

Dr. Katherine L. Hall

WiTricity
149 Grove Street
Watertown, MA 02472
857-228-1226 (office)
katie.hall@witricity.com

Cutter Hill Consulting
82 Cutter Hill Road
Arlington, MA 02474
781-760-2828 (cell)
katie.hall@alum.mit.edu

Education

- Massachusetts Institute of Technology, Ph. D., (1993)
- Massachusetts Institute of Technology, M.S., (1990)
- Wellesley College, B.A., (1984)

Employment

- Chief Technology Officer, WiTricity Corporation, 2007-present
- Founder, Cutter Hill Consulting, LLC, 2013-present
- Founding Partner, Wide Net Technologies, Inc., 2003-2012
- Chief Technology Officer, Director, co-Founder, PhotonEx Corporation, 1999-2003
- Assistant Group Leader, Advanced Networks Group, M.I.T. Lincoln Laboratory, 1999
 - Senior Staff, Advanced Networks Group, M.I.T. Lincoln Laboratory, 1998-1999
 - Staff Member, Advanced Networks Group, M.I.T. Lincoln Laboratory, 1993-1998
- Research Affiliate, Optics and Quantum Electronics Group, M.I.T., 1993-2012
 - Research Assistant, Optics and Quantum Electronics Group, M.I.T., 1987-1993
- Member of Technical Staff, AT&T Bell Laboratories, 1986-1987
 - Senior Technical Associate, AT&T Bell Laboratories, 1984-1986

Honors/Activities

- Fellow, Optical Society of America, 2013
- Director-at-Large, Optical Society of America, 2004-2006
- Associate Editor, *IEEE Photonics Technology Letters*, 1996-2008
- Organizer, National Academy of Engineering's Japan-America Frontiers in Engineering Conference, 2004
- Assessment Panel Member, National Research Council, NIST, 2002-2006
- ECE Industrial Advisory Council, College of Engineering, Boston University, 2001-2007
- Board of Governors, IEEE Lasers and Electro-Optics Society (LEOS), 1999-2002
- General Chair/Program Chair, IEEE LEOS Annual Meeting, 2002/2000
- Senior Member, Institute of Electrical and Electronics Engineers (IEEE)
- Joint Services Electronics Program (JSEP) Fellowship, 1991-1993
- Honors Thesis, Wellesley College, 1984

Publications

- K.L. Hall, E.R. Thoen and E.P. Ippen, "Nonlinearities in Active Media", in *Semiconductors and Semimetals*, vol. 59, Nonlinear Optics in Semiconductors II, Academic Press, San Diego.
- Author or co-author of over 100 journal articles and conference presentations.
- 35 United States patents granted.

Katherine L. Hall

Publications

Journal Papers

1. E.R. Thoen, J.P. Donnelly, S.H. Groves, K.L. Hall, and E.P. Ippen, "Proton Bombardment for Enhanced Four-Wave-Mixing in InGaAsP-InP Waveguides", *IEEE Photon. Technol. Lett.*, vol. 12, no. 3, 311-313, (2000).
2. K.L. Hall, D.T. Moriarty, H. Hakimi, F. Hakimi, B.S. Robinson and K.A. Rauschenbach, "An Ultrafast Variable Optical Delay Technique", *IEEE Photon. Technol. Lett.*, vol. 12, no. 2, 208-210, (2000).
3. H. Hakimi, F. Hakimi, K.L. Hall, and K.A. Rauschenbach, "A New Wide-Band Pulse-Restoration Technique for Digital Fiber-Optic Communication Systems Using Temporal Gratings", *IEEE Photon. Technol. Lett.*, vol. 11, no. 8, 1048-1050, (1999).
4. P.A. Schulz and K.L. Hall, "Impulse Response Measurements with 50-GHz Bandwidth", *IEEE Microwave and Guided Wave Lett.*, vol. 9, no. 3, 120, (1999).
5. J.D. Moores, J. Korn, K.L. Hall, S.G. Finn, and K.A. Rauschenbach, "Ultrafast Optical TDM Networking: Extension to the Wide Area", *IEICE Trans. Comm.*, vol. E82-B, no. 2, 209-221, (1999).
6. V.S.W. Chan, K.L. Hall, E. Modiano and K.A. Rauschenbach, "Architectures and Technologies for High-Speed Optical Data Networks", *J. Lightwave Technol.*, vol. 16, no. 12, 2146-2168, (1998).
7. K.L. Hall and K.A. Rauschenbach, "100-Gbit/s bitwise logic", *Opt. Lett.*, vol. 23, no. 16, 1271-1273, (1998).
8. M.H. Hu, Z. Huang, K.L. Hall, R. Scarmozzino and R.M. Osgood, "An Integrated Two-Stage Cascaded Mach-Zehnder Device in GaAs", *J. Lightwave Technol.*, vol. 16, no. 8, 1447-1455, (1998).
9. N.S. Patel, K.L. Hall and K.A. Rauschenbach, "Interferometric all-optical switches for ultrafast signal processing", *Appl. Opt.*, vol. 37, no. 14, 2831-2842, (1998).
10. K.L. Hall and K.A. Rauschenbach, "All-Optical Buffering of 40 Gb/s Data Packets", *IEEE Photon. Technol. Lett.*, vol. 10, no. 3, 442-444, (1998).
11. D.J. Jones, K.L. Hall, H.A. Haus, and E.P. Ippen, "Asynchronous Phase-Modulated Optical Fiber Ring Buffer", *Opt. Lett.*, vol. 23, no. 3, 177-179, (1998).

12. K.L. Hall, J.P. Donnelly, S.H. Groves, C.I. Fennelly, R.J. Bailey, and A. Napoleone, "40-Gb/s all-optical circulating shift register with an inverter", *Opt. Lett.*, vol. 22, no. 19, 1479-1481, (1997).
13. N.S. Patel, K.L. Hall and K.A. Rauschenbach, "Optical Rate Conversion for High-Speed TDM Networks", *IEEE Photon. Technol. Lett.*, vol. 9, no. 9, 1277, (1997).
14. K.L. Hall, K.A. Rauschenbach, S.G. Finn, R.A. Barry, N.S. Patel, and J.D. Moores, "100 Gb/s Optical Network Technology", in *Trends in Optics and Photonics*, vol. 13, Ultrafast Electronics and Optoelectronics, Martin Nuss and John Bowers, eds. (Optical Society of America, Washington, DC 1997), pp. 31-36.
15. N.S. Patel, K.A. Rauschenbach and K.L. Hall, "40 Gb/s demultiplexing using an ultrafast nonlinear interferometer", *IEEE Photon. Technol. Lett.*, vol. 8, no. 12, 1695, (1996).
16. N.S. Patel, K.L. Hall and K.A. Rauschenbach, "40 Gb/s cascable all-optical logic with an ultrafast nonlinear interferometer", *Opt. Lett.*, vol. 21, no. 18, 1466, (1996).
17. K.L. Hall and K.A. Rauschenbach, "All-Optical Bit Pattern Generation and Matching", *Electron. Lett.*, vol. 32, no. 13, 1214, (1996).
18. R.A. Barry, V.W.S. Chan, K.L. Hall, E.S. Kintzer, J.D. Moores, K.A. Rauschenbach, E.A. Swanson, L.E. Adams, C.R. Doerr, S.G. Finn, H.A. Haus, E.P. Ippen, W.S. Wong and M. Haner, "All-Optical Network Consortium-Ultrafast TDM Networks", *IEEE Journal on Selected Areas in Communications*, vol. 14, no. 5, 999, (1996).
19. J.D. Moores, W.S. Wong and K.L. Hall, "50 Gb/s Optical Pulse Storage Ring Using Novel Rational-Harmonic Modulation", *Opt. Lett.*, vol. 20, no. 24, 2547, (1995).
20. K.L. Hall, J.D. Moores, K.A. Rauschenbach, W.S. Wong, E.P. Ippen and H.A. Haus, "All-Optical Storage of a 1.25 kb Packet at 10 Gb/s", *IEEE Photon. Technol. Lett.*, vol. 7, 1093, (1995).
21. J.D. Moores, K.L. Hall, S.M. LePage, K.A. Rauschenbach, W.S. Wong, H.A. Haus and E.P. Ippen, "20-GHz Optical Storage Loop/Laser Using Amplitude Modulation, Filtering and Artificial Fast Saturable Absorption", *IEEE Photon. Technol. Lett.*, vol. 7, 1096, (1995).
22. K.L. Hall, K. A. Rauschenbach, E.A. Swanson, S.R. Chinn, and G. Raybon, "Picosecond-Accuracy All-Optical Bit Phase Comparison Using a Nonlinear Optical Loop Mirror", *IEEE Photon. Technol. Lett.*, vol. 7, 935, (1995).
23. E. A. Swanson, S.R. Chinn, K. Hall, K. A. Rauschenbach, R.S. Bondurant, and J.W. Miller, "100-GHz Soliton Pulse Train Generation using Soliton Compression of Two Phase Sidebands from a Single DFB Laser", *IEEE Photon. Technol. Lett.*, vol. 6, 1194, (1994).

24. K.A. Rauschenbach, K.L. Hall, J.C. Livas and G. Raybon, "All-Optical Pulse Width and Wavelength Conversion at 10 Gb/s Using a Nonlinear Optical Loop Mirror", *IEEE Photon. Technol. Lett.*, vol. 6, 1130, (1994).
25. K.L. Hall, G. Lenz, A.M. Darwish, and E.P. Ippen, "Subpicosecond Gain and Index Nonlinearities in InGaAsP Diode Lasers", *Opt. Comm.*, vol. 111, 589, (1994).
26. K.L. Hall, A.M. Darwish, E.P. Ippen, U. Koren and G. Raybon, "Femtosecond Index Nonlinearities in InGaAsP Optical Amplifiers", *Appl. Phys. Lett.*, vol. 62, no. 12, 1320, (1993).
27. K.L. Hall, G. Lenz, E.P. Ippen, U. Koren and G. Raybon, "Carrier Heating and Spectral Hole Burning in Strained-Layer Multiple Quantum Well Lasers at 1.5 μm ", *Appl. Phys. Lett.*, vol. 61, 2512, (1992).
28. K.L. Hall, G. Lenz, E.P. Ippen and G. Raybon, "Heterodyne pump-probe technique for time-domain studies of optical nonlinearities in waveguides", *Opt. Lett.*, vol. 17, no. 12, 874, (1992).
29. K.L. Hall, G. Lenz and E.P. Ippen, "Femtosecond Time Domain Measurement of Group Velocity Dispersion in Diode Lasers at 1.5 μm ", *J. Lightwave Technol.*, vol. 10, no. 5, 616-619, (1992).
30. K.L. Hall, Y. Lai, E.P. Ippen, G. Eisenstein and U.Koren, "Femtosecond Gain Dynamics and Saturation Behavior in InGaAsP Multiple Quantum Well Optical Amplifiers", *Appl. Phys. Lett.*, vol. 57, no. 27, 2888, (1990).
31. Y. Lai, K.L. Hall, E.P. Ippen and G. Eisenstein, "Short Pulse Gain Saturation in InGaAsP Diode Laser Amplifiers", *IEEE Photon. Tech. Lett.*, vol. 2, no. 10, 711, (1990).
32. K.L. Hall, E.P. Ippen and G. Eisenstein, "Bias-Lead Monitoring of Ultrafast Nonlinearities in InGaAsP Diode Laser Amplifiers", *Appl. Phys. Lett.*, vol. 57, no. 2, 129, (1990).
33. K.L. Hall, J. Mark, E.P. Ippen, and G. Eisenstein, "Femtosecond Gain Dynamics in InGaAsP Optical Amplifiers", *Appl. Phys. Lett.*, vol. 56, no. 18, 1740, (1990).
34. J. Mark, L.Y. Liu, K.L. Hall, H.A. Haus and E.P. Ippen, "Femtosecond Pulse Generation in a Laser with a Nonlinear External Resonator", *Opt. Lett.*, vol. 14, 48-50, (1989).
35. R.M. Jopson, K.L. Hall, G. Eisenstein, G. Raybon, and M.S. Whalen, "Observation of Two-Colour Gain Saturation in an Optical Amplifier", *Electron. Lett.*, vol. 23, no. 10, 510-512, (1987).
36. R.M. Jopson, G. Eisenstein, K.L. Hall, G. Raybon, C.A. Burrus, and U. Koren, "Polarisation-Dependent Gain Spectrum of a 1.5 μm Travelling-Wave Optical Amplifier", *Electron. Lett.*, vol. 22, no. 21, pp 1105-1107, (1986).

37. B.L. Kasper, C.A. Burrus, J.R. Talman, and K.L. Hall, "Balanced Dual-Detector for Optical Heterodyne Communication at Gbit/s Rates", *Electron. Lett.*, vol. 22, no. 8, 413-414, (1986).
38. R.M. Jopson, G. Eisenstein, M.S. Whalen, K.L. Hall, U. Koren, and J.R. Simpson, "A 1.55- μm Semiconductor-Optical Fiber Ring Laser", *Appl. Phys. Lett.*, vol. 48, 204, (1986).
39. E. Marden Marshall and K.L. Hall, "Collisional Drift Instability in Hollow and Coaxial Plasmas", *Plasma Physics and Controlled Fusion*, vol. 28, no. 12A, 1867-1884, (1986).
40. R.M. Jopson, G. Eisenstein, K.L. Hall and J.R. Simpson, "Microlenses for Stressed-Cladding Polarisation-Preserving Fibre", *Electron. Lett.*, vol. 21, no. 17, 758-759, (1985).
41. G. Eisenstein, R.M. Jopson, R.A. Linke, C.A. Burrus, U. Koren, M.S. Whalen and K.L. Hall, "Gain Measurements of InGaAsP 1.5 μm Optical Amplifiers", *Electron. Lett.*, vol. 21, 1076, (1985).
42. Y.K. Jhee, K.Y. Liou, C.A. Burrus, and K.L. Hall, "Linewidth Reduction of Cleaved-Coupled-Cavity Lasers by Optical Feedback from a Single-Mode Polarisation-Preserving Fibre External Cavity", *Electron. Lett.*, vol. 21, 1146, (1985).
43. K.Y. Liou, Y.K. Jhee, C.A. Burrus, K.L. Hall and P.J. Anthony, "Narrow-Linewidth Fibre-External-Cavity Injection Lasers", *Electron. Lett.*, vol. 21, no. 20, 933-934, (1985).
44. R.M. Jopson, G. Eisenstein, H.E. Earl, and K.L. Hall, "Bulk Optical Isolator Tunable from 1.2 μm to 1.7 μm ", *Electron. Lett.*, vol. 21, no. 18, 783-784, (1985).
45. G. Eisenstein, R.S. Tucker, S.K. Korotky, U. Koren, J.J. Veselka, L.W. Stulz, R.M. Jopson, and K.L. Hall, "Active Mode-Locking of an InGaAsP 1.55 μm Laser in a Fibre Resonator With an Integrated Single-Mode-Fibre Output Port", *Electron. Lett.*, vol. 21, no. 5, 173-175, (1985).
46. G. Eisenstein, S.K. Korotky, L.W. Stulz, J.J. Veselka, R.M. Jopson, and K.L. Hall, "Antireflection Coatings on Lithium Niobate Waveguide Devices Using Electron Beam Evaporated Yttrium Oxide", *Electron. Lett.*, vol. 21, no. 9, 363-364, (1985).
47. E. Marden Marshall and K.L. Hall, "Density Gradient Driven Drift Instability in Hollow and Coaxial Plasmas", *Bulletin of the American Physical Society*, vol. 29, 1264, (1984).
48. E. Marden Marshall and K.L. Hall, "Collisional Drift Instability in Plasmas with Modified Cross-Sections", *Bulletin of the American Physical Society*, vol. 28, 1067, (1983).

Explore Litigation Insights

Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

Real-Time Litigation Alerts



Keep your litigation team up-to-date with **real-time alerts** and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

Advanced Docket Research



With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

Analytics At Your Fingertips



Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

LAW FIRMS

Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

FINANCIAL INSTITUTIONS

Litigation and bankruptcy checks for companies and debtors.

E-DISCOVERY AND LEGAL VENDORS

Sync your system to PACER to automate legal marketing.