

# LAWRENCE CARIN

## Education

**Ph. D.** in Electrical Engineering, August 1989  
University of Maryland  
College Park, MD

**M.S.E.E.**, December 1986  
University of Maryland, College Park

**B.S.E.E.**, May 1985  
University of Maryland, College Park

## Employment

**Vice Provost for Research**, 7/1/2014 – present  
Duke University

**Chair, Electrical & Computer Engineering Department**, 9/1/2011 – 6/30/2014  
Duke University

**William H. Younger Distinguished Professor of Engineering**, 7/1/2003 – 1/1/2014  
Duke University

**Co-Founder and Director of Technology**, 5/1/2005 – 9/1/2014  
Signal Innovations Group, Inc. (Acquired by BAE Systems in 2014)  
Durham, NC

**Professor**, 1/1/2001 – present  
Department of Electrical Engineering  
Duke University  
Durham, N.C.

**Associate Professor**, 8/1/1995 – 12/31/2000  
Department of Electrical Engineering  
Duke University

**Associate Professor**, 9/1/1994-7/31/1995  
Department of Electrical Engineering  
Polytechnic University  
Brooklyn, N.Y.

**Assistant Professor**, 9/1/1989-8/31/1994  
Department of Electrical Engineering  
Polytechnic University

## HONORS

William H. Younger Distinguished Professor of Engineering (2003-2014)  
IEEE Fellow (2001)  
Distinguished Alumnus, University of Maryland Engineering School (2014)  
Research Award, Duke University School of Engineering (2002)  
Nominated for Duke University Alumni Distinguished Undergraduate Teaching Award (2001-2002)  
Member, White House Advisory Panel on the Future of Landmine Research (2002)  
Best Paper, OSA Computational Optical Sensing and Imaging, 2013  
2000 Applied High-Power Electromagnetics Paper of the Year (conferred by SUMMA Foundation)  
DoD SERDP Cleanup Project of the Year (2000 and 2005)  
National Science Foundation Research Initiation Award (1992)  
Invited Guest Editor, *IEEE Trans. Geoscience Remote Sensing*, June 2001 (on subsurface sensing)  
Invited Guest Editor, *Radio Science*, 2003 (on landmine sensing)  
Associate Editor: *IEEE Trans. Signal Processing*, *J. Machine Learning Research*, *SIAM J. Imaging Science*, *IEEE Trans. Antennas and Propagation*  
PI, Multidisciplinary University Research Initiative (MURI) on landmine sensing, 1996-2001  
PI, DARPA MURI on multi-modality inverse scattering, 2002-2007  
Full Member, URSI Commission B  
Tau Beta Pi and Eta Kappa Nu

## REFEREED PUBLICATIONS

- [1] L. Carin, K. J. Webb, and S. Weinreb, "Matched windows in circular waveguide," *IEEE Trans. Microwave Theory Tech.*, vol. MTT-36, pp. 1359-1362, Sept. 1988.
- [2] L. Carin and K. J. Webb, "Characteristic impedance of multi-level, multiconductor hybrid mode microstrip" *IEEE Trans. on Magnetics.*, vol. 25, pp. 2947-2949, July 1989.
- [3] L. Carin and K. J. Webb, "An equivalent circuit model for terminated hybrid-mode multiconductor transmission lines," *IEEE Trans. Microwave Theory Tech.*, vol. MTT-37, pp. 1784-1793, Nov. 1989.
- [3] L. Carin and K. J. Webb, "Pulse propagation on multi-layered circuit level interconnects," *J. of E. M. Waves and Appl.*, vol. 4, pp. 229-245, Mar. 1990.

- [4] G. W. Slade, L. Carin, Q. Xu, S. E. Borchardt and K. J. Webb, "A study of fin-line leaky-wave antennas," *IEEE Trans. Antennas and Prop.*, vol. AP-38, pp. 411-413, Mar. 1990.
- [5] L. Carin and K. J. Webb, "Isolation effects in single and dual plane VLSI interconnects" *IEEE Trans. Microwave Theory Tech.*, vol. MTT-38, Apr. 1990.
- [6] L. Carin, "Efficient analysis of high-frequency two-dimensional effects in multiconductor printed interconnects" *IEEE Trans. Microwave Theory Tech.*, Jan. 1992.
- [7] L. Carin and N. K. Das, "Leaky-waves on broadside-coupled microstrip," *IEEE Trans. Microwave Theory Tech.*, Jan. 1992.
- [8] L. Carin and L. B. Felsen, "Design-oriented parametrization of truncated periodic gratings," *IEEE Microwave and Guided Wave Letts.*, vol. 2, pp. 367-369, Sept. 1992.
- [9] L. Carin and L. B. Felsen, "Efficient numerical-analytic analysis of ultra-wideband plane wave scattering from a collection of strips," *Int. J. Num. Model.*, vol. 6, pp. 3-17, Jan. 1993.
- [10] L. Carin and K. Agi, "Ultra-wideband transient scattering measurements using optoelectronically switched antennas," *IEEE Microwave Theory Tech.*, vol. 41, pp. 250-254, Feb. 1993.
- [11] D. Kralj and L. Carin, "Short-pulse scattering measurements from dielectric spheres using optoelectronically switched antennas," *Appl. Phys. Lett.*, vol. 62, pp. 1301-1303, Mar. 15, 1993.
- [12] L. Carin and L. B. Felsen, "Time-harmonic and transient scattering by finite periodic flat strip arrays: Hybrid (Ray)-(Floquet Mode)-(MOM) algorithm and its GTD interpretation," *IEEE Trans. Antennas Propagat.*, vol. 41, pp. 412-421, April 1993.
- [13] L. Carin, L. B. Felsen, and M. McClure, "Time-domain design-oriented parametrization of truncated periodic gratings," *IEEE Microwave and Guided Wave Letts.*, vol. 3, pp. 110-112, April 1993.
- [14] L. Carin, K. Agi, K. M. Leung, B. A. Garetz, "Characterization of layered dielectrics with short electromagnetic pulses," *IEEE J. Quantum Elect.*, pp. 2141-2144, July 1993.
- [15] L. Carin, D. R. Kralj, M. R. Melloch, and J. M. Woodall, "Characterization of planar antennas fabricated on GaAs epilayers containing As cluster for picosecond short-pulse applications," *IEEE Microwave and Guided Wave Letts.*, Sept. 1993.
- [16] L.B. Felsen and L. Carin, "Wave-oriented processing of scattering data," *Elect. Letters*, vol. 29, pp. 1930-1932, Oct. 28, 1993
- [17] L. Carin, L.B. Felsen, S.U. Pillai, D. Kralj, and W.C. Lee, "Dispersive modes in the time domain:

analysis and time-frequency representation," *IEEE Microwave and Guided Wave Letters*, vol. 4., pp. 23-25, Jan. 1994.

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[23] A. Sullivan and L. Carin, "Scattering by 2-D strips using an asymptotic hybrid (method of moments)-(physical optics) technique," *Microwave and Optical Technology Letts.*, Aug. 20, 1994.

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interconnects," *IEEE Trans. Microwave Theory and Tech.*, vol. 46, pp. 450-457, May 1998.

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conducting targets above or embedded in a lossy half space,” *IEEE Trans. Geoscience Remote Sensing*, vol. 38, pp. 1567-1579, July 2000.

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