Daniel Dean Stancil

PRESENT POSITION AND ADDRESS

Professor of Electrical and Computer Engineering
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PERSONAL DATA

Citizenship - U.S.A.

EDUCATION

Ph.D.(1981)	Electrical Engineering, Massachusetts Institute of Technology, Dissertation Title: "Effects of Nonuniform Fields on Magnetostatic Waves in Ferrite Thin Films"
E.E.(1979)	Massachusetts Institute of Technology.
S.M. (1978)	Electrical Engineering, Thesis Title: "Propagation Characteristics and Applications of Circumferentially Corrugated Waveguides."
B.S.(1976)	Electrical Engineering, Tennessee Technological University.

PROFESSIONAL EXPERIENCE

1996 - 2000	APPLIED ELECTRO-OPTICS CORPORATION, Pittsburgh, PA., Co-founder of company to commercialize electro-optic scanning technology based on patterned ferroelectric domain inversion in electro-optic wafers. Merged with Accelight Networks in 2000.
1986 - present	CARNEGIE MELLON UNIVERSITY, Department of Electrical and Computer Engineering, Associate Professor (1986-90), Professor (1990-present), Associate Department Head (1992-1994), Associate Dean for Academic Affairs (1996-2000),

Data Storage Systems Center Thrust Director for Optical Data Storage (1996-1998), Founding Director of the Center for Wireless and Broadband Networking (2002). Courses taught include wireless communications, microwave and optical magnetics, solid state physics, electromagnetics and the freshman introduction to ECE course. Research areas include wireless communications, microwave and optical magnetic devices, magneto-optical recording, and the magnetic properties of superconductors. As Associate Head, played a key role in implementing the new ECE curriculum.

1981-1986 NORTH CAROLINA STATE UNIVERSITY, Raleigh, N.C., Assistant Professor of Electrical Engineering, taught courses in electromagnetics and the theory of magnetism. Active in research on magnetostatic wave devices.

1980-1981 MIT LINCOLN LABORATORY, Lexington, MA, Fourth-time Staff Member.Analytical and numerical modeling of microwave fields in microstrip waveguiding structures.

1977-1980 MASSACHUSETTS INSTITUTE OF TECHNOLOGY, Cambridge, MA, Research Assistant, Teaching Assistant. Research Assistant in Radio Astronomy Group and Microwave and Quantum Magnetics Group, Teaching Assistant for undergraduate course in semiconductor electronics.

1974-1975 N.A.S.A., Hampton, VA, Langley Research Center Cooperative Education Program. Work assignment areas were analog to digital data acquisition systems, computer simulation and analysis of hydraulic control systems, and solid state ultrasonics.

AWARDS, HONORS, AND RECOGNITIONS

1. Third Place, Region 3, IEEE 1975 Student Paper Contest for paper entitled, "Reception and Processing of Weather Satellite Picture Data."
2. Engineering Scholarship Award for highest academic average in college of Engineering, Tennessee Technological University, 1976.
3. Recipient of MIT Endowed Fellowship, 1976-77.
4. Recipient of IBM Applied Research Fellowship, 1980-81.
5. Recipient of Sigma Xi Research Award, North Carolina State University, April 3, 1985.
6. Elected to Senior Member status, Institute of Electrical and Electronics Engineers, December 1991.
7. Listed in Who's Who in Science and Engineering (94/95,2005).
8. Listed in Who's Who Among America's Teachers (1996)
9. Virtual Laboratory Course was one of 5 finalists for a Smithsonian Computerworld Award in the Education and Academia category, June 3, 1996.
10. Carnegie Science Center 1998 Scientist Award (with T.E. Schlesinger).
11. 1998 R&D 100 Award for Motion Free Scanner (with T. Deis, T.E. Schlesinger and R. Unetich).

12. Photonics Spectra 1998 Circle of Excellence Award (received by Applied Electro-optics Corp. for Motion-Free Scanner).
13. Elected IEEE Fellow, class of 2004.
14. Membership in the Electromagnetics Academy, 2004.

INVITED TALKS, PANELS

1. "Guiding Magnetostatic Surface Waves with Nonuniform In-plane Fields," D.D. Stancil and F.R. Morgenthaler. Invited speaker and panelist for Workshop on Applications of Garnet and Ferrite Thin Films to Microwave Devices, 3rd Joint Intermag-Magnetism and Magnetic Materials Conference, Montreal, 20-23 July, 1982.
2. "Thin Film Permanent Magnet Requirements for Magnetic Devices in MMIC," invited talk, Special Session on "Microwave and Millimeter Wave Magnetics and MMIC Compatibility," 1986 IEEE/MTT-S Conference, Baltimore, MD (June, 1986).
3. The above talk on thin film permanent magnets was also presented as an invited talk for the Special Session, "Microwave and MM Wave Magnetics for IC's," 1986 Conference on Magnetism and Magnetic Materials, Baltimore, MD (November 1986).
4. "Integrated Magneto-Optical Devices," Allied signal Corp. Technology, Morristown, NJ, 19 May, 1989.
5. "Integrated Magneto-Optical Devices," ECE Seminar, Sept. 27, 1990.
6. "Integrated Magneto-Optical Devices," The George Washington University, ECE & CS Colloquium Series, Washington, DC, November 19, 1990.
7. "Optical Interactions with Magnetostatic Waves and Applications," invited talk presented at IEEE 1990 Ultrasonics Symposium, Honolulu, Hawaii, December 4-7, 1990.
8. "Magnetostatic Waves and Chaos," Pittsburgh Chapter of IEEE Magnetics Society, 12 September, 1991.
9. "Garnet Heterostructures for Optical-Magnetostatic Wave Devices," invited talk presented at the Seventh International School on Microwave Theory and Techniques, Plovdiv, Bulgaria, 23-29 September, 1991.
10. "Microwave and Optical Magnetics," invited lecturer at NATO ASI on Applied Magnetism, Erice, Sicily, July 1-12, 1992.
11. "Optical-magnetostatic wave coupling in garnet heterostructures," invited talk for workshop at 6th International Conference on Ferrites, Tokyo, September 29-October 2, 1992.
12. "Optical-magnetostatic wave coupling in garnet heterostructures and applications," invited speaker; led 2-3 hour workshop sponsored by the Opto-Magnetics Research Group of the Magnetics Society of Japan, Tokyo Institute of Technology, Tokyo, October 8, 1992.
13. "Interaction of Optical and Magnetostatic Modes in Garnet Films," Univ. of Osnabruck, Germany, 9 August, 1993.

14. D. D. Stancil, "Optical Data Storage," CMU ECE Graduate Seminar, Pittsburgh, PA, September 14, 1995.
15. The above talk was also presented at Pittsburgh Chapter of Optical Society of America, 16 Jan. 1996.
16. "Interactions Between Optical Guided Modes and Nonlinear Magnetostatic Waves," invited lecture at NATO Advanced Research Workshop, Nonlinear Microwave Signal Processing: Toward a New Range of Devices, Rome, Italy, 3-6 October, 1995
17. "Signal Processing Devices using the Optical-Magnetostatic Wave Interaction," invited talk presented at IEEE 1996 INTERMAG Conference, Seattle, WA, April 9-12, 1996.
18. "Virtual Laboratory Experience," invited talk presented at the HP Educational Advisors Workshop, San Francisco, CA, August 12-14, 1996.
19. "Microwave Magneto-optical Interactions," invited talk presented at Army Research Office Workshop on Nanostructured Magnetic Materials, Durham, NC, Sept. 17-18, 1996.
20. "Integrated Optical Devices for Blue Light Generation and High-speed Laser Beam Scanning," CMU ECE Graduate Seminar, Pittsburgh, PA, November 7, 1996.
21. “Integrated Blue Light Source and Scanner for Optical Data Storage,” International Workshop on Hyper MO Storage, Tokyo, Japan, Oct. 25, 1997.
22. “Use of Remote Experimentation in the Undergraduate Electrical Engineering Curriculum at CMU,” Remote Experiments in Science Education Symposium, ALCOM Science & Technology Center, Kent State University, October 28, 2000.
23. “An Integrated Read/Write Head for Hybrid Recording”, T.E. Schlesinger, T. Rausch, A. Itagi, J. Zhu, J.A. Bain, D.D. Stancil, International Symposium on Optical Memory, Taipei, Taiwan, October 16-19, 2001.
24. “Effects of Optical Spot/Magnetic Head Misalignment for Perpendicular Hybrid Magnetic Recording,” T. Rausch, P. Herget, A. Itagi, D. D. Stancil, J. A. Bain, J.-G. Zhu, and T.E. Schlesinger, 8th Magneto-Optical Recording International Symposium 2002 (MORIS 2002), Brittany, France, May 5-8, 2002.
25. “How much can you increase the wireless channel capacity using electromagnetic polarization?” Duke University, Durham, NC, October 18, 2002.
26. “On the Challenges of Achieving Areal Densities with Heat Assisted Magnetic Recording Substantially Greater than with Conventional Magnetic Recording,” James A. Bain, Amit Itagi, T. E. Schlesinger, Daniel D. Stancil, Terry McDaniel, Tim Rausch, and Ed Gage, International Conference on Magnetics (INTERMAG 2004), Anaheim, CA, January 5-9, 2004.
27. “Conceptions of Technology Education,” Chinhoyi University of Technology, Chinhoyi, Zimbabwe, November 13, 2004.

PROFESSIONAL SOCIETY MEMBERSHIPS

Institute of Electrical and Electronics Engineers

Antennas and Propagation Society
Communications Society
Lasers and Electro-optics Society
Magnetics Society
Microwave Theory and Techniques Society
Vehicular Technology Society
Optical Society of America
Sigma Xi
Tau Beta Phi
Phi Kappa Phi
Eta Kappa Nu
Kappa Mu Epsilon
Omicron Delta Kappa

PROFESSIONAL ACTIVITIES

Program Committee Member and Magnetostatic Waves Session Chairman, 1983 Magnetism and Magnetic Materials Conference

Session Chairman, 1987 Magnetism and Magnetic Materials Conference

IEEE Magnetics Society Education Committee 1988-1995, Chairman 1988-1991.
Organized and Chaired Session, "Introduction to High Temperature Superconductors: A Tutorial Symposium for Non-specialists," at 1988 Joint MMM-INTERMAG Conference, organized the session "Magnetic Measurements" at the 1989 INTERMAG Conference, organized and chaired the session, "Topics in Biomagnetism" at the 1990 INTERMAG Conference, and assisted with the organization of the session, "Computers in Magnetic Design and Education," at the 1991 Joint MMM-Intermag Conference.

1989 INTERMAG Conference - Publications Co-chairman, Program Committee Member

1990 INTERMAG Conference - Publications Co-chairman, Program Committee Member

Member, Advisory Committee for the Conference on Magnetism and Magnetic Materials, January 1989-1997

Member, Administrative Committee for IEEE Magnetics Society, January 1989-present

1990 Conference on Magnetism and Magnetic Materials - Program Committee Co-chairman, Steering Committee Member

Local Chairman, 5th Joint MMM-INTERMAG Conference, Pittsburgh, 1991

1991 Conference on Magnetism and Magnetic Materials, Steering Committee Member

1992 Conference on Magnetism and Magnetic Materials, Steering Committee Member

Session Co-chairman, 6th International Conference on Ferrites, 1992

Secretary/Treasurer of IEEE Magnetics Society, 1994

Vice President of IEEE Magnetics Society, 1995-1996

Member of Board of Trustees, Georgetown College, Georgetown, KY, 1996-1999

President of IEEE Magnetics Society, 1997-1998

Session Chairman, 1997 INTERMAG Conference

Past-President of IEEE Magnetics Society, 1999-2000

Board of Directors for Applied Electro-optics, 1996-2000

Technical Advisory Board for Altra-Broadband (Irvine, CA), 2000-2002

CONSULTING ACTIVITIES

Accelight Networks, Inc., Bridgeville, PA, 2000-2002
Design of fiber optic switches

General Motors, Warren, MI, 1999
Trends in ultrawideband communications.

Applied Electro-optics Corporation, Pittsburgh, PA, 1996- 2000
Design of electro-optic laser beam scanners.

ITS Corp., McMurray, PA, 1995-1996
Microwave antenna and RF circuit consultant for wireless applications.

Pine Township, PA, 1995
Consultant on requirements for the height of towers used for cellular telephones.

EXPORTech, Co., Inc., New Kensington, MA, 1993.
Coating and microwave reflectance measurements of aerogels.

U.S. Naval Research Laboratory, Washington, D.C., 1988.
Theoretical study of magnetostatic wave-optical guided mode interactions in multiple layer garnet films.

IBM, Yorktown Heights, NY, 1985.
Theoretical study of experimental methods for detection of the galactic axion halo.

ICI AMERICAS, Goldsboro, NC, 1984.
Design and analysis of capacitance cells for dielectric measurements.

MCDONNELL DOUGLAS ASTRONAUTICS CO., Oakridge, TN, 1982-1984.
Analysis of millimeter wave power distribution system for Elmo Bumpy Torus fusion experiment.

ALLIED CORPORATION, Morristown, NJ; Charlotte, NC, 1982.
Consultant on magnetostatic wave device technology.

IBM, Yorktown Heights, NY, 1982.
Study of magnetic domain dynamics and collective excitations in bubble films.

STEINBRECHER CORP., Woburn, MA, 1979-1980.
Design of data multiplexing systems, digital filters, and microwave cavities.

TEACHING ACTIVITIES

Courses Taught

CMU:

18-232	Applied Solid State Physics Text: M.A. Omar, "Elementary Solid State Physics"
18-712/812	Microwave Magnetics; Microwave and Optical Magnetics Text: Prepared notes and selected papers
18-201	Engineering Electromagnetics (Assisted J. Hoburg twice, assisted by Hoburg once) Texts: H.P. Neff, Jr., "Basic Electromagnetic Fields," H.A. Haus and J.A. Melcher, "Electromagnetic Fields and Energy," and Steven E. Schwarz, "Electromagnetics for Engineers"
18-202	Engineering Electromagnetics II (assisted by J. Hoburg) Text: H.A. Haus & J.A. Melcher, "Electromagnetic Fields and Energy"
18-304	Fields, Waves, and Transmission Lines Text: H.P. Neff, Jr., "Basic Electromagnetic Fields"
18-233	Introduction to Solid State Physics Texts Used: Richard H. Bube, "Electrons in Solids: An Introductory Survey" and Robert F. Pierret, "Advanced Semiconductor Fundamentals."
18-102	Introduction to Electronic Devices and Circuits (Responsible for Laboratories)
18-714	Introduction to Superconductive Devices Text: T. Van Duzer and C.W. Turner, "Principles of Superconductive Devices and Circuits."
18-100	Introduction to Electrical and Computer Engineering Texts: G. Rizzoni, "Principles and Applications of Electrical Engineering," and L. R. Carley and P. Khosla, “Introduction to Electrical and Computer Engineering.”
18-400	High Frequency Circuits Text: D. Pozar, "Microwave Engineering."
18-439	Advanced ECE Laboratory Techniques (Virtual Laboratory) Text: Graphical Programming, A Tutorial for HP VEE, plus prepared labs
18-859/758	Wireless Communications Texts used: T.S. Rappaport, “Wireless Communications: Principles and Practice” and K. Feher, “Wireless Digital Communications, Modulation and Spread Spectrum Applications.”

NCSU:

ECE 303	Electromagnetic Fields Text: J.D. Kraus and K.R. Carver, "Electromagnetics"

ECE 540 Advanced Electromagnetics
Text: H.C. Chen, "Theory of Electromagentic Waves: a Coordinate-Free Approach"
ECE 692M Magnetism in Solids
Text: D.C. Mattis, "The Theory of Magnetism I"
ECE 591W Waves and Fields in Optoelectronics
Text: H.A. Haus, "Waves and Fields in Optoelectronics"

Courses Introduced to Curriculum:

CMU:

18-819	Antennas for Wireless Communications
18-712/812	Microwave and Optical Magnetics
18-714	Introduction to Superconductive Devices
18-439	Advanced ECE Laboratory Techniques (Virtual Laboratory)
18-859/758	Wireless Communications (joint with J. Stonick)

NCSU:

ECE 692M	Magnetism in Solids
ECE 591W	Waves and Fields in Optoelectronics

SPONSORED RESEARCH ACTIVITIES

Principal Investigator

1. "Purchase of a Laboratory Electromagnet for Microwave Magnetics Research at NCSU," 1981 IEEE Magnetics Society Equipment Grant, April 1, 1982 to December 1, 1982; $5,000.
2. "Investigation of Microwave Magnetostatic Waveguides and High-Q Resonators Based on Nonuniformly Magnetized Thin Ferrite Films," National Science Foundation Engineering Research Initiation Grant, July 1, 1982-May 31, 1984; $48,000.00.
3. "A Novel Microwave Magnetoelastic Delay Line," NCSU University Research Committee, July 1, l982-June 30, 1983; $2,000.
4. "A Proposal to Request Support for a Computer System for Microwave Magnetics Research," North Carolina Board of Science and Technology, July 1, 1983-June 30, 1984; $7,500.
5. "Use of Field Gradients and Other Nonuniformities in Nondispersive Magnetostatic Wave Delay Lines," Rockwell International, June 1, 1984-June 30, 1985; $87,524.
6. "Equipment for an Automatic Network Analyzer," NCSU Dean of Engineering, October 1983; $29,644 (D.D. Stancil, R.J. Trew, G.N. Maracas, and M.B. Steer).
7. "Investigation of New Materials and Structures for Magnetostatic Wave Devices," Allied Corporation, January 1, 1983-December 31, 1986; $262,173.

8. "Use of Magnetostatic Waves for Rotation Rate Sensing," National Science Foundation, February 1, 1985-July 31, 1988; $190,229.
9. "RF/Microwave Measurement and Simulation System," NCSU Indirect Cost Reimbursement/Special Appropriations, July 1, 1985-June 30, 1986; $172,439 (D.D. Stancil, M.B. Steer, J.J. Paulos, R.J. Trew, J.F. Kauffman).
10. "Equipment for Optical-Magnetostatic Wave Device Research," National Science Foundation, September 15, 1986-February 29, 1988; $41,011 (including university matching funds).
11. "Magneto-Optical Materials," National Science Foundation, September 15, 1987-February 28, 1989; $74,325.
12. "High Temperature Superconductors," (T.E. Schlesinger, D.W. Greve, and D.D. Stancil), National Science Foundation, October 15, 1987-March 31, 1989; $50,000.
13. "Detecting Magnetostatic Waves with Moving Transducers," National Science Foundation REU supplement for undergraduate research, January 15, 1989-August 31, 1989; $3,078.
14. FMR Spectrometer donated by Allied Signal, Inc., May 1989, valued at $31,000.
15. "Integrated Magneto-Optical Devices for Microwave and Optical Signal Processing," National Science Foundation, July 1, 1989 - June 30, 1992; $227,375.
16. "Lightweight, Small Optical Heads," CMU Magnetics Technology Center, June 1, 1989-Dec. 31, 1989; $22,835.
17. "Use of Optical Fibers in MO Recording Heads," and "Electro-optic Beam Deflection for MO Recording," CMU Data Storage Systems Center, April 15, 1990-April 14, 1991; $79,880.
18. "Compact, Lightweight Optical Heads, "CMU Data Storage Systems Center, May 1, 1991-April 30, 1992, $19,770 plus support for two students; estimated total $78,300.
19. "Laser Deposition of Magnetic Oxide Thin Films," (D.N. Lambeth and D.D. Stancil), Office of Naval Research, March 1, 1991-October 31, 1993; $419,894.
20. "Thin-film Electro-optic Beam Deflector," (D.N. Lambeth, T.E. Schlesinger, D.D. Stancil), Dept. of Commerce (ATP program with NSIC) and DSSC, October 1, 1991-June 30, 1996; $1,671,582.
21. "Magneto-Optical Guided-Wave Devices for Microwave and Optical Signal Processing," National Science Foundation, November 15, 1992-April 30, 1996; $260,000.
22. "Equipment for Undergraduate Virtual Laboratory," (D. D. Stancil, R. Bianchini, D. Greve and Mechanical Engineering Department), Hewlett-Packard, 1995, 1 year; $468,520.
23. "Integrated SHG Waveguide and Scanner," D. D. Stancil, Dept. of Commerce (ATP program with NSIC), June 15, 1993- June 30, 1996; $127,584.
24. "Electromagnetic Wave Propagation in Buildings for Wireless Computing," D. D. Stancil and J. F. Hoburg, AT&T Foundation, Oct. 1, 1995-Sept. 30, 1996; $31,000.

25. "High-performance Optical Heads," (D. D. Stancil and T. E. Schlesinger), CMU Data Storage Systems Center, April 15, 1996-April 14, 1998; $220,000 (estimated equivalent value).
26. “Caterpillar Mobile Communication System,” (B. Bennington, D. Johnson, D. Stancil), Caterpillar Corp., April 1, 1997, 3 years, $2,710,244.
27. “High-performance Optical Heads,” D.D. Stancil, CMU Data Storage Systems Center, May 1, 1998-April 30, 1999, $146,027.
28. “HP EEsof for Wireless Communications Course Laboratory,” D.D. Stancil, Hewlett-Packard, 30 seats; Estimated value: $4M, July, 1998.
29. “High-performance Optical Heads,” D.D. Stancil, CMU Data Storage Systems Center, May 1, 1999-April 30, 2000, $142,887.
30. "Wireless Disk Drive," D. D. Stancil, DSSC, support for 1 student, 1 January, 2000.
31. "Wireless High-Speed Data Distribution in Buildings using Heating and Ventilation Ducts," D. D. Stancil, B. J. Bennington, and V. Kumar, CMU Seed fund, $60,000, October 1, 1999, 1 year.
32. "HVAC Ducts as Wireless Communications Channels for Smart Building Infrastructure," Daniel D. Stancil and Ozan Tonguz, ABB Corporate Research AS, Norway, Jan. 1, 2001, 3 years $670,902.
33. "High-performance Optical Heads," D. D. Stancil, DSSC, May 1, 2000-April 30, 2001, $161,316.
34. “High-performance Optical Heads,” D. D. Stancil, DSSC, May 1, 2001-April 30, 2002, $146,901.
35. “Software Defined Radio Algorithms for the Sunrise Platform,” D. D. Stancil, Signia IDT, November 19, 2001-November 18, 2005, $105,000.
36. “ITR: High Speed Internet Access in Buildings using Heating and Ventilation Ducts,” D. D. Stancil and O. K. Tonguz, NSF, August 1, 2002-July 31, 2005, $295,322.
37. “Wireless Instrumentation in Confined Space Environments,” D. D. Stancil and J. P. Van’t Hof, Sandia, August 16, 2002-August 15, 2005, $254,900.
38. “MAMMOS Recording Systems,” D. D. Stancil, DSSC, April 1, 2002-March 31, 2004, $99,000.
39. Software Donation for Membership in the Center for Wireless and Broadband Networking, D. D. Stancil, Ansoft, September 1, 2002-August 31, 2005, $153,985.
40. Equipment and Service Donation for Membership in the Center for Wireless and Broadband Networking, D. D. Stancil, Axcera, October 1, 2002-September 30, 2004, $107,487.
41. Fee for Membership in the Center for Wireless and Broadband Networking, D. D. Stancil, DoCoMo USA, October 1, 2003-September 30, 2004, $25,000.
42. “EM Time Reversal Imaging: Analysis and Experimentation,” J. M. F. Moura, J-G. Zhu, D. D. Stancil, DARPA, February 1, 2004, 18 months, $750,001.

43. “Efficient On-Chip Antennas at GHz Frequencies,” Gary K. Fedder, Daniel D. Stancil, and David Novosel, Pittsburgh Digital Greenhouse, $188,685, January 1, 2004, 18 months.
44. “HVAC Ducts as Wireless Communications Channels for Smart Building Infrastructure,” D. D. Stancil, YIT Building Systems, Norway, $130,700, January 1, 2004, 12 months.
45. “Using Signal Propagation Emulation to Understand and Improve Wireless Networks,” P. Steenkiste and D. D. Stancil, NSF, $650,000, Sept. 1, 2004, 48 months.

Senior Investigator

1. "Magnetic Information Technology," Principal Investigator: F. Bortz, National Science Foundation REU Site Grant, 1988 (one year), $50,846.
2. "Epitaxial Magnetic Oxides," Principal Investigator: M.H. Kryder, AFOSR, September 30, 1988-September 29, 1991, $636,469.
3. "CMU Data Storage Systems Center," Principal Investigator: M.H. Kryder, National Science Foundation Engineering Research Center, April 15, 1990, five years, $14.6M.
4. "Magneto Optic Spatial Light Modulator (MOSLM),” Principal Investigator: D.N. Lambeth, Litton Systems, Inc., Data Systems Division, July 31, 1991, $297,100.
5. "Enhancing the Environmental Content of Undergraduate Engineering Curricula," Principal Investigators: C. J. Davidson, E. S. Rubin, National Science Foundation, April 1, 1995, 2 years, $381,287.
6. "GM Satellite Lab," Principal Investigator: T. E. Schlesinger, (Wireless Thrust Leader: D. D. Stancil), GM Research, $3M ($313,420 for Wireless Thrust), January 1, 2000, 3 years.
7. “CMU/GM Collaborative Research Laboratory,” T. E. Schlesinger, (Wireless Thrust Leader: D. D. Stancil), GM Research $8M ($207,232 for 1st year Wireless Thrust, ~$400,000 2nd year Wireless Thrust), January 1, 2003, 5 years.

LIST OF PUBLICATIONS

Books

Daniel D. Stancil, **Theory of Magnetostatic Waves**, Springer-Verlag, 1993.

Book Chapters and Encyclopedia Articles

1. Daniel D. Stancil, "Microwave and Optical Magnetics," **Applied Magnetism**, R. Gerber, C.D. Wright, and G. Asti, Eds., NATO ASI Series E: Applied Sciences Vol. 253, p. 405, Kluwer Academic Publishers, 1994.
2. D. D. Stancil, "Recording Materials, Optomagnetic," **The Encyclopedia of Advanced Materials**, D. Floor, R. J. Brook, M. C. Flemings and S. Mahajan, Eds., Pergamon Press, 1994.

3. D. D. Stancil and N. Bilaniuk, "Collinear Interaction of Optical Guided Modes with Microwave Spin Waves in Magnetic Films," in **High Frequency Processes in Magnetic Materials**, G. Srinivasan and A. N. Slavin, Eds., pp. 357-393, World Scientific, 1995
4. D. D. Stancil and A. Prabhakar, "Interactions Between Optical Guided Modes and Nonlinear Magnetostatic Waves," in **Nonlinear Microwave Signal Processing: Towards a New Range of Devices**, R. Marcelli and S. Nikitov, Eds., Kluwer, 1996.
5. C. P. Diehl. B. E. Henty, N. Kanodia and D. D. Stancil, "Wireless RF Distribution in Buildings Using Heating and Ventilation Ducts," in **Wireless Personal Communications: Emerging Technologies for Enhanced Communications**, William H. Tranter, Theodore S. Rappaport, Brian D. Woerner, and Jeffrey H. Reed, Eds., Kluwer, 1999. (Identical with paper presented at 1998 MPRG Symposium on Wireless Communications.)
6. D. D. Stancil, "Electro-optical Scanners," **Encyclopedia of Optical Engineering**, Marcel Dekker, 2003.
7. D. D. Stancil, C. Conti, and T. K. Deis, "Electro-optical Scanners," **Handbook of Optical and Laser Scanning**, Gerald F. Marshall, Ed., Marcel Dekker, 2004.

Patents

1. "Optical Frequency Shifter Using Magnetostatic Waves," D.D. Stancil, U.S. Patent No. 4,796,983, January 10, 1989.
2. "Electro-optic Device for scanning Using Domain Reversed Regions," J. Mir, D. Stancil, T.E. Schlesinger, U.S. Patent No. 5, 317,446, May 31, 1994.
3. "Integrated Frequency Conversion and Scanner," M.C. Gupta, T.E. Schlesinger and D.D. Stancil, U.S. Patent No. 5,714,240, February 3, 1998.
4. "Wireless Signal Distribution in a Building HVAC System," D.D. Stancil and C.P. Diehl, U.S. Patent No. 5,977,851, November 2, 1999.
5. "Wireless Signal Distribution in a Building HVAC System," D.D. Stancil and C.P. Diehl, U.S. Patent No. 5,994,984, November 30, 1999 (continuation-in-part of #5,977,851).
6. "System and Method for Measuring the Size of a Focused Optical Spot," J. Zhai, T.E. Schlesinger, and D.D. Stancil, U.S. Patent No. 6,476,382, November 5, 2002.
7. "Two Dimensional Beam Scanner," W.C. Messner, D.D. Stancil, and T.E. Schlesinger, U.S. Patent No. 6,480,323, November 12, 2002.
8. "Solid Immersion Lenses for focusing Collimated Light in the Near-Field Region," T. Rausch, T. E. Schlesinger, Daniel D. Stancil, and James A. Bain, U.S. Patent No. 6,594,430, July 15, 2003.
9. "Method and Apparatus for Incorporating Environmental Information for Mobile Communications," David B. Johnson, Bernard J. Bennington, and Daniel D. Stancil, Australian Patent No. 751840, December 12, 2002.

10. “Method and Apparatus for Incorporating Environmental Information for Mobile Communications,” David B. Johnson, Bernard J. Bennington, and Daniel D. Stancil, United Kingdom Patent No. GB2352137, May 14, 2003.
11. “Method and Apparatus for Incorporating Environmental Information for Mobile Communications,” David B. Johnson, Bernard J. Bennington, and Daniel D. Stancil, U.S. Patent No. 6,625,135, September 23, 2003.
12. “System and method for increasing the channel capacity of HVAC ducts for wireless communications in buildings,” Daniel D. Stancil, U.S. Patent No. 6,781,477, August 24, 2004.
13. “Method and apparatus for dynamically updating representation of a work site and a propagation model”Adam J. Gudat; Bernard J. Bennington; Daniel D. Stancil; David B. Johnson; U.S. Patent No. 6,771,609, August 3, 2004.

Refereed Journal Articles

1. D.D. Stancil, "Magnetostatic Waves in Nonuniform Bias Fields Including Exchange Effects," *IEEE Trans. on Mag*., **MAG-16** 1153 (1980).
2. D.D. Stancil and F.R. Morgenthaler, "Magnetostatic Surface Modes in a Thin Film with Nonuniform In-plane Fields," *IEEE Trans. on Mag*., **MAG-16** 1156 (1980).
3. D.D. Stancil, "Magnetostatic Wave Precursors in Thin Ferrite Films," *J. Appl. Phys*., **53** 2658 (1982).
4. D.D. Stancil, "Microwave Diplexer using Magnetostatic Surface and Backward Volume Waves," *Electronics Letters*, **18** 269 (1982).
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   HP VEE Virtual Lab 7: Martian Rescue
   HP VEE Virtual Lab 8: The Black Box

BACKGROUND AND OUTSIDE INTERESTS

Brought up in Atlanta, Georgia. Moved to Memphis, Tennessee after High School graduation. Active in local church. Enjoy performing both vocal and instrumental music. Played in Tennessee Tech Tuba Ensemble five years. Other hobbies include amateur radio and reading. Wife is an alumnus of Tenn. Tech. Univ. with B.S. in Home Economics and is a preschool teacher.