Biosketch (NSF style)

Jimmy Xu

Professional Preparation

Drexel University, Philadelphia;	Physics	M.Sc *(bypassed B.Sc.)*	1984
University of Minnesota, Minnesota;	E.E.	Ph.D	1987

Appointments

- **Charles C. Tillinghast, Jr. 1932 University Professor of Engineering and Physics**, Brown University, 1999 – present
- **Fulbright-Tocqueville Distinguished Chair,** France, 2023-24
- **Director**, Nortel Institute for Telecommunications, University of Toronto, 1997 - 1999
- **James Ham Professor of Optoelectronics**, University of Toronto, 1993 – 1999
- **Nortel Professor of Emerging Technologies,** University of Toronto, 1997-1999
- **Associate Professor & James Ham Junior Chair**, University of Toronto, 1990 - 1993
- **Assistant Professor & James Ham Junior Chair**, University of Toronto, 1987 – 1990

'Research Products'

10 representative publications (Selected from 330+ papers in refereed journals; 300+ invited talks)

1. C.-H. Hsu, S. Cloutier, S. Palefsky, and J. Xu, "Synthesis of diamond nanowires using atmospheric-pressure chemical vapor deposition," *Nano Lett.* 10, 3272-3276 *(*2010)
2. C.-H. Hsu and J. Xu, "Diamond nanowires - a challenge from extremes," *Nanoscale* 4, 5293 (2012).
3. J. Li, C. Papadopoulos, and J.M. Xu, "Growing Y-junction carbon nanotubes," *NATURE* 402, 253-254 (2000)
4. J. Li, C. Papadopoulos, and J. M. Xu, "Highly-ordered carbon nanotube arrays for electronics applications," *Appl. Phys. Lett.* 75, 367-369 (1999)
5. C. Papadopoulos, A. Rakitin, J. Li, A. S. Vedeneev, and J. Xu, "Electronic transport in Y-junction carbon nanotubes," *Phys. Rev. Lett.* 85, 3476-3479 (2000).
6. S. Cloutier, P. Kossyrev, and J.M. Xu, "Optical gain and stimulated emission in periodic nanopatterned crystalline silicon," *NATURE Materials*, 4, 887-891 (2005*).*
7. J.M. Shainline and J.M. Xu, "Directly-pumped silicon lasers" (invited), *Optics and Photonics News* 19, 34-39 (2008)
8. M. Steward, A.J. Yin, J.M. Xu, and J. Valles, "Superconducting Pair Correlations in an Amorphous Insulating Nano-Honeycomb Film," *SCIENCE*, 318, 1273-1275 (2007)
9. C.-H. Wu, C. Cao, J. H. Kim, C.-H. Hsu, W. Bowen, H. Wanebo, J. Xu, and J. Marshall, "Trojan-horse nanotube on-command intracellular drug delivery", *Nano Lett.* 12, 5475−5480 (2012).
10. G. E. Fernandes, J. H. Kim, A. K. Sood, and J. Xu, "Giant temperature coefficient of resistance in carbon nanotube/phase-change polymer nanocomposites," *Adv. Funct. Mater.* 23, 4678-4683 (2013).

Synergetic Activities:

- **Fulbright-Tocqueville Distinguished Chair Award,** France, January-June 2024
- **Fellow,** AAAS, APS, Guggenheim, IEEE, IoP
- **James M. Ham Chair in Optoelectronics** (awarded jointly by Northern Telecom Ltd., Bell - Northern Research Ltd., and NSERC, 5-year Term), 1992-97
- **Steacie Prize (Canada)**, 1995, (An annual award to one scientist or engineer under 40 for outstanding achievements in the fields of Science and Engineering)
- **Nortel Chair of Emerging Technologies**, University of Toronto, 1997-99
- **Award of Professional Excellence**, Canadian-Chinese Professional Association,1998
- **Conference Board of Canada - NSERC Awards** for "Best Practices in University-Industry R&D", 1998 on behalf of Nortel Institute; and 1995, as individual, 2nd Place (Honorable Mention).
- **Senior Fellow**, Massy College, University of Toronto, 1998
- **Distinguished Lecturer**, IEEE Electron Device Society, 1996, 97, 98, 99, 00, 01, 02
- **NASA Distinguished Visiting Scientist**, Office of NASA JPL's Chief Scientist, 2000-02
- **NASA Tech Brief Award** for NTR no 30207, "Waveguide-Embedded Carbon Nanotube Array RF Filter and RF Filter Bank" by B. Hunt, M. Honek, F. Noca, and J.M. Xu.
- **Distinguished Visiting Professor**, POSTECH, Korea, Summer, 2003
- **Charles C. Tillinghast University Professor**, Brown University, 2005-present
- **Guggenheim Fellow**, 2005 (one of the four in all fields of engineering that year)
- **World Class University (visiting) Professor**, Seoul National University, Korea, 2008-13
- **Chang-Jiang Chair Professor (visiting),** 2014-17, UESTC
- Selected as one of the 24 **Successes of the AFRL** research program in 2008("AFRL NanoScience Technologies", pp.29, 24 Nov 2008)
- Selected as a success story in ARO YearinReview 2022.
  - **Editorial Board:** IoP, J. of Physics D, UK, 2003-05; IEEE Transactions on Electron Devices, Editor (compound semiconductor), 1992-1997
  - **Advisor:** Samsung SAIT, Samsung SDS, IMS of NRC Canada (three 3-year terms); Brown University (Academic Priorities, University Budget/Resources); Nortel Networks Inc., Nortel Technologies Inc., Bell-Northern Research Ltd., Cebra Ltd, LightCross Ltd., Altamira Funds, Bessemer Venture Capital, Matrix Partners; Foreign Associate, Canadian Institute of Advanced Research, 1999-04.
  - **Reviewer** for NSF, DoD, DoE, DTRA, Germany, Korea, Norway, Ireland, Canada agencies
  - **Outreach:** Advisor/mentor to summer interns from high schools and to exchange students from France, Japan, Korea, China, Pakistan, and Turkey.

30 current and former students received 33 national, international, and university prizes/awards for their accomplishments in thesis research