

- E-mail • kml088@yahoo.com  
Web • www.geocities.com/kml088
- Technical Expertise**
- Design of application specific optical fibers.
  - Modal field calculation of fiber & integrated optics devices.
  - Document preparation and desk top publishing.
- Computing
- Scientific computing using:
    - FTP • LaTeX • Netlib • Macintosh • Ghostview
    - UNIX • Matlab • Telnet • NIH Image • Mathematica
    - HTML • LAPACK • Windows • FORTRAN • Mayura Draw
- Skills and Experience**
- Extensive library and online literature search experience.
  - Years of technical presentation experience.
  - Excellent verbal and written communication skills.
- Fiber Optics
- Hands on experience in optical fiber:
    - Laser • Cleaver • Splicer • Spectroscopy • Interferometer
    - Imaging • Coupler • Alignment • Photodetector • Preform Profiler
- Electronics
- Familiarity with electronics:
    - Sensor • Soldering • Controller • Measurement • Signal Conditioning
    - LabVIEW • Wire Wrap • Interfacing • PCB Fabrication • Schematic Diagram
- Mechanics
- Skilled in basic mechanical design:
    - Optical Mount • Detector Housing • Optical Table Stand
  - Strong interpersonal skill with all levels.
  - Innovative, dynamic, and detail oriented.
- Employment History**
- **Research Engineer**, Otolaryngology Research Center, New England Medical Center, Boston, MA (9/1998 – 10/1999).
    - Research in laser-tissue interaction with Dr. Kathleen McMillan.
    - Develop and test instruments, undertake laboratory and animal research.
    - Investigate high energy pulsed and CW 810 nm diode lasers in otolaryngology.
    - Study diagnostic fluorescence spectroscopy in otolaryngology.
  - **Adjunct Instructor**, Division of Computer Science, Quincy College, Quincy, MA (Fall Semester 1998).
    - Teach Computer Architecture, a new advanced-level course at Quincy College.
  - **Postdoctoral Fellow/Visiting Research Fellow/Visiting Research Associate**, Department of Electrical and Electronic Engineering, The University of Hong Kong, Hong Kong (3/1995 – 1/1998).
    - Research in interdiffusion modified quantum well structures with Dr. E. Herbert Li.
    - Extended the modified Fourier decomposition method to quasi- and full-vector regime.
    - Applying the modified Fourier decomposition method to study interdiffusion modified quantum well waveguides and couplers.
  - **Research Fellow/Visiting Fellow**, Department of Electronic Engineering, City University of Hong Kong, Hong Kong (3/1995 – 1/1996).
    - Research in optical communications, fiber and integrated optics, and numerical methods with Prof. Kin-Seng Chiang.
    - Implement the modified Fourier decomposition method for waveguides modeling.
    - Design a two-core optical fiber with zero intermodal dispersion.
  - **Demonstrator**, School of Physics, The University of Sydney, Australia (7/1990 – 10/1991).
    - First year physics laboratory instruction and grading.

- Employment History** (Continue)
- Marking of first year physics assignments.
  - **Research Assistant**, Department of Applied Physics, The Hong Kong Polytechnic University, Hong Kong (8/1989–2/1990).
    - Working with Dr. Kai-Shui Lau in fiber optic sensors.
    - Setting up the fiber optic laboratory.
    - Implementation of optical fiber Michelson and Mach-Zender interferometer.
- Education**
- **Doctor of Philosophy in Applied Optical Fiber Theory**, School of Physics and Optical Fiber Technology Center, The University of Sydney, Australia (6/1995).
- Study Areas
- Numerical Methods
  - Optical Communications
  - Fiber Optic Sensors
  - Fiber & Integrated Optics
- Thesis Title & Supervisors
- Theory of Optical Fiber Modal Fields with Application to the Design of Evanescent Field Devices
  - Dr. Ian M. Bassett
  - Prof. Ross C. McPhedran
- Courseworks
- Optical Fiber Theory
  - Physics of VLSI
  - **Bachelor of Science in Applied Physics** with First Class Honors, Hong Kong Baptist University, Hong Kong (12/1989).
    - Optics
    - Thermodynamics
    - Quantum Mechanics
    - Electronics
    - Materials Science
    - Microcomputer Interfacing
    - Instrumentation
    - Integrated Circuits
    - Numerical & Statistical Methods
    - Charges & Fields
    - Solid State Physics
    - Electromagnetic Waves & Radiation
- Related Courseworks
- Optical Fiber Laser Doppler Velocimeter
  - Dr. Robert Kai-Yiu Chan
- Thesis Title & Supervisor
- **Radio Amateurs' Examination Certificate**, City and Guilds of London Institute (12/1987).
    - Licensing conditions and transmitter interference
    - Operating procedures, practices and theory
- Components
- Awards and Honors**
- International Postgraduate Research Award, The University of Sydney, Australia (1/1991–6/1994)
  - Equity and Merit Scholarship, The Australian International Development Assistance Bureau, Australia (3/1990–8/1994).
  - Presidents Honor Roll, one of six semesters; Deans List, four of six semesters, Hong Kong Baptist University, Hong Kong (1986–1989).
  - Kam Ngan Stock Exchange Scholarship, Hong Kong (1987 and 1988)
- Publications**
- Journal Papers
- K. M. Lo, R. C. McPhedran, I. M. Bassett, and G. W. Milton, "An electromagnetic theory of dielectric waveguides with multiple embedded cylinders," *Journal of Lightwave Technology*, vol. 12, pp. 396–410, 1994; Erratum, vol. 12, p. 1510, 1994.
  - D. J. Butler, A. Horsfall, K. A. Nugent, A. Roberts, I. M. Bassett, and K. M. Lo, "Measurement of an elliptic fiber mode field using near-field microscopy," *Journal of Applied Physics*, vol. 77, pp. 5514–5517, 1995.
  - K. S. Chiang, K. M. Lo, and K. S. Kwok, "Effective-index method with built-in perturbation correction for integrated optical waveguides," *Journal of Lightwave Technology*, vol. 14, pp. 223–228, 1996.
  - S. T. Huntington, K. A. Nugent, A. Roberts, P. Mulvaney, and K. M. Lo, "Field characterization of a D-shaped optical fiber using scanning near-field optical microscopy," *Journal of Applied Physics*, vol. 82, pp. 510–513, 1997.

- Publications**
- K. S. Chiang, Y. T. Chow, D. J. Richardson, D. Taverner, L. Dong, L. Reekie, and K. M. Lo, "Experimental demonstration of intermodal dispersion in a two-core optical fibre," *Optics Communications*, vol. 143, pp. 189–192, 1997.
  - K. M. Lo and E. H. Li, "Solutions of the quasi-vector wave equation for optical waveguides in a mapped infinite domains by the Galerkins method," *Journal of Lightwave Technology*, vol. 16, pp. 937–944, 1998.
  - K. M. Lo, "Theoretical studies of AlGaAs-GaAs multiple-quantum-well optical couplers defined by ion-implantation-induced intermixing," *IEEE Journal of Selected Topics in Quantum Electronics*, vol. 4, pp. 765–771, 1998.
  - K. S. Chiang, C. H. Kwan, and K. M. Lo, "Effective-index method with build-in perturbation correction for the vector modes of rectangular-core optical waveguides," *Journal of Lightwave Technology*, vol. 17, pp. 716–722, 1999.
  - D. Wong, W. Xu, S. Fleming, M. Janos, and K. M. Lo, "Frozen-in electrical field in thermally poled fibers," *Optical Fiber Technology*, vol. 5, pp. 235–241, 1999.
- Journal Papers (Continue)
- K. M. Lo and A. T. H. Li, "Galerkins method applied to mapped infinite domains: Vector solutions for optical waveguide modes," *Proceedings of Progress in Electromagnetics Research Symposium (PIERS 97)*, Kowloon, Hong Kong, vol. 2, p. 531, 1997.
- Conference Invited Paper
- K. M. Lo, R. C. McPhedran, I. M. Bassett, and G. W. Milton, "An electromagnetic theory of optical fibre with multiple embedded cylinders," *Proceedings of 17th Australian Conference on Optical Fibre Technology (ACOFT '92)*, IREE, Edgecliff, Australia, pp. 388–391, 1992.
  - K. M. Lo and I. M. Bassett, "Optical fibres with water side pit," *Proceedings of 18th Australian Conference on Optical Fibre Technology (ACOFT '93)*, IREE, Edgecliff, Australia, pp. 352–355, 1993.
  - A. T. H. Li, K. M. Lo, and E. H. Li, "Impurity induced disordering produced lateral optical confinement in AlGaAs and InGaAs (on GaAs) quantum well waveguides," *Proceedings of 1995 IEEE Region 10 International Conference on Microelectronics and VLSI (TENCON '95)*, IEEE, Hong Kong, pp. 85–88, 1995.
  - K. M. Lo and E. H. Li, "Galerkins method applied to mapped infinite domains: Quasi-vector solutions for optical waveguide modes," *Proceedings of First Optoelectronics and Communication Conference (OECC '96)*, Chiba, Japan, pp. 430–431, 1996.
  - K. M. Lo, W. C. H. Choy, and E. H. Li, "Phase modulator defined by impurities induced disordering," in *Infrared Applications of Semiconductors—Materials, Processing and Devices*, M. O. Manasreh, T. H. Myers and F. H. Julien, eds., *Material Research Society Symposium Proceeding (MRS 1996 Fall Meeting, Boston, MA)*, vol. 450, pp. 383–388, 1997.
  - K. M. Lo, "Analysis of AlGaAs/GaAs multiple quantum well dual waveguides defined by ion implantation induced intermixing," in *Infrared Applications of Semiconductors II*, D. L. McDaniel, Jr., M. O. Manasreh, R. H. Miles and S. Sivananthan, eds., *Material Research Society Symposium Proceeding (MRS 1997 Fall Meeting, Boston, MA)*, vol. 484, pp. 467–472, 1998.
  - K. M. Lo and E. H. Li, "Cutoff frequency of quasi-vector mode of optical waveguide with arbitrary refractive index profile," in *Physics and Simulation of Optoelectronic Devices VI*, M. Osinski, P. Blood and A. Ishibashi, eds., *Proceedings of The International Society for Optical Engineering (SPIE)*, vol. 3283, pp. 921–929, 1998.
  - W. Xu, D. Wong, S. Fleming, M. Janos, and K. M. Lo, "Direct measurement of frozen-in field in thermally poled fibres," *Proceedings of 23rd Australian Conference on Optical Fibre Technology (ACOFT '98)*, IREE, Edgecliff, Australia, pp. 201–204, 1998.
- Conference Papers