

RESUME

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Born – Oct. 1956, Hong Kong
Citizenship: U.S.

Education:

Ph.D. in Electrical Engineering, June 1981
California Institute of Technology, Pasadena, California,
Thesis title: Ultra-high Frequency Dynamics of Semiconductor Injection Lasers
Thesis advisor: Amnon Yariv

M.S. in Electrical Engineering, June 1978
California Institute of Technology, Pasadena, California,

B.S. in Engineering and Applied Sciences, June 1978
California Institute of Technology, Pasadena
G.P.A.: 4.1/4.0
Class ranking: first in class of 1978 (institute-wide)

Honors:

- Fellow, IEEE
- Fellow, Optical Society of America
- David Sarnoff Award, 2009, IEEE
- J.J. Thomson Medal, 2009, IET (U.K.)
- Benjamin Oliver Gold Medal for Engineering, 2011
Armed Forces Communication and Electronics Association International
- Nicholas Holonyak Award, Optical Society of America, 2008.
- William Strieffer Scientific Achievement Award, IEEE LEOS (Lasers and Electro-Optics Society, 1996)
- IEEE LEOS Distinguished Lecturer Award, 1996
- NSF Presidential Young Investigator Award, 1989
- J.E. Froehlich Memorial Award, California Institute of Technology, 1977

Professional Services:

Associate Editor, IEEE Journal of Quantum Electronics, 1995-1997
Associate Editor, IEEE Journal of Optical Communications and Networking, 2008 -
Guest Editor, IEEE Journal on Selected Topics on Quantum electronics, April 1997
Visiting Committee, Division of Engineering and Applied Sciences, California Institute of Technology, Pasadena, 2001-2005

Conference Services:

Program committee, CLEO '98' (Conference on Lasers and Electro Optics, San Francisco)
 Program committee, Device Research Conference '97', Ft. Collins, Colorado
 Program co-chair, Topical Meeting on Advanced Semiconductor Lasers and Applications, Montreal 1997
 Program committee, CLEO '97', Baltimore
 Program committee, Device Research Conference '96', Santa Barbara
 Program committee, CLEO '96', Anaheim
 Program committee, Co-chairman, Symposium on optics and micromachining, OSA Annual meeting 1995, Portland
 Program committee, CLEO '95', Baltimore
 Program committee, International Semiconductor Laser Conference, Maui 1994
 Program committee, CLEO '94', Anaheim
 Program committee, OFC/IOOC (Optical Fiber Communication Conference) '93, San Jose
 Chairman, Device subcommittee, Integrated Photonics Research, Palms Spring, 1993
 Program committee, OFC '92, San Jose
 Program committee, International Semiconductor Laser Conference, 1992, Japan
 Program committee, Topical Meeting on Multi-access Lightwave Network, Santa Barbara, 1992
 Program committee, Integrated Photonics Research, 1992, New Orleans
 Program committee, OFC '91', San Diego
 Program committee, Integrated Photonics Research, 1991, Monterey
 Chairman, IEEE Semiconductor Laser Workshop, 1990, Anaheim
 Program committee, International Semiconductor Laser Conference, 1990, Davos, Switzerland
 Program committee, Integrated Photonics Research Meeting, 1990, Hilton head
 Program committee, CLEO '90, Anaheim
 Program committee, OFC '90', San Francisco
 Program committee, Topical Meeting on Multi-access Lightwave Network, Monterey 1990
 Chairman, International Workshop on Quantum Well Optical Device Physics, Kobe, Japan, 1989
 Program committee, IEDM '89 (International Electron Device Meeting), San Francisco
 Program committee, OFC '89', Houston
 Program committee, CLEO '89, Baltimore
 Program committee, Topical Meeting on Picosecond Electronics and Opto-electronics, Lake Tahoe, 1987
 Program committee, International Semiconductor Laser Conf., 1986 (Kanazawa, Japan)

Work Experience:

7/05 – present	Professor Emeritus University of California, Berkeley Dept. of Electrical Engineering and Computer Sciences
8/97– 9/03	Founding Chairman, LGC Wireless, Inc., San Jose, California (acquired by ADC Telecom in 2007)
7/90 – 7/05	Professor, University of California, Berkeley Dept. of Electrical Engineering and Computer Sciences; 95-96, Vice Chairman, administration
7/88 – 7/90	Associate Professor Columbia University Electrical Engineering Dept. Director of Lightwave Communication Laboratory of the NSF Center for Telecommunications Research.
10/81 – 10/88	Founding Chief Scientist Ortel Corporation (acquired by Lucent Technologies in 2000)
6/79 – 10/81	Engineer Microwave Fiber-optics development, NASA Deep Space Network Jet Propulsion Laboratory Pasadena, California

U.S. Patents :

1. 6,449,407 Optical switch having equalized beam spreading in all connections
2. 6,353,600 Dynamic sectorization in a CDMA cellular system employing centralized base-station architecture
3. 6,026,108 Vertical-cavity surface-emitting laser with an intracavity quantum-well optical absorber
4. 6,014,546 Method and system providing RF distribution for fixed wireless local loop service
5. 5,983,070 Method and system providing increased antenna functionality in a RF distribution system
6. 5,867,297 Apparatus and method for optical scanning with an oscillatory microelectromechanical system
7. 5,765,099 Distribution of radio-frequency signals through low bandwidth infrastructures
8. 5,760,419 Monolithic wavelength meter and photodetector using a wavelength dependent reflector
9. 5,668,562 Measurement-based method of optimizing the placement of antennas in a RF distribution system
10. 5,631,916 Apparatus and method for optically transmitting electrical signals in the 20-300 gigahertz frequency range
11. 5,541,756 Apparatus and method for routing optical signals through wavelength-coding in a self-routed wavelength addressable network
12. 5,335,107 Method and apparatus for modulation of self-pulsating diode laser's self-pulsating frequency
13. 4,843,611 Superluminescent diode and single mode laser
14. 4,764,934 Superluminescent diode and single mode laser
15. 4,562,569 Tandem coupled cavity lasers with separate current control and high parasitic resistance between them for bistability and negative resistance characteristics and use thereof for optical disc readout
16. 4,287,606 Fiber optic transmission line stabilization apparatus and method
17. 4,239,337 Magneto-optic modulator using dielectric mirrors
18. 5,867,297 Apparatus and method for optical scanning with an oscillatory microelectromechanical system”, U.S. Patent Number 2 Feb. 2, 1999

PUBLICATIONS :

Books and book chapters:

1. K.Y. Lau, "Ultra-low Threshold Quantum well Lasers," Chapter 4 in *Quantum Well Lasers*, Peter S. Zory, Ed., Academic Press 1993.
2. Kam Y. Lau, "Dynamics of Quantum Well Lasers," Chapter 5 in *Quantum Well Lasers*, Peter S. Zory, Ed., Academic Press 1993.
3. Kam Y. Lau and Amnon Yariv, "High Frequency Current Modulation of Semiconductor Injection Lasers," Chapter 2 in *Semiconductors and Semimetals Vol. 22: Lightwave Communications Technology Part B: Semiconductor Injection Lasers*, Won T. Tsang, Ed., Academic Press, 1985.

Conference presentations:

1. J.A. Hudgings, R.J. Stone, S.F. Lim, K.Y. Lau, C.J. Chang-Hasnain, "Comparative study of the analog performance of a vertical-cavity surface-emitting laser under gain and cavity loss modulation,"; Conference on *Lasers and Electro-Optics*, 2000. (CLEO 2000). 2000, Page(s): 233 –234.
2. Rembe, C.; Hart, M.; Helmbrecht, M.A.; Srinivasan, U.; Muller, R.S.; Lau, K.Y.; Howe, R.T. ., "Stroboscopic interferometer with variable magnification to measure dynamics in an adaptive-optics micromirror,"; *Optical MEMS*, 2000 IEEE/LEOS International Conference on, 2000, Page(s): 73 –74.
3. Conant, R.A.; Nee, J.T.; Lau, K.Y.; Muller, R.S., "Dynamic deformation of scanning mirrors,"; *Optical MEMS*, 2000 IEEE/LEOS International Conference on, 2000, Page(s): 49 –50.
4. Nee, J.T.; Conant, R.A.; Muller, R.S.; Lau, K.Y., "Lightweight, optically flat micromirrors for fast beam steering," ; *Optical MEMS*, 2000 IEEE/LEOS International Conference on, 2000, Page(s): 9 –10
5. Nee, J.T.; Conant, R.A.; Hart, M.R.; Muller, R.S.; Lau, K.Y., "Stretched-film micromirrors for improved optical flatness," *Micro Electro Mechanical Systems*, 2000. MEMS 2000. The Thirteenth Annual International Conference on, 23-27 Jan 2000, Page(s): 704 –709.
6. "Integrated phase and magnitude control of a microwave optical subcarrier using a three-contact, vertical-cavity, surface-emitting laser," Hudgings, J.A.; Stone, R.J.; Lim, S.F.; Lau, K.Y.; Chang-Hasnain, C.J.; *Optical Fiber Communication Conference*, 1999, and the *International Conference on Integrated Optics and Optical Fiber Communication*. OFC/IOOC '99. Technical Digest, Volume: 4, 1999, Page(s): 87 -89 vol.4.
7. "In-building radio distribution using a "saturated" distributed-antenna-architecture-universal radio-power and delay-spread statistics," Gang Zhou; Haiyun Tang; Lau, K.Y.; *IEEE International Conference on Communications*, 1999. ICC '99. 1999, Volume: 1, 1999, Page(s): 29 -35 vol.1.
8. "Negative differential resistance of an intracavity voltage-controlled absorber in a vertical cavity surface emitting laser," Stone, R.J.; Hudgings, J.A.; Lim, S.F.; Li, G.S.; Lau, K.Y.; Chang-Hasnain, C.J.; *Semiconductor Laser Conference*, 1998. ISLC 1998 NARA. 1998 *IEEE 16th International*, 4-8, Oct. 1998, Page(s): 113 -114.
9. "Novel bistable VCSEL for efficient and compact disk optical pickup applications," Lim, S.F.; Hudgings, J.A.; Li, G.S.; Wupen Yuen; Lau, K.Y.; Chang-Hasnain, C.J.; *Lasers and Electro-Optics*, 1998. CLEO 98. Technical Digest. Summaries of papers presented at the Conference on, 3-8, May 1998, Page(s): 444.
10. "Frequency tuning of self-pulsations in a VCSEL with a voltage-controlled saturable absorber," Hudgings, J.A.; Lim, S.F.; Li, G.S.; Yuen, W.; Lau, K.Y.; Chang-Hasnain, C.J.; *Optical Fiber Communication Conference and Exhibit*, 1998. OFC '98., Technical Digest , 22-27, Feb. 1998, Page(s): 10 –11.
11. "Self-pulsating VCSEL with controllable quantum-well saturable absorber," Lim, S.F.; Hudgings, J.A.; Li, G.S.; Yuen, W.; Lau, K.Y.; Chang-Hasnain, C.J.; *Vertical-Cavity Lasers, Technologies for a Global Information Infrastructure, WDM Components Technology, Advanced Semiconductor Lasers...*, Gallium Nitride Materials, Processing, ..., 1997 *Digest of the IEEE/LEOS Summer Topical Meetings*, 11-15, Aug. 1997, Page(s): 19 –20.

12. "Beam steering laser arrays and applications in 2D laser scanning," Francis, D.A.; Chang-Hasnain, C.J.; Kiang, M.-H.; Lau, K.Y.; Muller, R.S.; Vertical-Cavity Lasers, Technologies for a Global Information Infrastructure, WDM Components Technology, Advanced Semiconductor Lasers ..., Gallium Nitride Materials, Processing, ..., 1997 *Digest of the IEEE/LEOS Summer Topical Meetings*, 11-15, Aug. 1997, Page(s): 7-8.
13. "Surface-micromachined diffraction gratings for scanning spectroscopic applications," Meng-Hsiung Kiang; Nee, J.T.; Lau, K.Y.; Muller, R.S.; *Solid State Sensors and Actuators*, 1997. TRANSDUCERS '97 Chicago, 1997 International Conference on, Volume: 1, 16-19, June 1997, Page(s): 343-345 vol.1.
14. "Step-tunable, all-optical wavelength conversion using cavity-enhanced four-wave mixing," Hudgings, J.A.; Lau, K.Y.; *Optical Fiber Communication*. OFC 97, Conference on, 16-21, Feb. 1997, Page(s): 216-217.
15. "Millimeter wave signal transmission using uncoated telecommunications-grade distributed feedback lasers," Yeung, S.P.; Georges, J.B.; Cutrer, D.M.; Ta-Chung Wu; Lau, K.Y.; *Optical Fiber Communications*, 1996. OFC '96, 1996, Page(s): 210-211.
16. "High speed photonic devices for millimeter wave systems," Lau, K.Y.; *Microwave Photonics*, 1996. MWP '96. Technical Digest, 1996 International Topical Meeting on, 3-5 Dec 1996, Page(s): 1-4.
17. "Is a fiber-fed antenna network optimal for in-building wireless signal distribution?," Cutrer, D.M.; Georges, J.B.; Lau, K.Y.; *Microwave Symposium Digest*, 1996, IEEE MTT-S International, Volume: 3, 17-21, June 1996, Page(s): 1567-1570 vol.3.
18. "Fiber-optic transport and RF phase control of narrowband millimeter-wave signals using multicontact monolithic semiconductor lasers," Georges, J.B.; Lux, R.A.; Cutrer, D.M.; Yeung, S.P.; Lau, K.Y.; *Microwave Symposium Digest*, 1996, IEEE MTT-S International, Volume: 3, 17-21, June 1996, Page(s): 1555-1558 vol.3.
19. "Techniques for improving in-building radio coverage using fiber-fed distributed antenna networks," Arredondo, A.; Cutrer, D.M.; Georges, J.B.; Lau, K.Y.; *Vehicular Technology Conference*, 1996. 'Mobile Technology for the Human Race', IEEE 46th, Volume: 3, 28, Apr.-1 May 1996, Page(s): 1540-1543 vol.3.
20. "Surface-micromachined electrostatic-comb driven scanning micromirrors for barcode scanners," Meng-Hsiung Kiang; Solgaard, O.; Muller, R.S.; Lau, K.Y.; *Micro Electro Mechanical Systems*, 1996, MEMS '96, Proceedings. 'An Investigation of Micro Structures, Sensors, Actuators, Machines and Systems'. IEEE, The Ninth Annual International Workshop on, 11-15, Feb. 1996, Page(s): 192-197.
21. "Spectrodetector-novel monolithic wavelength reader and photodetector," Nabiev, R.; Chang-Hasnain, C.J.; Eng, L.E.; Lau, K.Y.; *Lasers and Electro-Optics Society Annual Meeting*, 1995. 8th Annual Meeting Conference Proceedings, Volume 1., IEEE, Volume: 1, 30-31, Oct. 1995, Page(s): 21-22 vol.1.
22. "Surface-micromachined Mirrors For Laser-beam Positioning," Tien, N.C.; Solgaard, O.; Kiang, M.-H.; Daneman, M.; Lau, K.Y.; Muller, R.S.; *Solid-State Sensors and Actuators*, 1995 and Eurosensors IX. Transducers '95. The 8th International Conference on, Volume: 2, 25-29, June 1995, Page(s): 352-355.
23. "Ultrahigh speed cryogenic laser diodes for broadband optical fiber link applications," Rang-Chen Yu; Nagarajan, R.; Reynolds, T.; Bowers, J.E.; Shakouri, M.; Park, J.; Lau, K.Y.; Chung-En Zah; Zou, W.; Merz, J.; *Microwave Symposium Digest*, 1995, IEEE MTT-S International, 16-20, May 1995, Page(s): 45-48 vol.1.
24. "Linear microvibromotor for positioning optical components," Daneman, M.J.; Tien, N.C.; Solgaard, O.; Pisano, A.P.; Lau, K.Y.; Muller, R.S.; *Micro Electro Mechanical Systems*, 1995, MEMS '95, Proceedings. IEEE, 29 Jan. 2- Feb. 1995, Page(s): 55.
25. "Impact-actuated linear microvibromotor for micro-optical systems on silicon," Tien, N.C.; Daneman, M.; Solgaard, O.; Lau, K.Y.; Muller, R.S.; *Electron Devices Meeting*, 1994. Technical Digest, International, 11-14, Dec.1994, Page(s): 924-926.
26. "Ultralow threshold lasers. How low is low enough?," Cutrer, D.M.; Lau, K.Y. *Semiconductor Laser Conference*, 1994, 14th IEEE International, 19-23, Sept. 1994, Page(s): 81-82.
27. "Unambiguous determination of quantum capture, carrier diffusion and intrinsic effects in quantum well laser

- dynamics using wavelength selective optical modulation,” Vassilovski, D.; Wu, T.-C.; Kan, S.; Lau, K.Y.; *14th IEEE International Semiconductor Laser Conference*, 1994, Sept. 1994, Page(s): 59-60.
28. “Polarization induced enhancement of relative intensity noise and modulation distortion in vertical cavity surface emitting lasers,” Wu, M.S.; Buckman, L.A.; Li, G.S.; Lau, K.Y.; Chang-Hasnain, C.J.; *14th IEEE International Semiconductor Laser Conference*, 1994, 19-23, Sept. Page(s): 145-146.
 29. “Electrically-pumped external-cavity surface-emitting laser diodes,” Hadley, M.A.; Wilson, G.C.; Lau, K.Y.; Smith, J.S.; *IEEE Lasers and Electro-Optics Society Annual Meeting*, 1993. LEOS '93 Conference Proceedings. 15-18, Nov. 1993, Page(s): 562-563.
 30. “On reaching the k-limited bandwidth in 1.6 μm compressive-strained quantum well lasers,” Wu, T.C.; Kan, S.C.; Vassilovski, D.; Lau, K.Y.; Zah, C.E.; Pathak, B.; Bhat, R.; Lee, T.P.; *13th IEEE International Semiconductor Laser Conference*, 1992. Conference Digest. 1992, Page(s): 144-145.
 31. “Self-pulsating Laser Diodes As Tunable Transmitters For Sub-carrier Multiple-access Networks,” Georges, J.B.; Chuang, E.; Lau, K.Y.; *Broadband Analog and Digital Optoelectronics, Optical Multiple Access Networks, Integrated Optoelectronics, Smart Pixels, LEOS 1992 Summer Topical Meeting Digest on*, 29 July-12- Aug. 1992, Page(s): A59-A60.
 32. “Design of WDMA/SFDMA lightwave networks,” Shankaranarayanan, N.K.; Lau, K.Y.; GLOBECOM '91. Countdown to the New Millennium. Featuring a Mini- Theme on: Personal Communications Services, 2-5 Dec 1991, Page(s): 1251-1257 vol.2.
 33. “Frequency modulation and linewidth of gain-levered 2-section single quantum well lasers,” Lau, K.Y.; *Semiconductor Laser Conference*, 1990. *Conference Digest*. 12th IEEE International, 1990, Page(s): 126-127.
 34. “WDM-subcarrier FDMA lightwave networks: optical beat note interference,” Elby, S.D.; Shankaranarayanan, N.K.; Lau, K.Y.; *Optical Multiple Access Networks*, 1990. Conference Digest. LEOS Summer Topical on, 25-27, July 1990, Page(s): 64-65.
 35. “All-optical distributed packet-switched networks: limitations and potential,” Shah, S.I.A.; Acampora, A.S.; Elby, S.D.; Lau, K.Y.; *Optical Multiple Access Networks*, 1990. Conference Digest. LEOS Summer Topical on, 25-27, July 1990, Page(s): 57-58.
 36. “Quantum well lasers for microwave/millimeter wave applications,” Lau, K.Y.; Conference Digest., LEOS Summer Topical Meeting on *Broadband Analog Optoelectronics: Devices and Systems*, Page(s): 623-25, July 1990.
 37. R.A. Conant, J. Nee, M. Hart, O. Solgaard, K.Y. Lau, R.S. Muller, “Robustness and Reliability of Micromachined Scanning Mirrors”, Proceedings of the 3rd International Conference on Micro Opto Mechanical Systems (Optical MEMS), MOEMS 99, Mainz, Germany, August 30-September 1, 1999, Page(s): 120-125.
 38. P.M. Hagelin, U. Krishnamoorthy, R. Conant, R. Muller, K. Lau, O. Solgaard, "Integrated Micromachined Scanning Display Systems", Technical Digest of the 18th Congress of the International Commission for Optics: Optics for the Next Millenium, SPIE vol. 3749, Page(s): 472-473, San Francisco, California, 2-6 August 1999
 39. R.A. Conant, P.M. Hagelin, U. Krishnamoorthy, O. Solgaard, K.Y. Lau, R.S. Muller, "A Raster- Scanning Full-Motion Video Display Using Polysilicon Micromachined Mirrors", Proceedings of the 1999 International Conference on Solid-State Sensors and Actuators (Transducer '99), Page(s): 376-379, Sendai, Japan, June 7-10, 1999
 40. M.-H Kiang; O. Solgaard, K.Y. Lau, R.S. Muller, “Polysilicon optical microscanners for laser scanning displays”, *Sensors and Actuators A (Physical) Sens. Actuators A, Phys. (Switzerland)*, vol.A70, (no.1-2), p.195-9, (9th International Solid State Sensors and Actuators Conference (Transducers '97), Chicago, IL, USA, 16-19 June 1997.) Elsevier, 1 Oct. 1998

41. M.-H. Kiang, D.A. Francis, C.J. Chang-Hasnain, O. Solgaard, K.Y. Lau, R.S. Muller, "Actuated Polysilicon Micromirrors for Raster-Scanning Displays", Proceedings of the 1997 International Conference on Solid-State Sensors and Actuators (Transducer '97), Page(s): 323-326, Chicago, June 16-19, 1997.
42. M-H. Kiang, O. Solgaard, R.S.Muller, K.Y. Lau, "Micromachined microscanners for optical scanning", Proceedings SPIE vol. 3008, Page(s): 82-90, 1997.
43. M-H. Kiang, O. Solgaard, R.S.Muller, K.Y. Lau, "High-Precision Silicon Micromachined Micromirrors for Laser Beam Scanning and Positioning", Late News paper at the Solid-State Sensor and Actuator Workshop, Hilton Head, South Carolina, June 2-6, 1996.
44. M. Daneman, N.C. Tien, O. Solgaard, K.Y. Lau, R.S. Muller, "Linear Vibromotor-Actuated Micromachined microreflector for Integrated Optical Systems", Proceedings of the Solid-State Sensor and Actuator Workshop, Page(s): 109-112, Hilton Head, South Carolina, June 2-6, 1996.
45. M-H. Kiang, O. Solgaard, R. S. Muller, K.Y. Lau, "Design and Fabrication of High-Performance Silicon Micromachined Resonant Microscanners for Optical Scanning Applications", Proceedings of the Integrated Photonics research Conference, 1996 Technical Digest Series, vol. 6, Boston, MA, April 29-May 2, 1996, Page(s): 545-548.
46. M. Daneman, N.C. Tien, O. Solgaard, K.Y. Lau, R.S. Muller, "Actuated Micromachined Microreflector with Two Degrees of Freedom for Integrated Optical Systems", Proceedings of the Integrated Photonics research Conference, 1996 Technical Digest Series, vol. 6, Boston, MA, April 29-May 2, 1996, Page(s): 541-544.
47. M-H. Kiang, O. Solgaard, R.S. Muller, K.Y. Lau, "Surface-micromachined electrostatic-comb driven scanning micromirrors for barcode scanners", proceedings of the IEEE Micro Electro Mechanical Systems (MEMS) Workshop, Page(s): 192-197, San Diego, CA, February 11-15, 1996.
48. N.C. Tien, M-H. Kiang, M. Daneman, O. Solgaard, K.Y. Lau, R.S. Muller, "Actuation of polysilicon surface-micromachined mirrors", Proceedings of SPIE's Photonic West Conference, San Jose, CA, January 1996.
49. N.C. Tien, M. Daneman, M-H. Kiang, O. Solgaard, K.Y. Lau, R.S. Muller, "Polysiliconmicromachined optical devices" (invited talk) Proceedings of the International Semiconductor Device Research Symposium, Charlottesville, VA, Dec. 6-8, 1995.
50. M. Daneman, O. Solgaard, N.C. Tien, M-H. Kiang, R.S. Muller, K.Y. Lau, "Actuated micro-optical devices and systems on silicon" (invited talk) Digest of the Optical Society of America Annual Meeting, September 13, 1995.
51. M. Daneman, O. Solgaard, N.C. Tien, R.S. Muller, K.Y. Lau, "Integrated Laser to Fiber Coupling Module Using a Micromachined Alignment Mirror" Conf. on lasers and electro- optics (CLEO), May 1995.
52. M-H. Kiang, O. Solgaard, M. Daneman, N.C. Tien, R.S. Muller, K.Y. Lau, "High-precision Simicromachined micromirrors with on-chip actuation for external cavity semiconductor lasers", Conf. on lasers and electro-optics (CLEO), May 1995.
53. N.C. Tien, O. Solgaard, M.-H. Kiang, M. Daneman, R.S. Muller, K.Y. Lau, "Surfacemicromachined mirrors for laser-beam positioning", Proceedings of the 8th international conference on solid-state sensors and actuators (Transducer -95), Page(s): 352-355, Stockholm, Sweden, June 25-29, 1995.

54. M. Daneman, N.C. Tien, O. Solgaard, A.P. Pisano, K.Y. Lau, R.S. Muller, "Linear Microvibromotor for Positioning Optical Elements", Proceedings of the 1995 IEEE Microelectromechanical Systems Conference (MEMS-95), Amsterdam, the Netherlands, Page(s): 55-60, 30 January 1995.
55. N.C. Tien, M. Daneman, O. Solgaard, K.Y. Lau, R.S. Muller, "Impact-actuated linear microvibromotor for micro- optical systems on silicon", 1994 International Electronic Devices Meeting (IEDM-94), postdeadline paper, 12 December 1994.
56. Solgaard, M. Daneman, N.C. Tien, A. Friedberger, R.S. Muller, K.Y. Lau, "Micromachined alignment mirrors for opto-electronic packaging", Conference on Lasers and Electro- Optics (CLEO), Anaheim, California, Proceedings of postdeadline papers, Page(s): 1-2, 12 May 1994.
57. J.B. Georges, J. Park, O. Solgaard, D. Cutrer, P. Pepeljugoski, K.Y. Lau, "High Data Rate Millimeter Wave Subcarrier Transmission Using Feedforward Optical Modulation", Optical Fiber Conference (OFC), 23 February 1994.
58. L.A. Buckman, J.B. Georges, D. Vassilovski, J. Park, O. Solgaard, K.Y. Lau, "Stable Picosecond Pulse Generation at 46 GHz by Passive Mode-Locking of a Semiconductor Laser Operating in an Optoelectronic Phase-Locked Loop," Optical Fiber Conference, 23 Feb. 1994.
59. Solgaard, M. Daneman, N.C. Tien, R.S. Muller, K.Y. Lau, "Surface-micromachined active optical bench for optoelectronic integration and packaging", Proceeding of the Microelectronics and Sensor Technology Meeting, Lillehammer, Norway, 17 January 1995 (invited talk).
60. M.H. Kiang, O. Solgaard, K.Y. Lau "Dynamics of pulse build-up in QW lasers passively modelocked at millimeter wave frequencies", Conference on Lasers and Electro-Optics (CLEO), Baltimore, Maryland, 6 May 1993
61. O. Solgaard, J. Park, J.B. Georges, P. Pepeljugoski, K. Y. Lau, "Millimeter wave optical transmission using a tunable laser beatnote source with feedforward compensation", OSA topical meeting on Integrated Photonics Research, Palm Springs, California, 24 March 1993.

Journal Publications:

1. "Minimization of acquisition time in short-range free-space optical communication," Wang, J.; Kahn, J.M.; Lau, K.Y.; *Applied Optics*. 41(36) Page(s): 7592-7602, Dec 20, 2002.
2. "Stroboscopic interferometric system for dynamic MEMS characterization," Hart, M.R.; Conant, R.A.; Lau, K.Y.; Muller, R.S.; *Microelectro-mechanical Systems, Journal of*, Volume: 9 Issue: 4, Dec. 2000, Page(s): 409-418.
3. "Integrated micromachined scanning display systems," Hagelin, Paul M.; Krishnamoorthy, U.; Conant, Robert; Muller, Richard S.; Lau, Kam Y.; Solgaard, Olav; *Proc. SPIE* Vol. 3749, Page(s): 472-473, July 1999.
4. "Dynamic behavior and applications of a three-contact vertical-cavity surface-emitting laser," Hudgings, J.A.; Stone, R.J.; Chih-Hao Chang; Lim, S.F.; Lau, K.Y.; Chang-Hasnain, C.J.; *Selected Topics in Quantum Electronics, IEEE Journal on*, Volume: 5 Issue: 3, May/June 1999, Page(s): 512-519.
5. "MEMS Microscanner raster-scanning display: a spyglass for the future," Lau, K.Y.; *Optics & Photonics News*, May 1999, vol. 10, (no. 5), Page(s): 47-50.
6. "Independent phase and magnitude control of an optically carried microwave signal with a three-terminal vertical-cavity surface-emitting laser," Stone, R.J.; Hundgings, J.A.; Lim, S.F.; Chang-Hasnain, C.J.; Lau, K.Y.; *IEEE Photonics Technology Letters*, Volume: 11 Issue: 4, Apr. 1999, Page(s): 463-465.

7. "Compact, integrated optical disk readout head using a novel bistable vertical-cavity surface-emitting laser," Hudgings, J.A.; Lim, S.F.; Li, G.S.; Wupen, Yuen; Lau, K.Y.; Chang-Hasnain, C.J.; *IEEE Photonics Technology Letters*, Volume: 11 Issue: 2, Feb. 1999, Page(s): 245-247.
8. "The physics of negative differential resistance of an intracavity voltage-controlled absorber in a vertical-cavity surface-emitting laser," Wupen; Lau, Kam Y.; Chang-Hasnain, Connie J.; *Applied Physics Letters*, Volume 73, Issue 13, September 28, 1998, Page(s): 1796-1798.
9. "Step-tunable all-optical wavelength conversion using cavity-enhanced four-wave mixing," Hudgings, J.A.; Lau, K.Y.; *Quantum Electronics, IEEE Journal of*, Volume: 34 Issue: 8, Aug. 1998.
10. "Surface-micromachined microoptical elements and systems," Muller, R.S.; Lau, K.Y.; *Proceedings of the IEEE*, Volume: 86 Issue: 8, Aug. 1998, Page(s): 1705-1720.
11. "VCSELs with a novel integrated quantum-well absorber," Lim, Sui F.; Hudgings, Janice A.; Li, Gabriel S.; Yuen, Wupen; Lau, Kam Y.; Chang-Hasnain, Connie J.; AA (Univ. of California/Berkeley and Stanford Univ.) AB
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