Revised Tuesday, March 26, 24

Ramakrishna Janaswamy

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EDUCATION:

Ph.D.: University of Massachusetts, Amherst, Electrical Engineering, 1986.
M.Tech.: Indian Institute of Technology, Kharagpur, India, Electronics & Communication Engineering, 1983.
B.Tech.: Regional Engineering College (Now National Institute of Technology), Warangal, India, Electronics & Communication Engineering, 1981.

PROFESSIONAL HISTORY:

2001-Present: Professor, Department of Electrical & Computer Engineering, University of Massachusetts, Amherst; Graduate Program Director (2005-2008); Chair, College Personnel Committee (2006-2009, 2010-2012), Member of Graduate Council and the Academic Standards Subcommittee (2005-2008), (2017-2020), Executive Board Member, Massachusetts Society of Professors (2004-2006).

1987-2001: Professor (2000), Tenure (1992), Associate Professor (1991), Assistant Professor (1987-1991), Department of Electrical & Computer Engineering, Naval Postgraduate School, Monterey, California.

Sep 1997-Jun 1998: Visiting Researcher, Center for PersonKommunikation, Aalborg University, Denmark.

1986-1987: Assistant Professor of Electrical Engineering, School of Engineering & Physical Sciences, Wilkes University, Wilkes-Barre, Pennsylvania.

Summer 1994: NASA Ames Research Center, Moffett Field, California.
Summer 1995: SPAWARSYSCEN, San Diego, California.
Summer 1987: Dept. of ECE, University of Illinois, Urbana, Illinois.

HONORS & AWARDS:

- Certificate of Appreciation for Outstanding Contribution from IEEE Standards Association, for development of IEEE Std 211-2018, Sep 2018; IEEE Std 356-2020, Oct 2020.
- Distinguished Alumni Professional Achievement Award, National Institute of Technology, Warangal, India, Oct 2017.
- College of Engineering Outstanding Teacher, University of Massachusetts, Amherst, 2014.
- Distinguished Foreign Scientist Award, Council of Scientific and Industrial Research, India, Aug 2013.
- Fellow of Electromagnetics Academy, 2013.
- Fellow of IEEE, Jan 2003; Life Fellow, Jan 2024.
- Recipient, IEEE Third Millennium Medal, Jan 2000.
- Recipient, 1995 IEEE AP-S RWP King Prize Paper Award (one per year), IEEE Transactions on Antennas and Propagation.
- Certificate of Recognition for Outstanding Research Contributions, Office of Naval Research, 1995; Naval Postgraduate School, 1991.
- All India First Rank holder in the Graduate Aptitude Technical Examination (GATE),1983.
- Gold Medal awarded for standing 1$^{st}$ in the aggregate 5-year undergraduate program, Regional Engineering College (Now NIT), Warangal, India, 1981. Name included in the ECE Roll of Honor List.

RESEARCH ACTIVITIES:

*Patent*:

R. Janaswamy and D. Gupta, “System and Method for Adaptive Correction to Phased Array Antenna Array Coefficients through Dithering and Near-field Sensing,’’ US 8,299,964 B2, Oct 2012.

PUBLICATIONS:

*Books*:

[RJ20a] R. Janaswamy, Engineering Electrodynamics: A Collection of Theorems, Principles and Field Representations, Bristol, UK: Institute of Physics, pp. 575, Dec 2020; 2nd Ed, Dec 2024, ISBN 978-0-7503-1716-0, ISBN 978-0-7503-1714-6.

[RJ00c] R. Janaswamy, Radiowave Propagation and Smart Antennas for Wireless Communications, Boston: Kluwer Academic Publishers, pp. 312, Nov 2000, ISBN-13: 978-0792372417, ISBN-10: 0792372417.

*Book Chapters*:

[RJ01b] R. Janaswamy, Spatial Diversity in Wireless Communications, Handbook of Antennas in Wireless Communications, L. Godara, Ed., CRC Press, Aug 2001.

[RJ05a] R. Janaswamy, Signal Fading in Radio Communications, Wiley Encyclopedia of RF and Microwave Engineering, K. Chang (Ed.), 2005.

*IEEE Standards*: (Joint Author)

IEEE Std 356-2020, IEEE Guide for Measurements of Electromagnetic Properties of Earth Media, Sep 2020.

IEEE Std 211-2018, IEEE Standard Definition of Terms for Radio Wave Propagation, Oct 2018.

*Refereed Journal Articles*:

Antenna Analysis & Design:

[RJ23b] R. Janaswamy, ``Exact transient analysis of a biconical antenna of arbitrary length and cone angle,'' IEEE Trans. Antennas and Propagation, vol. 71 (8), pp. 6340-6353, Aug 2023.

[RJ22a] R. Janaswamy, ``Input admittance, directivity and quality factor of biconical antenna of arbitrary cone angle,'' IEEE Trans. Antennas and Propagation, vol. 70(5), pp. 3248-3258, May 2022; Errata, Jan 2024.

[RJ17c] J. A. Maloney, D.H. Kwon, S. D. Keller, and R. Janaswamy, ``Realistic GPS coverage prediction for dual-polarized controlled reception pattern antennas,'' IEEE Antennas Wir. Propagat., Lett., vol. 16, pp. 1907-1910, 2017.

[RJ17d] K. Selvan and R. Janaswamy, ``Fraunhoffer and Fresnel Distances: Unified derivation for aperture antennas,'' IEEE Antennas and Propagation Magazine, Aug 2017.

[RJ10b] R. Janaswamy, D. Gupta, and D. H. Schaubert, “Adaptive correction to array coefficients through dithering and near-field sensing,’’ IEEE Trans. Antennas and Propagation, vol. 58(11), pp. 3558-3567, Nov 2010.

[RJ89] R. Janaswamy, “An accurate moment method model for the tapered slot antenna,” IEEE Trans. Antennas and Propagation, vol. 37 (12), pp. 1523--1528, Dec 1989.

[RJ87a] R. Janaswamy and D. H. Schaubert, “Analysis of the tapered slot antenna,” IEEE Trans. Antennas and Propagation, vol. 35 (9), pp. 1058--1065, Sep 1987.

[RJ86b] R. Janaswamy, D. H. Schaubert and D. M. Pozar, “Analysis of the TEM mode tapered slot antenna,” Radio Science, vol. 21 (5), pp. 797--804, Sep-Oct 1986.

Computational Electromagnetics:

[RJ17a] R. Janaswamy, ``Field determination near plasmonic structures by the Feynman-Kac stochastic representation,'' IEEE Antennas Wir. Propagat. Lett., vol. 16, pp. 1643-1646, 2017.

[RJ 2014] S. Ozbayat, S and R. Janaswamy, “Assessment of adaptive sparse grid collocation methods in wave propagation environments with uncertainty,'' IEEE Trans. Antennas and Propagation, vol. 62(12), pp. 6354-6364, Dec 2014.

[RJ11a] S. Ozbayat and R. Janaswamy, “Effective local absorbing boundary conditions for a finite-difference implementation of the parabolic equation,'' IEEE Trans. Antennas and Propagation, vol. 59 (5), pp. 1616-1625, May 2011.

[RJ02a] J. R. Kuttler and R. Janaswamy, “Improved Fourier transform methods for solving the parabolic equation,'' Radio Science, vol. 37 (2), pp. 5.1—5.11, Mar-Apr 2002.

[RJ97] R. Janaswamy and Y. Liu, “An unstaggered, colocated finite difference method for solving time domain Maxwell's equations in curvilinear coordinates,” IEEE Trans. Antennas and Propagation, vol. 45 (11), pp. 1584-1591, Nov 1997.

[RJ95] P. Dutta, Y. Joshi and R. Janaswamy, “Thermal modeling of tungsten arc-welding process with non-axi-symmetric boundary conditions,'' Numer. Heat Tr. A-Appl., vol. 27 (5), pp. 499-518, May 1995.

[RJ92b] R. Janaswamy, “2-D radiation boundary conditions on an arbitrary outer boundary,” Microwave and Optical Technology Letters, vol. 5 (8), pp. 393--395, Jul 1992.

[RJ91] R. Janaswamy, “On the applicability of OSRC technique to homogeneous scatterers,” IEEE Trans. Antennas and Propagation, vol. 39 (6), pp. 862--867, Jun 1991.

[RJ87b] R. Janaswamy, “A simplified expression for the self/mutual impedance between two coplanar and parallel surface monopoles,” IEEE Trans. Antennas and Propagation, vol. 35 (10), pp. 1174--1176, Oct 1987.

Deterministic Wave Propagation:

[RJ19b] L. Azpilicueta, F. Falcone, and R. Janaswamy, ``Hybrid computational techniques: electromagnetic propagation analysis in complex environments, IEEE Antennas and Propagation Magazine, vol. 61 (6), pp. 20-30, Dec 2019.

[RJ17b] L. Azpilicueta, F. Falcone, and R. Janaswamy, ``A hybrid ray launching-diffusion equation approach for propagation prediction in complex indoor environments,'' IEEE Antennas Wir. Propagat. Lett., vol. 16, pp. 214-217, 2017.

[RJ13b] R. Janaswamy, “Direct solution of current density induced on a rough surface by forward propagating waves,” IEEE Trans. Antennas and Propagation, vol. 61(7), pp. 3728-3738, Jul 2013.

[RJ10a] R. Martelly and R. Janaswamy, “Modeling radio transmission loss in curved, branched and rough-walled tunnels with the ADI-PE method,’’ IEEE Trans. Antennas and Propagation, vol. 58(6), pp. 2037-2045, Jun 2010.

[RJ09f] R. Martelly and R. Janaswamy, “An ADI-PE approach for modeling radio transmission loss in tunnels,’’ IEEE Trans. Antennas and Propagation, vol. 57(6), pp. 1759-1770, Jun 2009.

[RJ06c] Z. H. Lai and R. Janaswamy, “Specular propagation over rough surfaces: numerical assessment of Uscinski and Stanek’s mean Green’s function technique,’’ Waves in Random and Complex Media, vol. 16(2), pp. 137-150, May 2006.

[RJ03a] R. Janaswamy, “Path loss predictions in the presence of buildings on flat terrain: A 3D parabolic equation approach,’’ IEEE Trans. Antennas and Propagation, vol. 51(8), pp. 1716-1728, Aug 2003.

[RJ00b] R. Janaswamy and K. Rizk, “Addendum to path loss predictions in urban areas with irregular terrain topography,’’ Wireless Personal Communications, vol. 14 (3), pp. 303-304, Sep 2000.

[RJ00a] R. Janaswamy and J. B. Andersen, “Path loss predictions in urban areas with irregular terrain topography,” Wireless Personal Communications, vol. 12 (3), pp. 255-268, Mar 2000.

[RJ98] R. Janaswamy, “A curvilinear coordinate based, split-step parabolic equation method for propagation predictions over terrain,” IEEE Trans. Antennas and Propagation, vol. 46 (7), pp. 1089-1097, Jul 1998.

[RJ94] R. Janaswamy, “A fast finite difference method for propagation predictions over irregular, inhomogeneous terrain,” IEEE Trans. Antennas and Propagation, vol. 42 (9), pp. 1257--1267, Sep 1994.

[RJ92c] R. Janaswamy, “A Fredholm integral equation approach to propagation predictions over small terrain irregularities,” IEEE Trans. Antennas and Propagation, vol. 40 (11), pp. 1416--1422, Nov 1992.

Electromagnetic Scattering:

[RJ11b] R. Janaswamy, “On the EM degrees of freedom in scattering environments,’’ IEEE Trans. Antennas and Propagation, vol. 59 (10), pp. 3872-3881, Oct 2011.

[RJ92a] R. Janaswamy, “Oblique scattering from lossy periodic surfaces with application to anechoic chamber absorbers,” IEEE Trans. Antennas and Propagation, vol. 40 (2), pp. 162--169, Feb 1992.

[RJ88] R. Janaswamy and S. W. Lee, “Scattering from dipoles loaded with diodes,” IEEE Trans. Antennas and Propagation, vol. 36 (11), pp. 1649--1651, Nov 1988.

Electromagnetic Theory:

[RJ17f] R. Janaswamy, ``Consistency requirements for integral representations of Green’s functions, Pt II: An erroneous representation,’’ IEEE Transactions Antennas and Propagation, vol. 66(8), pp. 4069-4076, Aug 2018.

[RJ17e] R. Janaswamy, ``Consistency requirements for integral representations of Green’s functions, Pt I’’, IEEE Transactions Antennas and Propagation, vol. 66(8), pp. 4060-4068, Aug 2018.

[RJ13c] R. Janaswamy, ``Comments on “A Physics Based Green’s Function for
Analysis of Vertical Electrical Dipole Radiation Over an Imperfect Ground Plane”’, IEEE Trans. Antennas and Propagation, Oct 2013.

[RJ13a] R. Janaswamy, “On random time and on the relation between wave and telegraph equations,” IEEE Trans. Antennas and Propagation, vol. 61(5), pp. 2735-2744, May 2013.

[RJ03b] R. Janaswamy, “A note on the TE/TM decomposition of electromagnetic fields in three-dimensional homogeneous space,’’ IEEE Trans. Antennas and Propagation, vol. 52(9), pp. 2474-2477, Sep 2004.

[RJ01a] R. Janaswamy, “Radio wave propagation over a non-constant immittance plane,’’ Radio Science, vol. 36(3), pp. 387-405, May-Jun 2001.

[RJ90b] R. Janaswamy, “Wiener-Hopf analysis of the asymmetric slotline,” Radio Science, vol. 25 (5), pp. 699--706, Sep-Oct 1990.

Microwave Circuits:

[RJ2015a] R. Janaswamy, “General Properties for Determining Power Loss and Efficiency of Passive Multi-Port Microwave Networks,’’ IETE Technical Review, 20 Jul 2015, DOI:10.1080/02564602.2015.1064330

[RJ90a] R. Janaswamy, “Even mode characteristics of the bilateral slotline,” IEEE Trans. Microwave Theory Tech., vol. 38 (6), pp. 760--765, Jun 1990.

[RJ86a] R. Janaswamy and D. H. Schaubert, “Characteristic impedance of a wide slotline on a low permittivity substrate,” IEEE Trans. Microwave Theory Tech., vol. 33 (8), pp. 900--902, Aug 1986.

[RJ85] R. Janaswamy and D. H. Schaubert, “Dispersion characteristics of wide slotlines on low permittivity substrates,” IEEE Trans. Microwave Theory Tech., vol. 32 (8), pp. 723--726, Aug 1985.

[RJ84] B. N. Das, J. Ramakrishna, and B. K. Sarap, “Resonant conductance of inclined slots on the narrow wall of a rectangular waveguide,’’ IEEE Trans. Antennas and Propagation, vol. 32(7), pp. 759-761, Jul 1984.

MIMO Communication Systems:

[RJ09e] J. Xu, D. Goeckel and R. Janaswamy, “The capacity of MIMO systems with increasing SNR by electromagnetic analysis,’’ IEEE Trans. Wireless Commun., vol. 8(9), pp. 4752-4761, Sep 2009.

[RJ09d] J. Xu and R. Janaswamy, “Angular correlation properties with random multiple scattering,’’ IEEE Trans. Signal Processing, vol. 57(7), pp. 2651-2659, Jul 2009.

[RJ09c] J. Xu and R. Janaswamy, “A double-angular propagation model with cluster scattering,’’ IEEE Trans. Antennas and Propagation, vol. 57(4), pp. 1228-1240, Apr 2009.

[RJ06a] J. Xu and R. Janaswamy, “Electromagnetic degrees of freedom in 2-D scattering environments,’’ IEEE Trans. Antennas and Propagation, vol. 54(12), pp. 3882-3894, Dec 2006.

[RJ05b] S-Q. Wei, D. Goeckel and R. Janaswamy, “On the asymptotic capacity of MIMO systems with antenna arrays of fixed length,’’ IEEE Trans. Wireless Commun., vol. 4(4), pp. 1608-1621, May 2005.

[RJ05c] B. N. Getu and R. Janaswamy, “The effect of mutual coupling on the capacity of the MIMO cube,’’ IEEE Antennas Wir. Propagat. Lett., vol. 4, pp. 240-244, 2005.

[RJ02d] R. Janaswamy, “Effect of element mutual coupling on the capacity of fixed length linear arrays, IEEE Antennas Wir. Propagat. Lett., vol. 1, pp. 157-160, 2002.

Notable Conference Publication:

R. Janaswamy, “Analytical expressions for the ergodic capacities of certain MIMO systems by the Mellin transform,” IEEE Global Communications Conference (GLOBECOM’03), vol. 1, pp. 287–291, 2003.

(Contents of this publication have been included in two recent books: Foundations of MIMO Communications, R. W. Heath, Jr. and A. Lozano, 2018; Random Matrix Theory and Wireless Communications, A. M. Tulino and S. Verdu, 2004.)

Quantum Mechanical Methods:

[RJ09b] R. Janaswamy, "Transitional probabilities for the four-state random walk on a lattice in the presence of partially reflecting boundaries,'' J. Mathematical Physics, vol. 50(5), Pages: 053301 (11 pp), May 2009.

[RJ09a] R. Janaswamy, "Transparent boundary condition for the parabolic equation modeled by the 4RW,'' IEEE Antennas Wir. Propagat. Lett., vol. 8, pp. 23-26, 2009.

[RJ08c] R. Janaswamy, "Transitional probabilities for the 4-state random walk on a lattice,'' J. Phys. A: Mathematical & Theoretical, vol. 41, Pages: 155306 (11pp), Apr 2008.

Statistical Wave Propagation:

[RJ08b] J. Xu and R. Janaswamy, "On the diffusion of electromagnetic waves and applicability of diffusion equation to multipath random media,'' IEEE Trans. Antennas and Propagation, vol. 56(4), Apr 2008.

[RJ06b] R. Janaswamy, "An indoor pathloss model at 60 GHz based on transport theory,'' IEEE Antennas Wir. Propagat. Lett., vol. 5, pp. 58-60, 2006.

[RJ02c] R. Janaswamy, "Angle of arrival statistics for a 3D spheroid model,'' IEEE Trans. Vehicular Tech., vol. 51(5), pp. 1242-1247, Sep 2002.

[RJ02b] R. Janaswamy, "Angle of arrival and time of arrival statistics for Gaussian scatter density model,'' IEEE Trans. Wireless Commun., vol. 1 (3), pp. 488-497, Jul 2002.

Radar Systems:

[RJ06d] Y. Hao, D. Goeckel, R. Janaswamy, and S. Frasier, "Surface Refractive Index (RI) field estimation from multiple radars,'' Radio Science, vol. 41, pp. RS3002, 1-18, 2006.

[RJ06e] Z. Culcouglu, S. Frasier and R. Janaswamy, "Considerations for bistatic probing of clear-air winds at short radio wavelength," Radio Science, vol. 41, pp. RS3003, 1-11, 2006.

Signal Processing/ System Modeling:

[RJ23a] H. Bai, M.F. Duarte, and R. Janaswamy, ``Cramér–Rao Bounds for DoA Estimation of Sparse Bayesian Learning with the Laplace Prior,'' MDPI Sensors, 23(1), pp. 1-15, 2023.

[RJ19a] H. Bai, M. F. Duarte, and R. Janaswamy, ``Direction of Arrival Estimation for Complex Sources Through $\ell_1$ Norm Sparse Bayesian Learning,'' IEEE Signal Processing Letters, vol. 26(5), pp. 765-769.

[RJ18a] R. Janaswamy, P. Loring, and J. McLaren, ``A state space technique for wildlife position estimation using non-simultaneous signal strength measurements,'' arXiv preprint arXiv:1805.11171, May 2018.

Wireless Networks:

[RJ08a] V. Namboodiri, L. Gao and R. Janaswamy, "Power efficient topology control for static wireless networks with switched beam directional antennas,'' Elsevier Ad Hoc Networks, Vol. 6, No. 2, Apr 2008.

TEACHING ACTIVITIES:

GRADUATE COURSES TAUGHT:

Nonlinear Dynamics and Engineering Applications (course developed); Modern Methods in EM Analysis (course developed); Linear Systems Theory; Microwave and RF Design of Wireless Systems; Wireless Propagation and Smart Antennas (course developed); Communications Engineering; Fiber Optic System Fundamentals; Optoelectronic Engineering; Advanced Electromagnetic Theory; Introduction to Radar Systems; Antenna Theory and Design; Microwave Active Devices; Electromagnetic Radiation; Scattering & Propagation; and Radiowave Propagation (course developed).

UNDERGRADUATE COURSES TAUGHT:

Analytical Tools for ECE; Modern Physics and Materials for Electrical Engineers; Microwave Engineering II; Probabilistic Analysis of Signals and Systems; Fourier Analysis of Signals and Systems; Analog and Digital Communication Systems; Circuit Analysis-I; Introduction to MATLAB; Introduction to Fields and Waves-I, II; Electromagnetic Engineering; Microwaves & Antenna Systems; Microwave & Communications Lab; Fiber Optic Communications.

GRADUATE MENTORING:

Supervised the completion of 25 Master's theses, 1 Engineer's degree, 6 PhD dissertations, and 3 post-doctoral research fellowships. Mentees are all well settled in Industry/Academia.

PROFESSIONAL SHORT COURSES TAUGHT:

Electromagnetic Fields and Waves, KL University, Vijayawada, India, 2009-2010.
Antenna Theory and Radiowave Propagation, Sprint PCS, Overland Park, Mar 2004.
Wireless Propagation and Smart Antennas, Sprint PCS, Lenexa, KS, Nov 2003.
Radiowave Propagation and Antennas, Sprint PCS, Overland Park, Kansas, May 2003.
Wireless Propagation & Smart Antennas, IEEE AP-S International Symposium/URSI Meeting, San Antonio, Jun 2002.
Wireless Propagation & Smart Antennas, IEEE AP-S International Symposium/URSI Meeting, Boston, Jul 2001.
Array Antennas for Wireless Communications, IEEE Symposium on Phased Array Systems and Technology, Dana Point, California, May 2000.
Radiowave Propagation and Adaptive Antennas, Swedish Defense College, Stockholm, Sweden, Mar 1999.

OUTREACH & PROFESSIONAL ACTIVITIES:

- Secretary, IEEE Antennas and Propagation Society Standards Committee, Jan 2022-present.
- Vice Chair, IEEE P2816, Recommended Practice for Computational Electromagnetics Applied to Modeling and Simulation of Antennas, 2020-present.
- Voting Member, IEEE Antennas and Propagation Standards Committee, 2013-present.
- Guest Editor, Special issue on Modeling Methods for Wave Propagation in Wireless Systems, IEEE J. Multiscale and Multiphysics Computational Techniques, 2024.
- Associate Editor, Signal Propagation, Frontiers in Antennas & Propagation, Jan 2023-present.
- IEEE Fellows Evaluating Committee, IEEE Antennas and Propagation Society, 2018-2019.
- Associate Editor, IET Electronics Letters, Jul 2015-Jul 2017.
- Technical Program Committee Chair, 2017 Applied Electromagnetics Conference, Dec., 19-21, Aurangabad, India.
- Associate Editor, IEEE Transactions on Antennas & Propagation, Aug 2010-Jul 2016.
- 2010 US Faculty Leader, Indo-US Collaboration for Engineering Education, K. L. University, Vijayawada, India, Jun 21-25, 2010.

- Associate Editor, IETE Technical Review, Aug 2009-Jul 2013.
- Associate Editor, IEEE Transactions on Vehicular Technology, Aug 2003-Jul 2006.
- Associate Editor, Radio Science (of American Geophysical Union), Jan 1999-2003.
- International Program Committee Member, IASTED Int'l Conference on Antennas, Radar and Wave Propagation, 2007, 2010.
- Session Organizer and Chair, 2007 North American Radio Science Meeting, Ottawa, CN.
- Member of Technical Program Committee, EuCAP 2015, IEEE GLOBECOM 2006.
- Member of Technical Program Committee, 2003 IEEE Symposium on Phased Array Systems and Technology, Waltham, MA, Oct 2003.
- Judge, UMass Amherst Regional Science Fair, Mar 25, 2003.
- Chaired technical sessions at the 2008, 2005, 2004, 2003, 2002, 1999 and 1995 Joint IEEE AP-S International Symposium/URSI Meeting, San Diego, CA, Washington, DC, Monterey, CA, Columbus, OH, San Antonio, TX, Orlando, FL and Newport Beach, CA.
- Chairman, IEEE Monterey Bay Subsection, Jul 1998-Jul 2001.
- Member of Technical Programs Committee, Joint IEEE AP-S International Symposium/URSI Meeting, Double Tree Hotel, Salt Lake City, Utah, July 2000, Renaissance Resort, Orlando, FL, Jul 1999.
- Research Adviser in the National Research Council Postdoctoral Research Associateship Programs.
- Elected member of U.S. National Committee of URSI, Commissions B (1995) and F (1998).
- Editor, Perspectives in CEM, Applied Computational Electromagnetics Society Newsletter, January-December 1996.
- External examiner for Ph.D. candidates at Universite Toulouse, France;
  University of Toronto, Canada; Campus Arrosadia, UPNA Pamplona, Navarra, Spain; University of Pretoria, South Africa; Aalborg University, Denmark; University of Technology, Sydney, Australia; KL University, Vijayawada, India, BHU-IT, Varanasi, India.
- Technical Session Chairman (Design) for the 9th Annual MIC Meeting, Organized by Arlon Corporation, San Diego, 1990.
- Invited speaker: 2024 IEICE (Institute of Electronics, Information and Communication Engineers) General Conference, Hiroshima, Japan, March 5, 2024; University of Calcutta, Inst of Radiophysics, Jan 2024; Department of Electrical Engineering, IIT-Madras, Jan 2024, Aug 2023; IEEE Antennas & Propagation Boston Chapter, May 2014; University of Electronic Science and Technology, Chengdu, China, 2013; Department of Electrical & Computer Engineering, University of Pisa, Pisa, Italy, Sep 2009; Raytheon Corporation, Sudbury, MA, Jul 2007; Department of Electrical Engineering, Ohio State University, Jan 2007; Indian Space Research Organization, Bangalore, India, Jul 2000; Physics Department Colloquium, Naval Postgraduate School, Monterey, CA, Aug, 1996; Electrical Engineering Department, University of Nebraska at Lincoln, Nov 1992; Electronics and Radar Development Establishment, Bangalore, India, May 1989; Advanced Technology Seminar Series, organized by the Ben Franklin Technical Center, Lehigh University, Bethlehem, PA, Mar 1987.

- Consultant for
  AntennaSys, Inc., NH
  Project Decibel, Boston, MA
  Town of Pelham, MA
  Wesfield Gas & Electric, Wesfield, MA
  Newlans, Inc., Chelmsford, MA
  Octoscope, MA
  Motorola Corp., Shaumburg, IL
  Comcast Cable Communications, Inc., PA
  Ball Corporation, Boulder, CO
  TRW Corporation, Los Angeles, CA
  Northrop Corporation, Chicago, IL
  Ericsson, Copenhagen, Denmark
  CSELT, Italy
  American Radio Relay League, Washington DC
  Ministry of Defense, Singapore
  Sprint PCS, Kansas

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HOBBIES:
Wildlife Photography, https://www.flickr.com/photos/ramajanaswamy/
Sanskrit studies: Translated Mandukya Upanishad, Agni Suktam, Devi Suktam into English