

Full Resumé - IVAN P. KAMINOW

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Born: March 3, 1930, Union City, New Jersey

Education:

- BSEE, Union College, Schenectady, N.Y. (1952).
- MSE, Univ. of California, Los Angeles (1954), Hughes Aircraft Fellow.
- AM, Ph.D. (Applied Physics), Harvard University (1957, 1960), Bell Labs Fellow.

Employment:

- Member Technical Staff (MTS), Hughes Aircraft Co., Culver City, CA (1952-1954).
- MTS, Bell Telephone Labs, Whippany, N.J. (1954-1956).
- MTS, Bell Telephone Labs, Holmdel, N.J. (1956-1982).
- Distinguished MTS, Bell Telephone Labs, Holmdel, N.J. (1982).
- Head, Broadband Networks Research Department, AT&T Bell Laboratories, Holmdel, N.J. (1984-1996).
- IEEE Congressional Fellow: House of Representatives, Science Committee (Minority) (Jan. - Sep. 1996); Library of Congress, Congressional Research Service, Science Policy Research Division, (Oct. - Dec. 1996).
- Consultant, Lucent Bell Labs, Holmdel, N.J. (1997-1999).
- Senior Science Advisor, Optical Society of America, Washington, D.C. (1999)

- Consultant, Kaminow Lightwave Technology (1997 -).
Patent & Legal Expert: *Ciena v Pirelli*, Howrey & Simon and Fish & Neave (1997); Intellectual Property Development v *TCI*, Baker & Botts (1999); *Kaifa v New Focus*, Weil Gottschall (2000); *Nortel v ONI (Ciena)*, Gibson Dunn and Finnegan Henderson (2001); *Ciena_v Corvis*, [trial, Wilmington, Mike McKeon] Fish & Richardson (2001 - 2003); *Shin-Etsu v Samsung*, [international arbitration, Tokyo] Nishimura & Partners (2003); *Cree v Bridgelux*, Howrey (2007); *Stanford U. v Lucent Technologies et al*, Kirkland & Ellis (2008) [Jordan Malz].

Technical Advisor: Nayna Networks, Phaethon Communications, Novera Optics, Zolo Technology, RedC Optical Networks, Tinnitus Control, GlobalTest

- McKay Professor, Visiting Research Engineer, and Adjunct Professor, EECS, U. California, Berkeley (2004 – present)

Academic:

- Visiting Lecturer, Engineering Dept., Princeton University (1968).
- McKay Lecturer/Professor, EECS Dept., Univ. of California, Berkeley (1977 and 2004).
- Visiting Professor, Columbia University, New York (1986-1987).
- Visiting Professor, NEC Chair, Research Center for Advanced Science and Technology, University of Tokyo (1990-1991).
- Adjunct Professor, Kwangju Institute of Science and Technology, Kwangju, Korea (1997-2000).
- Member, International Review Committee, EE Dept., The Technion – Israel Institute of Technology, Haifa (2000).
- Adjunct Professor, Electrical Engineering Dept., Univ. of California, Berkeley (2004 – present).
- Visiting Research Engineer, ERSO, Univ. of California, Berkeley (2006- present).

Courses at UCB:

- **EE 290F**. Advanced Topics in Optical Fiber Telecommunications, Spring 2004.
- **EE 233**. Lightwave Systems, Spring 2006.
- **EE 298-5**. Plasmonics Seminar, Spring/Fall 2007.

- **EE 298-5/2.** Photonics and Plasmonics Seminar, Spring/Fall 2008; Spring/Fall 2009, Spring/Fall 2010, Spring 2011.

Honors:

- Member, Sigma Xi (1952).
- Hughes Masters Fellowship, UCLA (1952-1954).
- Bell Labs CDTP Fellowship, Harvard (1956-1960).
- Fellow, IEEE (Institute of Electrical and Electronic Engineers) (1974).
- Fellow, APS (American Physical Society) (1975).
- Fellow, OSA (Optical Society of America) (1976).
- Bell Labs Distinguished Member of Technical Staff Award (1982).
- IEEE Quantum Electronics Award (1983).
- Member, National Academy of Engineering (1984).
- Diplomate, American Board of Laser Surgery (1985).
- Visiting Professor, NEC Chair, Research Center for Advanced Science and Technology (RCAS), University of Tokyo (1990-91).
- Life Fellow, IEEE (1994).
- IEEE Congressional Fellow (1996).
- OSA Charles H. Townes Award (1995).
- IEEE/LEOS/OSA John Tyndall Award (1997)
- Fellow, New York Academy of Medicine (1998).
- IEEE Third Millennium Medal (2000).
- Union College ‘Gold’ Alumni Award, ECE Department (2007).
- IEEE Photonics Award (2010).
- OSA Fredrick Ives Medal/Jarus W. Quinn Endowment (2011).

Publications: Papers: 240 +

Patents: 47 issued, 4 pending.

Books:

1. *Laser Devices and Applications*, co-editor with A. E. Siegman, IEEE Press (1973).
2. *An Introduction to Electrooptic Devices*, author, Academic Press (1974).
3. *Optical Fiber Telecommunications II*, co-editor with S. E. Miller, Academic Press (1988).
4. *Optical Fiber Telecommunications III A&B*, co-editor with T. L. Koch, Academic Press (1997).

5. *Optical Fiber Telecommunications IV A Components & B Systems and Impairments*, co-editor with Tingye Li, Academic Press (2002); Chinese translation: E-Shine; publisher: OFTENReading.com (2006).
6. *Optical Fiber Telecommunications V A Components and Subsystems & B Systems and Networks*, co-editor with Tingye Li and Alan Willner, Academic Press/Elsevier (2008); Japanese translation: Ohmsha (2010).

Chapters:

1. Electro-Optic Materials, in *Ferroelectricity; proceedings*, Edward F. Weller, ed., Elsevier (1967), pp. 183-196.
2. Ch. 26. Photonic Local Networks in *Optical Fiber Telecommunications II*, co-editor with S. E. Miller, Academic Press (1988).
3. Ch. 5. Mode-Controlled Semiconductor Lasers, with R. S. Tucker in *Guided-Wave Optoelectronics*, T. Tamir, ed., Springer (1988).
4. Chs. 1A&B. Overview, in *Optical Fiber Telecommunications III A&B*, co-editor with T. L. Koch, Academic Press (1997).
5. Ch. 15A. Advanced Multi-access Lightwave Networks in *Optical Fiber Telecommunications III A&B*, co-editor with T. L. Koch, Academic Press (1997).
6. Foreword to *Handbook of Optical Constants of Solids (Vol. I-V)*, Academic Press (1997).
7. Ch. 1A&B, Overview in *Optical Fiber Telecommunications IV A Components & B Systems and Impairments*, co-editor with Tingye Li, Academic Press (2002).
8. Optical Modulators, in *McGraw-Hill Encyclopedia of Science & Technology*, Vol. 9, New York, NY: McGraw-Hill (2002).
9. Ch. 1A&B, Overview in *Optical Fiber Telecommunications V A Components and Subsystems & B Systems and Networks*, co-editor with Tingye Li and Alan Willner, Academic Press/Elsevier (2008).
10. Foreword to *Ultra-high Frequency Linear Fiber Optic Systems*, (2ed), Kam Y. Lau, Springer (2011)

Miscellaneous:

- “Waveguide Slot Array Design”, with R. J. Stegen, Hughes Aircraft, TM-348, July 1954.
- “Slot Radiators in Rectangular Waveguide”, MSE Thesis, UCLA, June 1954.
- “Pressure Dependence of Ferrimagnetic and Nuclear Magnetic Resonance Properties”, Ph.D. Thesis, Harvard, May 1960.
- Joint Issue on Optical Electronics, Guest Editor with D. R. Herriott, *Proc. IEEE* Vol. 54, Oct. 1966 and *Appl. Optics* Vol. 5, Oct. 1966.
- I. Kaminow and J. B. Griffith, “Internet Technology,” U.S. Library of Congress, Congressional Research Service, Science Policy Research Div., Tech. Rep. 97-392 SPR, March 1997
- Special Issue on Optoelectronics, Guest Editor w Tingye Li and Alan Willner, *J. Lightwave Technology* vol. 24, Dec 2006.

Government:

- Member and President, Tinton Falls Schools Board of Education (1965-1973).
- Member, National Academy of Sciences Evaluation Panel, National Bureau of Standards, Optical Physics Division (1972-1975).
- Consultant, Department of Defense, Advisory Group on Electron Devices (D) (1982-1984).
- Consultant, Air Force (1984-1985).
- Member, National Academy of Sciences Evaluation Panel, National Bureau of Standards, Center for Electronics and Electrical Engineering (1985-1987).
- Member, Panel on Collaboration in Basic Science and Engineering National Research Council, Office of International Affairs (1995-1996).
- IEEE Congressional Fellow, House Science Committee, and Library of Congress, Congressional Research Service, Science Policy Div. (1996).
- Member, NSF SBIR Selection Panel on Optics (1997).
- Member, Naval Research Lab, Optics Div., External Review Board (2000).
- Member, National Academies, National Research Council Evaluation Panel, Ford Foundation Postdoctoral and Dissertation Fellowships for Minorities (2000, 2001, 2008, 2009)

Research:

- Microwave Antenna Arrays (1952-1956).

- Ferrimagnetic and Nuclear Magnetic Resonance at High Pressure – PhD thesis (1956-1960).
- Electrooptic Modulators - first microwave traveling wave modulator, properties of electrooptic materials (1960-1968).
- Laser Raman Scattering in Crystals - early use of lasers in Raman crystal physics, separated lattice and electronic contributions to non-linear optical and ferroelectric effects in KH_2PO_4 (KDP), LiNbO_3 , GaAs and CuCl, observed “soft-mode” in KDP and LiNbO_3 , stimulated Raman oscillator (1964-1974).
- Distributed Bragg Reflector Laser - co-invented and demonstrated first DBR laser in Rhodamine-doped PMMA, waveguides in PMMA (1970-1973).
- Waveguide Optics - co-invented Titanium Diffused LiNbO_3 waveguides, demonstrated high-efficiency, high-frequency electrooptic and acoustooptic modulators (1972-1979).
- Semiconductor Lasers and LEDs - designed, fabricated and demonstrated first 1.5 μm InGaAsP laser, using novel Ridge Waveguide structure, modulated at microwave frequencies (1979-1984).
- Polarization-Maintaining Fibers - co-invented a strain-birefringent fiber, defined polarization-holding statistics [re: polarization mode dispersions] (1978-1983).
- Photonic Local Networks - early demonstrations of novel TDM, WDM and FDM-FSK non-coherent networks using N x N star coupler (1985).
- Lasers in Medicine, with Dan Choy, MD, (1981-2005).
- WDM Networks and Components - invented a Multifrequency Laser, co - invented AfricaONE architecture (1985-1996).

Administration:

- Head, Photonic Networks and Components, and Broadband Networks Research Departments, Bell Labs (1984-1996).

Societies:

- **OSA:**
 - Member and Chairman, David Richardson Medal Committee (1981-1983).
 - Member, Fraunhofer Medal Committee (1984-1986).
 - Member, Member and Education Services Council (1995-97).

- Member, Nominating Committee (1995-96)
 - Member and Chair, OSA/MRS Congressional Fellow Committee (1997-2002)
 - Member, OSA/SPIE Congressional Fellow Committee (1999-2002).
 - OSA Senior Science Advisor (1999).
 - AIP Governing Board, OSA Representative (2000 - 2003).
- **IEEE:**
 - Co-editor, Proceedings Special Issue on Optical Electronics (Oct. 1966).
 - Member, Editorial Board, Proceedings (1967-1974).
 - Member and Chairman, Prize Papers Committee (1971-1974).
 - Member, Awards Board (1973).
 - Co-editor, IEEE Press Book, *Laser Devices and Applications* (1973).
 - Associate Editor, J. Quantum Electronics (1977-1983).
 - Member, Ferroelectrics Committee (1972-1984).
 - Member, Administrative Committee of Quantum Electronics and Applications Society [forerunner of LEOS] (1982-1985).
 - Member, Committee on Communications and Information Policy (USAB) (1992-1995).
 - Chair, IEEE/LEOS Wm Streifer Scientific Achievement Award Cmte (2001- 2004).
- **APS:**
 - Member, Advisory Committee on First Annual Buyers' Guide (1984).
- **AIP:**
 - Member, Governing Board (2000-2003)
 - Member, Committee on Committees (2001-2004)
 - Member, Congressional Fellow Committee (2001- 2004).
- **NAE:**
 - Executive Committee, Section 7, Electronics Engineering (1998 - 2000).
 - Section 7 Liaison with National Research Council (1998 - 2000).
 - NRC Evaluation Panel, Ford Foundation Postdoctoral and Dissertation Fellowships for Minorities (2000 - 2009).

Meetings:

- Chairman, Program Subcommittee, CLEO '81 (Washington).
- Chairman, US/Canada Program Committee, IOOC '83 (Tokyo).
- Co-Chairman, NSF Grantee-User Meeting, Cornell, June 1985.
- Chairman, Program Committee, IEEE Semiconductor Laser Conference, Kanazawa, Japan (1986).
- General Chairman, IEEE Semiconductor Laser Conference, Boston (1988).
- Co-Chair, IEEE/LEOS Topical Meeting on "Technologies for a Global Information Infrastructure", Keystone, CO (1995).
- Technical Program Co-chair, APOC2001, Asia-Pacific Optical and Wireless Communications Conf., Beijing, (2001); Steering Committee (2002, 2003).

Bell Labs:

- Instructor, INCEP Course on Non-Linear Optics, MH and Pennsylvania (1972).
- Member, General Research Colloquium Committee (1976-1979).
- Recruiter, Minorities and Women's Programs (SRP, CRFP, GRPW) at Harvard, Brandeis, Berkeley (1974-1984).
- Library User's Committee (1980-1983)
- Consultant, Government Solutions (1997), Cable Systems (1998), Research (1998).

May 2, 2011