guney, Quantum entanglement distillation with metamaterials, *Opt. Express,* 23, 17941 (2015).

J90 "Distillation of photon entanglement using a plasmonic metamaterial," M. Asano, M. Bechu, M. Tame, Ş. K. Özdemir, R. Ikuta, D. Ö. Güney, T. Yamamoto, **L. Yang**, M. Wegener, and N. Imoto, Sci Rep. 5: 18313 (2015)

J91 "Label-free particle sensing by fiber taper based Raman spectroscopy," P. S. Edwards, C. T. Janisch, B. Peng, J. Zhu, S. K. Ozdemir, **L. Yang**, and Z. Liu, *IEEE Photonics Technology Letters*, Vol. 26, Issue 20, 2093-2096 (2014)

J92 "Interfacing whispering-gallery microresonators and free space light with cavity enhanced Rayleigh scattering," J. Zhu, SK. Ozdemir, H. Yilmaz, B. Peng, M. Dong, M. Tomes, T. Carmon and **L. Yang**, ***Scientific Report***, 4, Article number: 6396 (2014)

J93 "On-chip Titanium Dioxide Whispering Gallery Microcavities," J. Park, SK. Ozdemir, F. Monifi, T. Chadha, S.H. Huang, P. Biswas, and **L. Yang**, *Advanced Optical Materials*, Vol. 2, Issue 8, 711-717, August (2014) (Selected for cover image).

J94 "Parity-time(PT)-symmetric phonon laser," H. Jing, SK.Ozdemir, X.Y. Liu, J. Zhang, L. Yang and F. Nori, *Physical Review Letters*. 113, 053604, July 30, 2014.

J95 "Inverted-wedge silica resonators for controlled and stable coupling," F. Bo, S. He Huang, Ş. K. Özdemir, G. Zhang, J. Xu, and **L. Yang**, *Optics Letters*, Vol. 39, Issue 7, 1841-1844 (2014).

J96 “Infrared light detection using a whispering-gallery-mode optical microcavity,” J. Zhu, S. K. Ozdemir, and **L. Yang**, *Appl. Phys. Lett.* 104, 171114 (2014).

J97 "Twofold transition in PT-symmetric coupled oscillators" Carl M Bender, Mariagiovanna Gianfreda, Sahin K Ozdemir, Bo Peng, Lan Yang, *Phys. Rev. A*, Vol. 88, Issue 18, 062111 (2013)

J98 “High quality factor silica microspheres functionalized with self-assembled nanomaterials,” I. Kandas, B. Zhang, C. Daengngam, I. Ashry, C. Jao, B. Peng, S. K. Ozdemir, H. D. Robinson, J. R. Heflin, **L. Yang**, and Y. Xu, *Optics Express*, Vol. 21, Issue 18, pp. 20601-20610 (2013)

J99 “Tunable add-drop filter using an active whispering gallery mode microcavity,” F. Monifi, S. Ozdemir, and **L. Yang**, *App. Phy. Lett*. 103, 181103 (2013).

J100 “Quantum internet using code division multiple access,” J. Zhang, Y. Liu, S. K. Ozdemir, R. Wu, F. Gao, X. Wang, **L. Yang** and F. Nori, *Scientific Reports*. 3, 2211 (2013).

J101 “Statistical study of multiple-scatterer induced frequency splitting in microresonators,” L. He, S. K. Ozdemir, J. Zhu, F. Monifi, H. Yilmaz, and **L. Yang**, *New. J. Phys*. 15, 073030 (2013)

J102 "Encapsulation of a Fiber Taper Coupled Microtoroid Resonator in a Polymer Matrix", F. Monifi, S. K. Ozdemir, J. Friedlein, **L. Yang**, *IEEE Photonics Technology Letters*, 1458 - 1461 Volume: 25, Issue: 15 (2013)

J103 “Detection and size measurement of individual hemozoin nanocrystals in aquatic environment using a whispering gallery mode resonator,” W. Kim, S. K. Ozdemir, J. Zhu, F. Monifi, C. Coban and **L. Yang**, *Opt. Exp*., 20, 29426-29446 (2012).

J104 “A Robust and Tunable Add-Drop Filter Using Whispering Gallery Mode Microtoroid Resonator,” F. Monifi, J. Friedlein, S. K. Ozdemir, and **L. Yang**, IEEE J. of Lightwave Tech., 30 (21), 3306-3315 (2012)

J105 “Photonic molecules formed by coupled hybrid resonators”, B. Peng, S. Ozdemir, J. Zhu and **L. Yang**, Optics Letters, Vol. 37, Issue 16, 3435-3437 (2012)

J106 “Optothermal spectroscopy of whispering gallery microresonators”, J. Zhu, S.K. Ozdemir, L. He, and **L. Yang**, *Applied Physics Letters*, Vol. 99, 171101 (2011)

J107 J. Zhu, S.K. Ozdemir, L. He, D. R. Chen and **L. Yang**, "Single virus and nanoparticle size spectrometry by whispering-gallery-mode microcavities," Optics Express, vol. 19, p. 16195-16206 (2011).

J108 "Optical detection of single nanoparticles with a subwavelength fiber-taper" J. Zhu, S.K. Ozdemir, and L. Yang, *IEEE Photonics Technology Letters*, Vol. 23, Issue 18, pp 1346-1348 (2011)

J109 “Observation and characterization of mode splitting in microsphere in water”, W. Kim, S.K. Ozdemir, J. Zhu, L. He and **L. Yang**, *Applied Physics Letters*, Vol. 98, 141106 (2011)

J110 “Estimation of Purcell factor from mode-splitting spectra in an optical microcavity”, S.K. Ozdemir, J. Zhu , L. He and L. Yang, *Phy. Rev. A*, Vol. 83, 033817-(2011)

J111 “A Narrow Linewidth On-chip toroid Raman Laser”, T. Lu, **L. Yang**, T. Carmon and B. Min, *IEEE Journal of Quantum Electronics*, Vol. 47, Issue 3, 320-326 (2011).

J112 “Controlled manipulation of mode splitting in an optical microcavity by two Rayleigh scatterers” J. Zhu , S.K. Ozdemir, L. He and L. Yang, *Opt. Express*, Vol. 18, Issue, 23, 23535-23543 (2010)

J113 "Ultrasensitive detection of mode splitting in active optical microcavities", L. He, S.K. Ozdemir, J. Zhu, and **L. Yang**, *Phy. Rev. A.* Vol. 82, Issue 5, 053810- (2010)

J114 "Demonstration of mode splitting in an optical microcavity in aqueous environment", W. Kim, S.K. Ozdemir, J. Zhu, L. He and **L. Yang**, *Applied Physics Letters*, Vo. 97, 071111-(2010)

J115 "Gain-induced Evolution of Mode Splitting Spectra in a High-Q Active Microresonator", L. He, S.K. Ozdemir, J. Zhu, and **L. Yang**, *IEEE Journal of Quantum Electronics*, Vol. 46, p1626-1633, (2010)

J116 "Scatterer induced mode splitting in PDMS coated microresonators", L. He, S.K. Ozdemir, J. Zhu, and **L. Yang**, *App. Phy. Lett.* Vol. 96, 221101 (2010).

** Note: This paper has been ranked by Applied Physics Letters as the top 20 most downloaded paper in June 2010.*

J117 "Self-pulsation in fiber-coupled on-chip microcavity lasers" L. He, S.K. Ozdemir, J. Zhu and **L. Yang,** *Opt. Lett*. Vol. 35, 256-258 (2010)

J118 "Oscillatory thermal dynamics in high-Q PDMS-coated silica toroidal microresonators", L. He, Y.F.Xiao, J. Zhu and **L. Yang**, *Opt. Express*, Vol. 17, 9571-9581 (2009)

J119 "Fabrication of high-Q PDMS optical microspheres with applications towards thermal sensing", C.H. Dong, L. He, Y.F.Xiao, V. Goddam, S.K. Ozdemir, Z.F. Han, G.C. Guo and **L. Yang**, *App. Phy. Lett.* Vol. 94, 231119 (2009)

** Note:This paper has been selected for the June 22, 2009 issue of Virtual Journal of Nanoscale Science & Technology.*

J120 "Electromagnetically induced transparency-like effect in a single PDMS-coated silica microtoroid", Y.F. Xiao, L. He and **L. Yang**, *App. Phy. Lett*. Vol. 94, 231115, (2009)

J121 "A green light silica microlaser by three-photon upcoversion", T. Lu, **L. Yang**, R.V.A. Van Loon, A. Polman and K. Vahala, *Opt. Lett*. Vol. 34, 482-484(2009)

J122 "Low-threshold microlaser in a high-Q asymmetrical microcavity", Y.F.Xiao, C.H. Dong, C.L. Zou, Z.F. Han, **L. Yang** and G.C. Guo, *Opt. Lett*. Vol. 34, 509-511 (2009)

J123 "Compensation of thermal refraction effect in high-Q toroidal microresonator by polydimethylsiloxane coating", L. He, Y.F.Xiao, C.Dong, J. Zhu, V. Goddam, and **L. Yang**, *App. Phy. Lett*. Vol. 93, 201102 (2008)

**Note: This paper has been selected for the December 1, 2008 issue of Virtual Journal of Nanoscale Science & Technology.*

J124 "Quantum nondemolition measurement of photon number via optical Kerr effect in an ultra-high-Q microtoroid cavity", Y.F.Xiao, S.K. Ozdemir, V. Goddam, C.H.Dong, N. Imoto and **L. Yang** , *Optics Express*, Vol. 16, 21462-21475 (2008)

J125 "Coupling whispering-gallery-mode microcavities with modal coupling mechanism",Y-F Xiao, B Min, XS Jiang, CH Dong, and **L. Yang,** *IEEE J. Quantum Electronics*, Vol. 44, 1065-1070 (2008).

J126 "Coupled Optical microcavities: an enhanced refractometric sensing configuration", Yun-Feng Xiao, Venkat Gaddam and **L. Yang**, *Opt. Express*, 16, 12538-12543 (2008)

J127 "Static Envelope Patterns in Composite Resonances Generated by Level Crossing in Optical Toroidal Microcavities", Tal Carmon, Harald G.L.Schwefel, **L. Yang**, Mark Oxborrow, A. Douglas Stone, and Kerry J. Vahala, *Phy. Rev. Lett*. 100, 103905 (2008)

J128 "Perturbative analytic theory of an ultrahigh-Q toroidal microcavity", Bumki Min, **L. Yang**, and Kerry Vahala, *Phy. Rev. A*. Vol. 76, 013823 (2007).

J129 "Ultralow-threshold Yb:SiO_2 glass laser fabricated by the solgel process", Eric Ostby, **L. Yang**, and Kerry Vahala, *Opt. Lett*. Vol. 32, 2650-2652 (2007).

J130 "Visible Submicron Microdisk Lasers", Zhaoyu Zhang, **L. Yang**, Victor Liu, Ting Hong, Kerry Vahala, Axel Scherer, *App. Phy. Lett*. Vol. 90, 111119 (2007).

J131 "Ultralow threshold on-chip microcavity nanocrystal quantum dot lasers", Bumki Min,

Sungjee Kim, Koichi Okamoto, **L. Yang**, Axel Scherer, Harry Atwater and Kerry Vahala, *App. Phy. Lett*. Vol. 89, 191124 (2006)

J132 "Transmission characteristics of a Fabry-Perot etalon-microtoroid resonator coupled systme", Yanyi Huang, Wei Liang, **L. Yang**, Joyce Poon, Kerry J. Vahala, and Amnon Yariv, *Optics Lett*. Vol. 31, 510-512 (2006)

J133 "Controlled transition between parametric and Raman oscillations in ultra-high-Q silica toroidal microcavities", B. Min, **L. Yang**, and K. J. Vahala, *App. Phy. Lett*., Vol. 87, 181109 (2005)

J134 "Erbium-doped and Raman microlasers on a silicon chip fabricated by the sol-gel process", **L. Yang**, T. Carmon, B. Min, S. M. Spillane, and K. J. Vahala, *App. Phy. Lett*., Vol. 86, 091114 (2005)

J135 "Feedback control of ultra-high-Q microcavities: application to micro-Raman lasers and microparametric oscillators", T. Carmon, T. J. Kippenberg, **L. Yang**, H. Rokhsari, S. M. Spillane, and Kerry J. Vahala, *Opt. Express*, Vol. 13, No. 9, 3558-3566 (2005)

J136 "Temporal behavior of radiation-pressure-induced RF-oscillation of an optical microcavity photon mode", T. Carmon, H. Rokhsari, **L. Yang**, T. J. Kippenberg, and K. J. Vahala, *Phys. Rev. Lett*., Vol. 94, 223902 (2005)

J137 "Dynamical thermal behavior and thermal self-stability of microcavities", T. Carmon, **L. Yang**, and K. J. Vahala, *Opt. Express*, Vol. 12, No. 20, 4742-4750 (2004)

J138 "Replica-molded high-Q polmer microresonators", A. Martin, D. Armani, **L. Yang** and K. J. Vahala, *Opt. Lett*., Vol. 29, No. 6, 533 (2004).

J139 "Erbium-implanted High-Q silica toroidal microcavity laser on a silicon chip", B. Min, T. J. Kippenberg, **L. Yang**, K. J. Vahala, J. Kalkman, A. Polman, *Phy. Rev. A*., Vol. 70, No. 3, 033803 (2004)

J140 "Fiber-coupled Erbium microlasers on a chip", **L. Yang**, D. Armani and K. J. Vahala, *App. Phys. Lett*., Vol. 83, No. 5, 825 (2003)

J141 "Gain functionalization of a silica microresonators", **L. Yang**, and K. J. Vahala, *Opt. Lett*., Vol. 24, No. 8, 592-594 (2003)

J142 "Hydrothermal conversion of coral into hydroxyapatite", Y. Xu, D. Z. Wang, **L. Yang** and H. G. Tang, *Mat. Characterization*, Vol. 47, No. 2, 83-87 (2001)

Book Chapters

B1 "Non-Hermitian Physics and Engineering in Silicon Photonics", C Wang, Z Fu, **L Yang**, 323-364, Silicon Photonics IV, Lockwood D.J., Pavesi L. (eds) Silicon Photonics IV. Topics in Applied Physics, vol 139. Springer, Cham. https://doi.org/10.1007/978-3-030-68222-4_7

B2 "Non-Hermitian Physics and Exceptional Points in High-Quality Optical Microresonators", W Chen, C Wang, B Peng, **L Yang**, Chapter 8, Ultra-high-Q Optical Microcavities, edited by Y. Xiao, C. Zou Q. Gong and **L. Yang**, World Scientific.

B3 "Glass in Integrated Photonics" for the Springer Handbook of Glass, J. Hu and **L. Yang**, edited by J. David Musgraves, Juejun Hu and Laurent Calvez, Springer.

B4 "Fabrication, coupling and nonlinear optics in ultra-high-Q microsphere and chip-based toroid microcavities", T. Kippenberg, S. Spillane, D. Armani, B. Min, **L. Yang**, and K. Vahala, Chapter 5, Optical Microcavities, editor K. J. Vahala, World Scientific.

B5 A bio-photonics chapter to a review volume entitled "Understanding Biophotonics: Fundamentals, Advances and Applications" to be published by Pan Stanford Publishing, J. Zhu, L. He, S. Ozdemir, W. Kim, B. Peng, and **L. Yang**.

Perspective/News & Views

P1 "Fighting chaos with chaos in lasers," **L. Yang**, ***Science***, 361(6408), 1201 (2018)

P2 "Bypassing the diffusion limit," J. Zhu, S.K. Ozdemir and **L. Yang**, ***Nature Photonics***, Vol. 5, 653-654 (2011)

PATENTS ISSUED

INVENTOR ON 15 ISSUED U.S. PATENTS IN PHOTONIC TECHNOLOGIES; TWO LICENSED TO DEEPSIGHT TECHNOLOGY, INC.

1. **Replica Micro-Resonators and Method of Fabrication**
   A. Martin, D. Armani, L. Yang, K. Vahala
   U.S. Patent No. 7,236,664 — Issued June 26, 2007

2 **Silica Sol-Gel Micro-Laser on a Substrate**
   K. Vahala, L. Yang
   U.S. Patent No. 7,769,071 — Issued August 3, 2010

3. **Nanoscale Object Detection Using a Whispering Gallery Mode Resonator**
   L. He, J. Zhu, S.K. Özdemir, L. Yang, D.R. Chen
   U.S. Patent No. 8,704,155 — Issued April 22, 2014

4. **Systems and Methods for Particle Detection**
   J. Zhu, S.K. Özdemir, L. Yang
   U.S. Patent No. 9,012,830 — Issued April 21, 2015

5. **Method and System for Parity-Time Symmetric Optics and Nonreciprocal Light Transmission**
   S.K. Özdemir, B. Peng, L. Yang
   U.S. Patent No. 9,531,150 — Issued December 27, 2016

6. **Resonator-Enhanced Raman Spectroscopy**
   Z. Liu, L. Yang, P. Edwards, C. Janisch, B. Peng, S.K. Özdemir
   U.S. Patent No. 9,733,125 — Issued August 15, 2017

7. **Tunable Add-Drop Filter with an Active Resonator**
   L. Yang, S.K. Özdemir, F. Monifi
   U.S. Patent No. 9,766,402 — Issued September 19, 2017

8. **Micro-Resonator and Fiber Taper Sensor System**
   S.K. Özdemir, L. Yang
   U.S. Patent No. 11,061,025 — Issued July 13, 2021

9. **Loss Engineering to Improve System Functionality and Output**
   S.K. Özdemir, L. Yang, B. Peng
   U.S. Patent No. 11,131,619 — Issued September 28, 2021

10. **Fully Integrated Parity-Time Symmetric Electronics**
    X. Zhang, L. Yang, W. Cao, W. Chen
    U.S. Patent No. 11,637,355 — Issued April 25, 2023

11. **Microprobe**
    L. Yang, F.-J. Shu, X. Jiang, G. Zhao
    U.S. Patent No. 11,835,393 — Issued December 5, 2023

12. **Opto-Mechanical System and Method Having Chaos-Induced Stochastic Resonance and Opto-Mechanically Mediated Chaos Transfer**
    S.K. Özdemir, L. Yang, B. Peng, F. Monifi
    U.S. Patent No. 11,754,488 — Issued September 12, 2023

13. **Fiber-Optical Sensor System for Ultrasound Sensing and Imaging**
    F. Li, M. Li, Y. Li, L. Xu, L. Yang, G. Zhao, J. Zhu, M. Hazarian
    U.S. Patent No. 12,025,489 B1 — Issued July 2, 2024

14. **Modularized Acoustic Probe**
    D. Zhao, L. Yang, J. Zhu
    U.S. Patent No. 12,228,643 — Issued February 18, 2025

15. **Tunable Add-Drop Filter with an Active Resonator**
    S.K. Özdemir, L. Yang, B. Peng, F. Monifi
    U.S. Patent No. 12,247,909 — Issued March 11, 2025

SELECTED INVITED TALKS

1. "Leveraging Whispering-Gallery-Mode Optical Resonators for Biomedical Applications: Ultrasensitive and Label-Free Detection of Nanoparticles and Cells," 2025 Label-Free Single Molecule Sensing Gordon Research Conference, Stonehill College, 320 Washington Street, Easton, Massachusetts, USA, June 8-June 13, 2025.
2. "Leveraging Whispering-Gallery-Mode Optical Resonators for Biomedical Applications: Ultrasensitive and Label-Free Detection of Nanoparticles and Cells," OFS29 – 29th International Conference on Optical Fiber Sensors, Porto, Portugal, May 25-30, 2025.
3. "Whispering-Gallery-Mode Optical Resonators for Sensing and Spectroscopy applications," Optical Nanofiber Applications (ONNA25), 829. WE-Heraeus-Seminar, Physikzentrum Bad Honnef (near Bonn), Germany, March 16-21, 2025.
4. "Explore Physics and Applications in Microresonators: Building Blocks for Integrated Photonics." the 54th Winter Colloquium on the Physics of Quantum Electronics (PQE), Snowbird, Utah, January 6-10, 2025. (***Plenary speaker***)
5. "Whispering-gallery-mode microresonators: a versatile platform for both fundamental science and applications ," the 7th International Workshop on Microcavities and their applications (WOMA), Aotearoa New Zealand, 25th - 29th November 2024.
6. "Opportunities in Whispering-Gallery-Mode Optical Microresonators: Fundamentals and Applications," Department of Materials Science and Engineering, University of Pennsylvania, September 26, Thursday, 2024.
7. "Explore non-Hermitian Physics in optical microresonators: fundamentals and applications," Simons Center's Workshop: Non-Hermitian topology, geometry and symmetry across physical platforms, September 27, 2024.
8. "Whispering-Gallery Microresonators Sensors: Fundamentals and Applications," IEEE Sensors Applications Symposium, Naples -Italy July 23-25, 2024. (***Keynote speaker)***
9. "Explore Exceptional Points in Optical Microresonators: Fundamentals and Applications", 32nd Annual International Laser Physics Workshop, São Carlos, Brazil, July 3-9, 2024. (***Plenary speaker***)
10. "High-quality microresonators for sensing and spectroscopy", Conference on Lasers and Electro-Optics (CLEO), Charlotte Convention Center, in Charlotte, North Carolina, USA, 05 - 10 May 2024.

11. "Redefine Ultrasound Imaging", The 15th International Conference on Ultrasound Engineering for Biomedical Applications, Torrance, CA, July 19 ~ 21, 2023.
12. "Whispering-gallery-mode optical microresonators: a versatile platform for fundamental science and applications," iCANX Talks, Vol. 169, Nov. 10, Friday, 2023.
13. "Explore non-Hermitian physics in optical microresonators: fundamentals and applications," APS (American Physical Society) March Meeting, Las Vegas, Nevada, March 5-10, 2023.
14. "Resonance-enhanced sensing and spectroscopy" PQE-the winter colloquium on the physics of quantum electronics, Snowbird, Utah, January 2023.
15. "Emerging opportunities in optical microresonators: fundamentals and applications," University of Illinois Urbana-Champaign ECE Distinguished Colloquium Series, 1002 Grainger Auditorium ECEB, Sep 1, 2022.
16. "A photonic technology for the detection and characterization of single protein molecules," 2022 ASBMB (the American Society for Biochemistry and Molecular Biology) Annual Meeting, Philadelphia, Pennsylvania, Apr 2, 2022 – Apr 5, 2022.
17. "Opportunities in Optical Microresonators: Science and Applications," MIT MSE (Materials Science and Engineering) Seminar Series, March 29, 2022.
18. "Opportunities of high-quality photonic resonators for sensing applications," PQE-the winter colloquium on the physics of quantum electronics, Snowbird, Utah, January 10, 2022.
19. "Opportunities in Optical Microresonators: Science and Applications," Spring 2022 ECE UVA Distinguished Colloquium series, Department of Electrical and Computer Engineering, University of Virginia, February 18, 2022.
20. "Whispering Gallery Micro-cavities: Fundamentals and Applications," Stanford MSE colloquium, March 12th, 2021.
21. "Optical resonators at exceptional points," IEEE Photonics Conference (IPC), San Antonio, TX, Sep. 29-Oct. 3, 2019.
22. "Whispering-gallery resonators: a versatile platform for science and technologies," Workshop on Optical Nanofibre Applications: From Quantum to Bio Technologies, Okinawa, Japan, June 3 – 6, 2019.
23. "Whispering-gallery sensors," Conference on Lasers and Electro-Optics (CLEO), San Jose, California, USA, May 5-10, 2019.
24. "Recent progress in whispering-gallery sensors," SPIE Photonics West, San Francisco, CA, Feb 2-7, 2019.
25. "Whispering-gallery-mode resonators and their applications," PQE-the winter colloquium on the physics of quantum electronics, Snowbird, Utah, January, 2019 (***plenary speaker***)
26. "Optical resonators at exceptional points", IEEE Photonics Conference (IPC), Reston, VA, Sep 30- Oct 4, 2018. (***Tutorial***)
27. "Whispering-gallery-mode resonators: fundamentals and applications," Physics Colloquium, University of Colorado, Boulder, Sep 5, 2018.
28. "Whispering-gallery-mode resonators: fundamentals and applications," 2018 Workshop on Optical Resonators, Dalian, China, August 21-23, 2018. (***Tutorial***)

29. "Whispering-gallery-mode Resonators: Nonlinear optics, parity-time symmetry and exceptional points," Conference on Lasers and Electro-Optics, Pacific Rim, Hongkong July 29-Aug 3, 2018. (***Tutorial***)

30. "Parity-Time-Symmetry and Exceptional Points for Lasing Systems," Gordon Research Conference - Lasers in Micro, Nano and Bio Systems, Integration of Laser Physics, Photonics, Materials, Nanotechnology, Biochemistry, and Biomedicine, Waterville Valley, NH, US, June 17-22, 2018.

31. "Non-Hermitian Symmetry and Wave Transport in Whispering-Gallery-Mode Microresonators," Yale Quantum Institute Seminar, Feb 23, 2018.

32. "Whispering-gallery-mode resonators at exceptional points," PQE-the winter colloquium on the physics of quantum electronics, Snowbird, Utah, January 7-12, 2018.

33. "Whispering-gallery-mode resonators: from a novel sensing mechanism to a wireless sensing system," SPIE-Photonics West, San Francisco, CA, US, Jan 27-Feb 1, 2018.

34. "High-quality microresonators for detection and measurement of nanoscale objects," IEEE Photonics Conference, Orlando, Florida, USA, 2017, 1-5 October 2017.

35. "Whispering gallery micro-cavities," Conference on Lasers and Electro-Optics Europe (CLEO/Europe) and the European Quantum Electronics Conference (EQEC) 2017, Munich, Germany, June 25 - 29, 2017. (***Keynote speaker***)

36. "Whispering-gallery-mode microresonators for functional devices" CLEO (Conference on Lasers and Electro-Optics), San Jose, California, USA, May 14-19, 2017.

37. "Whispering-gallery-mode microresonators and their applications," 15th International Nanotech Symposium & Nano-Convergence Expo, NANO KOREA 2017, held in KINTEX, Ilsan, Korea, July 12-14, 2017.

38. "Whispering-gallery-mode resonators and their applications for nanoscale sensing and measurement," SPIE Photonics West, San Francisco, CA, Jan 28-Feb 2, 2017.

39. "Whispering-gallery-mode resonators and their applications: from nanoscale measurement to directional lasing," The 6th International Multidisciplinary Conference on Optofluidics, Beijing, China, July 24-27, 2016, (***Keynote speaker***)

40. "Whispering-gallery-mode resonators and their applications: from nanoscale measurement to parity-time symmetric photonics," The 4th International Workshop on Microcavities and Their Applications (WOMA2015), Hokkaido, Japan, Dec 1-4, 2015.

41. "Whispering-Gallery-Mode optical resonators around exceptional points," IEEE Photonics Conference (IPC), Reston, Virginia USA, 4 - 8 October 2015.

42. "Whispering-gallery-mode resonators and their applications: from nanoscale measurement to parity-time symmetric photonics," Optical nanofiber applications: from quantum to bio technologies (ONNA 2015 workshop), Okinawa, Japan, May 25-28, 2015.

43. "Single nanoparticle sensing using whispering-gallery microresonators and microlasers," SPIE Biosensing and Nanomedicne-III, SPIE NanoScience + Engineering, San Diego, CA, August 25 – 29, 2013.

44. "Whispering-gallery-mode resonators for nanoscale sensing", Integrated Optics: Devices, Materials, and Technologies XVII (OE109), Feb 2-Feb 7, Photonics West 2013.

45. "Single Nanoparticle Sensing using Whispering-Gallery Microresonators and Microlasers," Nanotechnology for Sensors and Sensors for Nanotechnology: Improving and Protecting Health, Safety, and the Environment NNI Signature Initiative symposium at Nanotech, May 16-23, 2013.

46. "On-chip whispering-gallery-mode lasers for sensing applications," *SPIE Photonics West*, San Francisco, CA during January 21-26, 2012.

47. "Ultra-high-quality optical resonators for applications from sensing to nonlinear optics," *Frontiers in Optics 2011/Laser Science XXVII*, San Jose, CA, Oct. 16-20, 2011.

48. "Ultra-sensitive detection and measurement of nano-scale objects," *IEEE Photonics Society: Annual 2011*, Arlington, Virginia, Oct. 9-13, 2011.

49. "On-chip optical resonators for single particle detection and measurement," *Nanoelectronic Devices for Defense & Security Conference*, Brooklyn, NY, August 29 to September 1, 2011.

50. "Fiber-coupled microresonators," Lan Yang, Jiangang Zhu, Sahin Ozdemir, and Lina He, *International Conference on Optical Fiber Sensors*, Ottawa, Canada, May 15-19, 2011**.**

51. "On-chip optical resonators for single nanoparticle detection and measurement," "Bio-Optics: Design and Application (BODA)", which is a part of "*Optics in the Life Sciences: OSA Optics and Photonics Congress*", April 4-6, 2011, Monterey, CA.

52. "On-chip single nanoparticle detection and measurement using ultra-high-Q whispering gallery microresonators," *SPIE Photonics West*, San Francisco, CA during January 22-27, 2011.

53. "On-chip single nanoparticle detection using ultra-high-Q whispering gallery microresonator," *SPIE symposium on SPIE Defense, Security, and Sensing*, 2010.

SELECTED PROFESSIONAL ACTIVITIES

- Served on WashU AGES (Association of Engineering Graduation Students) Entrepreneurial Panel, March 26, 2025.

- Served on the Diversity and Inclusion Committee for the American Institute for Medical and Biological Engineering (AIMBE), September 2024-present.
- **Editor-in-chief,** Photonics Research (https://opg.optica.org/prj/home.cfm), (Ranked #12 in 2023 Journal Citation Reports – Clarivate in Optics Category), Jan. 2019-December 2024. She initiated several strategic programs to broaden the journal's impact beyond traditional publishing, enhance its reach, and foster the community engagement, including:
  - ◊ **Webinar Interview Series** featuring global leaders in optics and photonics, offering insights into both their scientific achievements and personal journey, fostering engagement with early-career researchers;
  - ◊ **Assistant Editor Program** to mentor and involve promising young scientists in the editorial process, promoting inclusivity and community building. These initiatives significantly enhanced the journal's reach, influence, and educational value in the global optics community;
  - ◊ **Interview Series of Outstanding Women in Optics and Photonics Interview**, featuring in-depth profiles of accomplished women scientists to celebrate leadership and inspire the next generation of researchers to overcome challenges in their path pursing their goals;
  - ◊ **Author Spotlight Webinar Series**: A monthly series spotlighting a selected paper published in Photonics Research. The authors delivered a 45-minute presentation of their work, followed by a live Q&A session, providing the community with direct access to the research and fostering meaningful dialogue between authors and readers.

- Served on the panel on "Increasing Women in the Innovation/Invention Ecosystem", National Academy of Inventors' 13th Annual Conference, Raleigh, North Carolina, June 16-18th, 2024.
- Served on the committee for 'Rising Stars of Light' for Light: Science and Applications, 2021-2025.
- Served on the committee for FiO 1 on "Fabrication, Design and Instrumentation" for the Frontiers in Optics meeting, Denver, Colorado, USA, 23 - 26 September 2024.
- Served on Technical Program Committee on Fabrication, Design and Instrumentation for Frontiers in Optics + Laser Science, Tacoma, WA, USA, Oct 9-12, 2023.
- Session chair on active metamaterials, APS March Meeting, Las Vegas, Nevada, USA, March 5-10, 2023.
- Guest editor for the Applied Optics Optical Fiber Sensors Feature Issue, 2022.
- Technical program co-chair, the 27th International Conference on Optical Fiber Sensors, Alexandria, Virginia, USA, August 29-September 2, 2022.
- Served on the Technical Program Committee in Nanophotonics, IEEE Photonics Conference 2017-2021.
- Served on program committee for the conference on "Laser Resonators, Microresonators, and Beam control" in SPIE Photonics West 2012-2017.
- Subcommittee co-chair of Micro and Nanophotonics at Optics Frontier: the 12th International Conference on Information Optics and Photonics (CIOP2020), Beijing, China, 27-30 July 2020.
- Guest editor, Topical issue on "Optical Nanofibers and microresonators: Fundamentals and Applications," Applied Physics B-Lasers and Optics, 2020.
- Served on Micro- and Nano-Photonic Devices Subcommittee for the CLEO Technical Program Committee (TPC), 2018-2020.
- NSF Review Panelist, 2007/2010/2011/2013/2015/2017/2018/2020.
- Serve on the Technical Program Committee in Biophotonics, IEEE Photonics Conference 2019.
- Serve on the Technical Program Committee in Semiconductor Lasers, IEEE Photonics Conference 2019.
- Organized a special symposium on nonreciprocal photonics at the Conference on Lasers and Electro-Optics (CLEO), San Jose, California, USA, May 5-10, 2019.
- Served on program committee for the conference on "Frontiers in Biological Detection: From Nanosensors to Systems" in SPIE Photonics West 2019.
- Served on the organizing committee for ONNA (Optical Nanofiber Applications: From Quantum to Bio Technologies) 2019, Okinawa, Japan.
- Organized Nature Conference on Topological Photonics — From Concepts to Devices with editors from Nature Publishing group, Washington University, St. Louis, MO, US, November 11–13, 2018.
- Organized a workshop on optical resonators: fundamentals and applications at the 13th Pacific Rim Conference on Lasers and Electro-Optics (CLEO Pacific Rim, CLEO-PR 2018), July 30, 2018.

- Associate editor, Optics Express, March 2014 to 2018.
- Entrepreneurial Acceleration Program (LEAP) Grant Recipient for her project on "Re-inventing arterial blood gas measurements", Washington University in St. Louis, (2017).
- Session chair for SPIE Photonics West, San Francisco, California, 2012, 2013, 2014, 2015.
- Lead a workshop at the 9th Night Vision Systems, Arlington, VA, July 21-23, 2014.
- Session chair for SPIE Photonics West, San Francisco, California, Jan. 21-26, 2012.
- Session chair for the Nanoelectronic Devices for Defense & Security (NANO-DDS) Conference, 2011.
- Session chair for Frontiers in Optics 2011/Laser Science XXVII, San Jose, CA, Oct. 16-20, 2011.

  Session chair for IEEE Photonics Society: Annual 2011. Arlington, Virginia, Oct. 9-13, 2011.