THE UNIVERSITY OF TEXAS
DEPARTMENT OF ELECTRICAL AND COMPUTER ENGINEERING
FACULTY PERSONNEL RECORD

Full name: Gary Allen Hallock **Title:** Professor
Department: Electrical and Computer Engineering

Date of Birth: August 19, 1954

Citizenship: United States

Education: Rensselaer Polytechnic Institute, BSEE, 1976
Rensselaer Polytechnic Institute, MSEE, 1977
Rensselaer Polytechnic Institute, PhDEE, 1982

Professional Registration:
Intern Engineer, New York State Registration No. 022593

Current and Previous Academic Positions:
Rensselaer Polytechnic Institute, Research Associate, January 1981-August 1984 (work performed at Oak Ridge National Laboratory)
The University of Texas at Austin, Department of Electrical and Computer Engineering, Assistant Professor, September 1984-August 1988
The University of Texas at Austin, Department of Electrical and Computer Engineering, Associate Professor, September 1988 - August 1995
The University of Texas at Austin, Department of Electrical and Computer Engineering, Professor, September 1995 – August 2006
The University of Texas at Austin, Department of Electrical and Computer Engineering, Professor, Archie W. Straiton Endowed Faculty Fellowship in Engineering, September 2006 – present

Consulting: Plasma Diagnostics, Inc., October 1985-February 1987
InterScience, Inc., September 1985-May 1987
West Educational Publishing Co., October 1989
Richard D. Irwin, Inc., July 1994
WCB/McGraw-Hill, July 1998
John Wiley & Sons, June 2004
Prentice Hall, March 2006
ExxonMobil Upstream Research Co., January – August 2006, January 2008 – present

Honors and Awards:
NSF Undergraduate Research Participation Program in Physics, 1975
IEEE Student Paper Contest, 1st place local level, 1976
Allen B. DuMont Prize (best PhD thesis), 1982
EFAC Faculty Excellence Award, 1986-1987
Reviewer:

Physical Review Letters
Nuclear Fusion
Review of Scientific Instruments
IEEE Transactions on Plasma Science
U.S. Department of Energy, Office of Fusion Energy (proposals)
U.S. Dept. of Energy, Small Business Innovation Research (proposals)
U.S. Dept. of Energy, Small Business Technology Transfer Program (proposals)
U.S. Dept. of Energy, Development of Diagnostic Systems for Magnetic Fusion Energy Sciences Experiments (proposals)
Engineering Foundation, Engineering Research Initiation Grants (proposals)
California Energy Commission, Energy Innovations Small Grant Program (proposals), March – April 2006

NASA Certificate of Appreciation, 1991
Teaching Performance "Notably Above Par," 1992
Teaching Performance "Very Good," 1993
Dads' Association Centennial Teaching Fellowship, 2005-06
Certificate of Appreciation, Student Activities and Leadership Development, 2006
Archie W. Straiton Endowed Faculty Fellowship in Engineering, September 2006 – present
Certificate of Appreciation, Student Activities and Leadership Development, 2007
High Gain Award, ECE External Advisory Committee, April 2008

Memberships in Professional and Honorary Societies:

Sigma Xi
Tau Beta Pi
Institute of Electrical and Electronic Engineers
American Physical Society
University Fusion Association
American Association for the Advancement of Science
Theta Tau Professional Engineering Fraternity
American Institute of Aeronautics and Astronautics

University Committee Assignments:

Graduate Student Recruitment (Chairman 1986-1987), 1984-1988
Equipment, 1984-1986
Fields and Waves Course Area Committee (Chairman 1992-1996), 1984-2003
Annual Research Review, 1985-1986
Local Area Networks, 1985-1989
Undergraduate Advising and Retention, 1987-1989
Graduate Student Financial Aid, 1988-1989
Undergraduate Scholarships (Chairman), 1988-1990, 1993-2001
Nuclear Reactor, 1989-1990
Engineering Honors Program 1990-2004
Freshman Courses Technical Area Committee, 1994-2004
Circuits and Electronics Technical Area Committee, 1996-2006
Laboratory, 1999-2003
BSEE Curriculum Reform Committee, 1999-2000

Accreditation Reporting Committee, 2002-present
Engineering Communication Committee, 2002-2004
Graduate School Recruitment Advisory Committee, 2007-2009
University Continuing Fellowship Committee, 2008-present

Professional Society Committees:

Technical Program Committee, IEEE
11th Symposium on Fusion Engineering, 1985

Community Activities:

Judge, MATHCOUNTS Regional and State Competition, 1984-1985
Judge, MATHCOUNTS Regional and State Competition, 1985-1986
Judge, MATHCOUNTS Regional and State Competition, 1986-1987
Judge, MATHCOUNTS Regional Competition, 1987-1988
Committee member and organizer, Engineering Explorer Post, Capitol Area, Boy Scouts of America, 1986-87
Advisor, Theta Tau Professional Engineering Fraternity (UT Chapter), 1989-1996
Judge, IEEE Student Paper Contest, 1994
Advisor, University of Texas Solar Vehicles Team, 1996-present
Mentor, College of Engineering, 2004
Member, Finance Committee, St. Johns United Methodist Church, 2004-2008

Publications:

A. Refereed Archival Journal Publications

F.H. Coensgen, et al., Electrostatic Plasma-Confinement Experiments in a Tandem Mirror System, *Phys. Rev. Lett.*, 44 (17), 1132-1135, April 1980.

D.L. Correll, et al., Ambipolar Potential Formation and Axial Confinement in TMX, *Nucl. Fusion*, 22 (2), 223-234, February 1982.

R.P. Drake, et al., Radial Transport in the Central Cell of the Tandem Mirror Experiment, *Phys. Fluids*, 25 (11), 2110-2120, November 1982.

E.B. Hooper, Jr., G.A. Hallock, and J.H. Foote, Low Frequency Oscillations in the Central Cell of the TMX Tandem Mirror Experiment, *Phys. Fluids*, 26 (1), 314-322, January 1983.

D.P. Grubb, et al., Energy Confinement Studies in the Tandem Mirror Experiment (TMX):Power Flow, *Phys. Fluids*, 26 (7), 1987-2002, July 1983.

D.P. Grubb, et al., Energy Confinement Studies in the Tandem Mirror Experiment (TMX): Power Balance, *Phys. Fluids*, 26 (7), 2003-2010, July 1983.

J. Mathew, W.C. Jennings, G.A. Hallock, R.L. Hickok, and K.A. Connor, Performance of an Electrostatic-Energy Analyzer in the Presence of Intense Ultraviolet Radiation, *IEEE Trans. on Plasma Science*, PS-13 (1), 45-47, February 1985.

E.A. Lazarus, et al., Confinement in Beam-Heated Plasmas: The Effects of Low Z Impurities, *Nucl. Fusion*, 25 (2), 135-149, February 1985.

J. Mathew, W.C. Jennings, R.L. Hickok, K.A. Connor, P.M. Schoch, and G.A. Hallock, Effects of Intense Ultraviolet Radiation on Electrostatic Energy Analyzers, *Rev. Sci. Instrum.*, 56 (5), 987-989, May 1985.

G.A. Hallock, P.M. Schoch, K. Saadatmand, R.L. Hickok, W.C. Jennings, and K.A. Connor, Measurements of Plasma Fluctuations with a Heavy Ion Beam Probe, *Rev. Sci. Instrum.*, 56 (5), 1038-1040, May 1985.

G.A. Hallock, J. Mathew, W.C. Jennings, R.L. Hickok, A.J. Wootton, and R.C. Isler, Space Potential Distribution in the ISX-B Tokamak, *Phys. Rev. Lett.*, 56 (12), 1248-1251, March 1986.

G.A. Hallock, A.J. Wootton and R.L. Hickok, Space-Potential and Density Fluctuations in the ISX-B Tokamak, *Phys. Rev. Lett.*, 59 (12), 1301-1304, September 1987.

P.M. Schoch, A. Carnevali, K.A. Connor, T.P. Crowley, J.C. Forster, G.A. Hallock, R.L. Hickok, J.F. Lewis, and J.G. Schatz, Jr., Heavy Ion Beam Probe Diagnostic Systems, *Rev. Sci. Instrum.*, 59 (8), 1646-1651, August 1988.

E.J. Powers, H.S. Don, J.Y. Hong, Y.C. Kim, G.A. Hallock, and R.L. Hickok, Spectral Analysis of Nonstationary Plasma Fluctuation Data, *Rev. Sci. Instrum.*, 59 (8), 1757-1759, August 1988.

S.N. Golovato, et al., Plasma Production and Heating in a Tandem Mirror Central Cell by Radio-Frequency Waves in the Ion Cyclotron Frequency Range, *Phys. Fluids*, 31 (12), 3744-3753, December 1988.

G.A. Hallock, M.L. Gartman, R.L. Castles, and A.S. Rahman, TEXT Upgrade Far-Infrared Interferometer System, *Rev. Sci. Instrum.*, 61(10), 2893 - 2895, October 1990.

B.W. Birkner, G.A. Hallock, H. Kim, and H. Ling, Arcjet Plasma Plume Effect on a Microwave Reflector Antenna, *Rev. Sci. Instrum.*, 61(10), 2978 - 2980, October 1990.

W.D. Booth, G.W. Brunson, R. Carrera, G. Hallock, S.S. Medley, M.E. Oakes, C.A. Ordonez, T.A. Parish, R.L. Sledge, W.A. Walls, W.F. Weldon, and M.D. Werst, Operational Procedures and Out-Vessel Maintenance Considerations for the Ignitex Experiment, *Fusion Technology*, 19(3), 1143 - 1148, May 1991.

H. Ling, H. Kim, G.A. Hallock, B.W. Birkner, and A. Zaman, Effect of an Arcjet Plume on Satellite Reflector Performance, *IEEE Trans. on Antennas and Propagation*, 39(9), 1412 - 1420, September 1991.

G.A. Hallock, M.L. Gartman, W. Li, K. Chiang, S. Shin, R.L. Castles, R. Chatterjee, and A.S. Rahman, The TEXT Upgrade Vertical Interferometer, *Rev. Sci. Instrum.*, 63(10), 4987-4989, October 1992.

Y. Wong, G.A. Hallock, W.L. Rowan, and A.J. Wootton, Plasma Density Feedback Control in the TEXT Tokamak, *J. Nucl. Materials*, 196-198, 1018-1021, 1992.

G.A. Hallock, R.L. Hickok, and R.S. Hornady, The TMX Heavy Ion Beam Probe, *IEEE Trans. on Plasma Science*, 22(4), 341-349, August 1994.

G.A. Hallock, M.L. Gartman, and H. Ling, Development of Rugged Corner Cube Detectors for the TEXT-U FIR Interferometer, *Rev. Sci. Instrum.,* 66 (1), 658-660, January 1995.

R. Chatterjee, G.A. Hallock, and M.L. Gartman, Phase Contrast Imaging System for TEXT-U, *Rev. Sci. Instrum.,* 66(1), 457-459, January 1995.

M.A. Meier, G.A. Hallock, H.Y.W. Tsui, and R.D. Bengtson, The Time-Domain Triple-Probe Method, *Rev. Sci. Instrum.,* 66(1), 437-439, January 1995.

K.W. Gentle, W.L. Rowan, R.V. Bravenec, G. Cima, T.P. Crowley, H. Gasquet, G.A. Hallock, J. Heard, A. Ouroua, P.E. Phillips, D.W. Ross, P.M. Schoch, and C. Watts, Strong Nonlocal Effects in a Tokamak Perturbative Transport Experiment, *Phys. Rev. Lett.*, 74 (18), 3620-3623, May 1995.

K.W. Gentle, R.V. Bravenec, G. Cima, H. Gasquet, G.A. Hallock, P.E. Phillips, D.W. Ross, W.L. Rowan, A.J. Wootton, T.P. Crowley, J. Heard, A. Ouroua, P.M. Schoch, and C. Watts, An Experimental Counter-Example to the Local Transport Paradigm, *Phys. Plasmas*, 2(6), 2292-2298, June 1995.

K.W. Gentle, G. Cima, H. Gasquet, G.A. Hallock, P.E. Phillips, W.L. Rowan, C. Watts, and O. Gehre, Characteristics of Equilibrium and Perturbed Transport Coefficients in Tokamaks, *Physica Scripta,* 52(4), 411-416, October 1995.

D.R. Roberts, R.V. Bravenec, R.D. Bengtson, D.L. Brower, G. Cima, T.P. Crowley, A. Darbar, P.H. Edmonds, H. Gasquet, K.W. Gentle, G.A. Hallock, J.W. Heard, P.D. Hurwitz, Y. Jiang, Y.Y. Karzhavin, J. Lierzer, A. Nikitin, A. Ouroua, D.M. Patterson, P.E. Phillips, S. Reedy, B. Richards, W.L. Rowan, P.M. Schoch, D.C. Sing, E.R. Solano, D. Storek, C. Watts, D. Winslow, A.J. Wootton, L. Zeng, B. Zhang, and S-B Zheng, H-mode Development in TEXT-U Limiter Plasmas, *Plasma Phys. Control. Fusion*, 38(8), 1117-1125, August 1996.

M.A. Meier, G.A. Hallock, and Roger D. Bengtson, Time-Domain Triple-Probe Measurement of Edge Plasma Turbulence on the Texas Experimental Tokamak Upgrade, *Rev. Sci. Instrum.*, 68 (1), 369-372, January 1997.

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K.L. Chiang, G.A. Hallock, A.J. Wootton, and L. Wang, Fast Tokamak Plasma Flux and Electron Density Reconstruction Technique, *Rev. Sci. Instrum.*, 68 (1), 894-897, January 1997.

K.W. Gentle, R.V. Bravenec, G. Cima, G.A. Hallock, P.E. Phillips, D.W. Ross, W.L. Rowan, A.J. Wootton, T.P. Crowley, A. Ouroua, P.M. Schoch, and C. Watts, The Evidence for Nonlocal

Transport in the Texas Experimental Tokamak, *Physics of Plasmas,* 4(10), 3599-3613, October 1997.

D. Zhang, G.A. Hallock, A.J. Wootton, R.H. Flake, and J.R.Uglum, Tokamak Position Control Using Internal and External Magnetic Sensor Coils, *Fusion Technology*, 32(3), 431-443, November 1997.

M.A. Meier, G.A. Hallock, and R.D. Bengtson, Measurement of Turbulent Plasma by the Time-Domain Triple-Probe Method, *Contrib. Plasma Phys.*, 38, 98-103, 1998.

R. Chatterjee, G.A. Hallock, and A.J. Wootton, Observation of Multiple Modes of Interior Density Turbulence in the TEXT-U Tokamak, *Phys. Rev. Lett.*, 82 (14), 2876-2879, April 1999.

M. A. Meier, R. D. Bengtson, G. A. Hallock, and A. J. Wootton, Adiabatic Electron Thermal Pressure Fluctuations in Tokamak Plasmas, *Phys. Rev. Lett.*, 87 (8), 85003-1-85003-4, August 2001.

G. A. Hallock, J. C. Wiley, A. Khanna, E. A. Spencer, J. W. Meyer, and J. T. Loane, Impact Analysis of Hall Thrusters on Satellite Antenna Performance, *Journal of Spacecraft and Rockets*, 39(1), 115-124, January-February 2002.

M. M. Oye, M. A. Wistey, J. M. Reifsnider, S. Agarwal, T. J. Mattord, S. Govindaraju, G. A. Hallock, A. L. Holmes, Jr., S. R. Bank, H. B. Yeun, and J. S. Harris, Jr., Ion Damage Effects from Negative Deflector Plate Voltages during the Plasma-Assisted Molecular-Beam Epitaxy Growth of Dilute Nitrides, *Applied Physics Letters*, 86, 221902, 2005.

M. M. Oye, T. J. Mattord, G, A. Hallock, S. R. Bank, M. A. Wistey, J. M. Reifsnider, A. J. Ptak, H. B. Yuen, J. S. Harris, Jr., and A. L. Holmes, Jr., Effects of Different Plasma Species (Atomic N, Metastable N_{2*}, and Ions) on the Optical Properties of Dilute Nitride Materials Grown by Plasma-Assisted Molecular-Beam Epitaxy, *Applied Physics Letters*, 91, 191903, 2007.

M. Kim, R. E. Hebner, G. A. Hallock, Modeling the Growth of Streamers during Liquid Breakdown, *IEEE Transactions on Dielectrics and Electrical Insulation*, Vol. 15, No. 2, 547-553, April 2008.

B. Refereed Conference Proceedings

T.C. Simonen, et al., Plasma Confinement Experiments in the TMX Tandem Mirror, IAEA-CN-38/F-1, 97-103, 1981, (Proceedings of the 8th Int. Conf. on Plasma Physics and Cont. Nucl. Fusion Research, Brussels, Belgium, July 1980).

D.L. Correll, et al., Ambipolar Potential Formation in TMX, CONF-810511, 63-83, Sept. 1981 (Proceedings of the workshop Ambipolar Potential Formation and Control in Bumpy Tori and Mirrors, Oak Ridge, Tennessee, May 11-12, 1981).

G.A. Hallock and R.L. Hickok, Space Potential Measurements in the Central Cell of TMX, CONF-810511, 85-103, September 1981, (Proceedings of the workshop Ambipolar Potential

Formation and Control in Bumpy Tori and Mirrors, Oak Ridge, Tennessee, May 11-12, 1981).

T.C. Simonen, et al., TMX Tandem Mirror Experiments and Thermal-Barrier Theoretical Studies, IAEA-CN-41/G-1, 519-530, 1983, (Proceedings 9th Int. Conf. on Plasma Physics and Cont. Fusion Research, Baltimore, Maryland, September 1982).

G.A. Hallock, K.A. Connor, R.L. Hickok, W.C. Jennings, J.C. Forster, J.R. Goyer, J.F. Lewis, J. Mathew, P.M. Schoch, and L. Solensten, Plasma Parameter Measurements Using a Heavy Ion Beam Probe, (Proceedings XVI Int. Conf. on Phenomena in Ionized Gases, Düsseldorf, FRG, August 1983).

G.A. Hallock, R.L. Hickok, W.C. Jennings, K.A. Connor, J.C. Forster, J.R. Goyer, J. Mathew, L. Solensten, G.R. Haste, and A.J. Wootton, Space Potential Measurements on EBT-S and ISX-B, (Proceedings of the 11th European Conf. on Controlled Fusion and Plasma Physics (Part II, pp 73-76), Aachen, FRG, September 1983).

D.W. Swain, et al., The EBT Experiment, (Proceedings of the 11th European Conf. on Controlled Fusion and Plasma Physics (Part I, pp. 177-180), Aachen, FRG, September 1983).

A.J. Wootton, J.D. Bell, C.E. Bush, A. Carnevali, B.A. Carreras, J.L. Dunlap, P.H. Edmonds, O.C. Eldridge, A.C. England, W.L. Gardner, G.A. Hallock, R.L. Hickok, H.C. Howe, D.P. Hutchinson, R.C. Isler, and W.C. Jennings, Balanced Beam Injection on ISX-B, (Proceedings of the 4th International Symposium on Heating in Toroidal Plasmas, Rome, Italy, March 21-28, 1984), EUR 9341 EN. v 1., Publ. by Int. Sch. of Plasma Physics, Varenna, Italy, Dist. by Monotypia Franchi, Perugia, Italy, pp. 69 - 88.

M. Murakami, et al., Confinement of Beam-Heated Plasmas in ISX-B, IAEA-CN-44/A-II-2, 87-102, 1985, (Proceedings of the 10th Int. Conf. on Plasma Physics and Cont. Fusion Research, London, England, September 1984).

G.A. Hallock, J.W. Coleman, N.A. Zaidi, and J.J. Zielinski, Design of a Heavy Ion Beam Probe for the Tara Tandem Mirror, IEEE Cat. No. CH2251-7, Vol. 2, 1146-1150, July 1986, (Proceedings of the IEEE 11th Symposium on Fusion Engineering, November 18-22, 1985, Austin, Texas).

R.L. Hickok, K.A. Connor, W.C. Jennings, T.P. Crowley, P. Schoch, G.A. Hallock, J. Forster, E. Saravia, N. Li, and K. Saadatmand, Measurement of $< \tilde{n}\,\tilde{\phi} >$ with Heavy Ion Beam Probes, (Proceedings of the Workshop on Turbulence in Confined Plasmas, February 2-4, 1987, Austin, Texas).

S.N. Golovato, K. Brau, J. Casey, J. Coleman, M. Gerver, W. Guss, G. Hallock, S. Horne, J. Irby, J. Kesner, R. Kumazawa, B. Lane, J. Machuzak, T. Moran, R. Myer, R.S. Post, E. Sevillano, D.K. Smith, J.D. Sullivan, R. Torti, Y. Yao, Y. Yasaki and J. Zielinski, Heating and Stabilization by Slow Waves in the Tara Tandem Mirror, *Applications of Radio-Frequency Power to Plasmas* (7th American Physical Society Topical Conference on Applications of Radio Frequency Power to Plasma, Kissimmee, Florida, May 1987), ed. S. Bernabei and R.W. Motley, pp. 254-257, AIP Conf. Proc. No. 159, American Institute of Physics, NY, 1987 ISBN 0-88318-

359-5.

B.G. Lane, K. Brau, J. Casey, J. Coleman, M. Gerver, S. Golovato, W.C. Guss, G. Hallock, S. Horne, J. Irby, J. Kesner, J. Machuzak, R. Myer, R.S. Post, E. Sevillano, D.K. Smith, J.D. Sullivan, R. Torti, X.Z. Yao and J. Zielinski, Results from the Tara Tandem Mirror Experiment, (Proceedings of the 1987 Varenna International School of Plasma Physics Course and Workshop on the Physics of Mirrors, Reversed Field Pinches and Compact Tori, Varenna, Italy, September 1987), in *Physics of Mirrors, Reversed Field Pinches and Compact Tori* (1987), Varenna (Società Italiana di Fisica, Bologna, 1987), S. Ortolani and E. Sindoni ed., Vol. II, p. 873.

B.G. Lane, K. Brau, J. Casey, J. Coleman, M. Gerver, S. Golovato, W.C. Guss, G. Hallock, S. Horne, J. Irby, J. Kesner, J. Machuzak, R. Myer, R.S. Post, E. Sevillano, D.K. Smith, J.D. Sullivan, R. Torti, X.Z. Yao and J. Zielinski, Equilibrium and Stability of the Tara Tandem Mirror Experiment, (Proceedings of the 1987 Varenna International School of Plasma Physics Course and Workshop on the Physics of Mirrors, Reversed Field Pinches and Compact Tori, Varenna, Italy, September 1987), in *Physics of Mirrors, Reversed Field Pinches and Compact Tori* (1987), Varenna (Società Italiana di Fisica, Bologna, 1987), S. Ortolani and E. Sindoni ed., Vol. II, p. 733.

R.S. Post, K.L. Brau, J.A. Casey, J.W. Coleman, M.J. Gerver, S.N. Golovato, W.C. Guss, G.A. Hallock, S.F. Horne, J.H. Irby, J. Kesner, J. Machuzak, B.G. Lane, R.C. Myer, E. Sevillano, D.K. Smith, J.D. Sullivan, R.P. Torti, X.Z. Yao, and J.J. Zielinski, Review of Mirror Fusion Research, (Proceedings of the 2nd Latin American Conference on Plasma Physics and Controlled Thermonuclear Fusion, 1987), ed. R. Krikorian, p. 31, Medillin, World Scientific Publ. Co. Pte. Ltd., Singapore, 1989.

R.S. Post, K. Brau, J. Casey, J. Coleman, M. Gerver, S.N. Golovato, W.C. Guss, G.A. Hallock, S. Horne, J. H. Irby, J. Kesner, B. Lane, J. Machuzak, R. Myer, E. Sevillano, D.K. Smith, J.D. Sullivan, R. Torti, X. Z. Yao, J. Zielinski, Stability Issues in the Tara Tandem Mirror Experiment, IAEA-CN-50/C-3-3, (Proceedings of the 12th Int. Conf. on Plasma Physics and Cont. Nucl. Fusion Research, Nice, France, October 1988), in *Plasma Physics and Controlled Nuclear Fusion Research 1988*, Nice (IAEA, Vienna, 1989), Vol. 2, p. 493.

A.J. Wootton, et al., Turbulence, Transport, and q Measurements in TEXT, IAEA-CN-50/A-5-3-2, (Proceedings of the 12th Int. Conf. on Plasma Physics and Cont. Nucl. Fusion Research, Nice, France, October 1988).

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W.D. Booth, R. Carrera, G. Hallock and S.S. Medley, Conceptual Design of the Vacuum, Fueling, and Instrumentation and Control Systems for the Ignitex Experiment, IEEE Cat. No. 89CH2820-9, Vol. 1, 372-375, 1990, (Proceedings of the IEEE 13th Symposium on Fusion Engineering, October 2-6, 1989, Knoxville, Tennessee).

W.D. Booth, R. Carrera, G. Hallock and T. Elevant, Experimental Program and Diagnostics for Ignitex, IEEE Cat. No. 89CH2820-9, Vol. 2, 1287-1290, 1990, (Proceedings of the IEEE 13th Symposium on Fusion Engineering, October 2-6, 1989, Knoxville, Tennessee).

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S.C. McCool, G.G. Castle, B.A. Smith, M.E. Austin, D.L. Brower, J.Y. Chen, G.A. Hallock, M.L. Walker, Impurity Pellet Experiments in TEXT, (Proceedings of the 18th European Conf. on Controlled Fusion and Plasma Physics, 15C (1), 325 - 328, Berlin, June 1991).

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Y. Karzhavin, H.Y.W. Tsui, R.D. Bengtson, R.V. Bravenec, D.L. Brower, Y. Jiang, G. Hallock, P. Hurwitz, J.S. Mao, P.E. Phillips, W.L. Rowan, S.R. Shin and Y. Wan, Effect of Neon Injection on Turbulence in TEXT-U, (Proceedings of the 20th European Physical Society Conference on Controlled Fusion and Plasma Physics, 17C (1), 135-138, Lisbon, Portugal, July 1993).

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M. M. Oye, M. A. Wistey, J. M. Reifsnider, H. B. Yuen, A. J. Ptak, P. W. May, T. J. Mattord, S. Agarwal, J. C. Lee, S. K. Banerjee, G. A. Hallock, J. S. Harris Jr., A. L. Holmes Jr. and S. R. Bank, Effects of Different Plasma Species on the Optical Properties of Dilute Nitrides Grown by Plasma-assisted Molecular–beam Epitaxy, 49th TMS 2007 Electronic Materials Conference, University of Notre Dame, Indiana, June 2007, (abstract to be published in the Journal of Electronic Materials).

A. G. D. Gorordo, G. A. Hallock, K. W. Gentle, Heavy Atom Neutral Beam Probe, 49th Annual Meeting of the Division of Plasma Physics, American Physical Society, Orlando, Florida, November 2007, (Bull. Am. Phys. Soc. 52(16), 263).

A. G. D. Gorordo, G. A. Hallock, Photon-assisted Beam Probes for Low Temperature Plasmas, 61st Annual Gaseous Electronics Conference, American Physical Society, Dallas, Texas, October 2008, (Bull. Am. Phys. Soc. 53(10), 89).

A. G. D. Gorordo, G. A. Hallock, N. Kandadai, Photon-assisted Beam Probes for Low Temperature Plasmas and Installation of Neutral Beam Probe in Helimak, 50th Annual Meeting of the Division of Plasma Physics, American Physical Society, Dallas, Texas, November 2008, (Bull. Am. Phys. Soc. 53(14), 113).

B. Invited Lectures

G.A. Hallock, J. Mathew, J.C. Forster, R.L. Hickok, W.C. Jennings, J.F. Lewis, P.M. Schoch, R.C. Isler, K.L. Kannan, J. Murro, A.J. Wootton, and T.F. Rayburn, Ambipolar Potential Measurements in ISX-B. Topical Meeting, Plasma Rotation and Ambipolar Electric Fields in Tokamaks and RF-Heating and Transport. Kurchatov IAE, USSR, September 1984 (summarized in report ORNL/FTR-1893, 16 pp.)

G.A. Hallock, Overview of Controlled Fusion Research and Activities at UT, Weekly EE Seminar, The University of Texas at Austin, Austin, Texas, December 1984.

G.A. Hallock, Plasma Space Potential Measurement in the Tara Controlled Fusion Experiment, 2nd Annual Research Review, Dept. of Electrical and Computer Engineering, The University of Texas at Austin, Austin, Texas, May 1985.

G.A. Hallock and J.W. Coleman, Tara Heavy Ion Beam Probe, MIT Plasma Fusion Center, Massachusetts Institute of Technology, Cambridge, Massachusetts, June 1985.

G.A. Hallock, Heavy Ion Beam Probe Measurements of Space Potential and Density Fluctuations in ISX-B, FRC Seminar, The University of Texas at Austin, Austin, Texas, April 1986.

G.A. Hallock, J.W. Coleman, D. Moe, J. Sullivan, R. Vieira, N. Zaidi and J. Zielinski, Tara Heavy Ion Beam Probe - Overview and Initial Results, MIT Plasma Fusion Center, Massachusetts Institute of Technology, Cambridge, Massachusetts, August 1986.

G.A. Hallock, J.W. Coleman, M. Scrivener, J. Sullivan and J. Zielinski, Status of the Heavy Ion Beam Probe, MIT Plasma Fusion Center, Massachusetts Institute of Technology, Cambridge, Massachusetts, January 1987.

G.A. Hallock, Electrical Engineering, Engineering Explorer Post Meeting, Austin, Texas, February 1987.

G.A. Hallock, J.J. Zielinski, J.W. Coleman, M.W. Scrivener, J. Dotson, HIBP Fluctuation Measurements and Fast Time Profiles, MIT Plasma Fusion Center, Massachusetts Institute of Technology, Cambridge, Massachusetts, August 1987.

G.A. Hallock, J.J. Zielinski, J.W. Coleman, S.G. Duran, and M.W. Scrivener, Heavy Ion Beam Probe - I, U.S.-Japan Workshop on Tandem Mirrors (Q-90 Workshop on Tandem Mirror Physics), Madison, Wisconsin, November 1987.

G.A. Hallock, Breakdown and Operation, US DOE Sponsored IGNITEX Project Review, The University of Texas at Austin, Austin, Texas, December 1988.

G.A. Hallock, Plasma Measurements Using a Heavy Ion Beam Probe, Plasma Physics Laboratory, Kyoto University, Kyoto, Japan, August 1988.

G.A. Hallock and H. Ling, Near Field Interaction of a Microwave Signal with a Bounded Plasma Volume-Plasma Aspects, NASA Lewis Research Center, Cleveland, Ohio, February 1989.

G.A. Hallock and H. Ling, Near Field Interaction of Microwave Signals with a Bounded Plasma Plume, NASA Lewis Research Center, Cleveland, Ohio, February 1990.

G.A. Hallock, H. Ling, and B. Birkner, Near Field Interaction of Microwave Signals with a Bounded Plasma Plume, NASA Lewis Research Center, Cleveland, Ohio, July 1990.

G.A. Hallock, High Resolution Interferometry on TEXT Upgrade, Rensselaer Polytechnic Institute, Troy, New York, April 1992.

G.A. Hallock, Phase Contrast Imaging on TEXT-U, US DOE TEXT Program Review, Austin, Texas, August 1993.

G.A. Hallock, The TEXT Tokamak, Nuclear Engineering Seminar, The University of Texas at Austin, Austin, Texas, March 1995.

G.A. Hallock, Plasma Processing of Semiconductors: An Overview, Plasma Physics Seminar, The University of Texas at Austin, Austin, Texas, February 1997.

G.A. Hallock, Plasma Processing of Semiconductors: Modeling, Plasma Physics Seminar, The University of Texas at Austin, Austin, Texas, October 1997.

G.A. Hallock, Density Turbulence Measurements on C-Mod, Plasma Physics Seminar, The University of Texas at Austin, Austin, Texas, July 1998.

G. A. Hallock, Impact of Plasma Thrusters on Satellite Communication, Plasma Physics Seminar, The University of Texas at Austin, Austin, Texas, October 1998.

G. A. Hallock, Hall Thruster Satellite Communication Impact Analysis, Lockheed Martin Corporation, Sunnyvale, California, December 1999.

G. A. Hallock, J. C. Wiley, and J. T. Loane, Communication Signal Transmission Modeling, Code Validation, and Ground Testing Plan, Technical Interchange Meeting, Lockheed Martin Space Systems Co., Sunnyvale, California, December 2000.

G. A. Hallock, Overview of Plasma Propulsion, Plasma Physics Seminar, The University of Texas at Austin, Austin, Texas, November 2001.

G. A. Hallock, BeamServer Tool Description, Technical Interchange Meeting, Lockheed Martin Space Systems Co., Sunnyvale, California, January 2003.

Patents:

G. A. Hallock, M. A. Meier, Free Charge Carrier Diffusion Response Transducer for Sensing Gradients, filed Nov. 21, 2008.

Grants and Contracts:

A Heavy Ion Beam Probe for the Central Cell of the Tara Tandem Mirror Experiment, MIT Plasma Fusion Center, $43,484, October 1, 1984-September 30, 1985.

Development of Fluctuation Analysis Techniques for the TEXT Heavy Ion Beam Probe, RPI Plasma Dynamics Laboratory, $10,000, January 1, 1985-September 30, 1985.

A Heavy Ion Beam Probe for the Central Cell of the Tara Tandem Mirror Experiment (continuation), MIT Plasma Fusion Center, $88,749, October 1, 1985-September 30, 1986.

Development of Fluctuation Analysis Techniques for the TEXT Heavy Ion Beam Probe (continuation), RPI Plasma Dynamics Laboratory, $7,500, October 1, 1985-September 30, 1986.

Development of an Ion Beam Fast Energy Sweep System, InterScience, Inc., $20,658, January 1, 1986-September 30, 1986.

A Heavy Ion Beam Probe for the Central Cell of the Tara Tandem Mirror Experiment (continuation), MIT Plasma Fusion Center, $98,960, October 1, 1986-September 30, 1987.

Development of Fluctuation Analysis Techniques for the TEXT Heavy Ion Beam Probe (continuation), RPI Plasma Dynamics Laboratory, $12,000, October 1, 1986-September 30, 1987.

Development of an Ion Beam Fast Energy Sweep System (continuation), InterScience, Inc., $22,523, October 1, 1986-May 31, 1987.

A Heavy Ion Beam Probe for the Central Cell of the Tara Tandem Mirror Experiment (continuation), MIT Plasma Fusion Center, $55,483, October 1, 1987-September 30, 1988.

Development of Fluctuation Analysis Techniques for the TEXT Heavy Ion Beam Probe (continuation), RPI Plasma Dynamics Laboratory, $3,750, October 1, 1987-December 31, 1987.

Development of Fluctuation Analysis Techniques for the TEXT Heavy Ion Beam Probe (continuation), RPI Plasma Dynamics Laboratory, $3,000, January 1, 1988-March 31, 1988.

(with N.E. Hertel), Nuclear Technology Study of the Fusion Ignition Experiment IGNITEX, Texas Higher Education Coordinating Board Advanced Technology Program, $344,110, July 1988-July 1990.

(with H. Ling) Near Field Interaction of Microwave Signal with a Bounded Plasma Volume, NASA Lewis Research Center, $50,000, January 20, 1989-January 19, 1990.

(with H. Ling) Near Field Interaction of Microwave Signal with a Bounded Plasma Volume (continuation), NASA Lewis Research Center, $50,000, January 20, 1990-January 19, 1991.

(with H. Ling) Arcjet Plume Plasma Analysis, General Electric Co., $40,000, November 7, 1990-March 31, 1992.

(participant) The Texas Experimental Tokamak: A Plasma Research Facility, U.S. Department of Energy, Hallock share ≈$1,326,000, June 1988-July 31, 1996.

Scholarship Grant for Kulvia S. Bhozal, DOD-Navy, $8,000, October 1, 1995-September 30, 1999.

Sunrayce 97, National Renewable Energy Laboratory, $2,000, March 18, 1996-June 30, 1997.

(participant) Turbulence and Transport in Tokamaks: A Proposal for Collaboration between The University of Texas Fusion Research Center and The Massachusetts Institute of Technology Plasma Fusion Center, U.S. Department of Energy, $4,703,966, August 1, 1996-October 31, 1999.

(with J. C. Wiley) Evaluation of the Impact of High Performance Plasma Thruster Plumes on Satellite Communication, Texas Higher Education Coordinating Board Advanced Technology Program, $136,143, January 1, 1998 - August 31, 2000.

(with J. C. Wiley) Hall Thruster Satellite Communication Impact Analysis, Lockheed Martin Corporation, $41,310, June 1, 1999 – December 31, 1999.

(participant) Turbulence and Transport in Tokamaks: A Proposal for Collaboration between The University of Texas Fusion Research Center and The Massachusetts Institute of Technology Plasma Fusion Center, U.S. Department of Energy, $3,488,535, November 1, 1999-October 31, 2002.

(with J. C. Wiley) Hall Thruster Satellite Communication Impact Analysis, Lockheed Martin Corporation, $69,905, January 1, 2000 – December 31, 2000.

(with J. C. Wiley) Hall Thruster Satellite Communication Impact Analysis (continuation), Lockheed Martin Corporation, $100,000, January 1, 2001 – December 31, 2001.

(with J. C. Wiley) Hall Thruster Satellite Communication Impact Analysis, Texas Higher Education Coordinating Board Technology Development and Transfer Program, $190,000, January 1, 2002 - December 31, 2003.

(with J. C. Wiley) Hall Thruster Satellite Communication Impact Analysis, Lockheed Martin Corporation, $100,000, January 2, 2002 – February 28, 2003.

Development of a Solar Car for the North American Solar Challenge 2005, Various Sponsors, $99,100, 2004-2005.

Development of a Solar Car for the North American Solar Challenge 2008, Various Sponsors, $132,490 + in-kind, 2006-2008.

Development of a Solar Car for the Formula Sun Grand Prix 2009, Various Sponsors, $10,700 + in-kind, 2008-2009.

Development of a Solar Car for the Formula Sun Grand Prix 2010 and American Solar Challenge 2010, Various Sponsors, $29,293 + in-kind, 2009-2010.

Evidence of Teaching Effectiveness:

Fall 1984, Electromagnetic Engineering I, EE 325, 15655
Spring 1985, Introduction to Microwaves, EE 363M, 15990
Fall 1985, Introduction to Plasma Dynamics I, EE 397K, 16305
Spring 1986, Introduction to Microwaves, EE 363M, 17385

Fall 1986, Electromagnetic Engineering I, EE 325, 14650
Fall 1986, Introduction to Plasma Dynamics II, EE 397K, 15285
Spring 1987, Electromagnetic Engineering I, EE 325, 14590
Spring 1987, Introduction to Microwaves, EE 363M, 14895
Fall 1987, Electromagnetic Engineering I, EE 325, 14400
Fall 1987, Introduction to Plasma Dynamics III, EE 397K, 15045
Spring 1988, Electromagnetic Engineering I, EE 325, 14250
Spring 1988, Electromagnetic Engineering I, EE 325, 14260
Fall 1988, Introduction to Plasma Dynamics IV, EE 397K, 15200
Spring 1989, Introduction to Plasma Dynamics I, EE 397K, 14882
Fall 1989, Electromagnetic Engineering I, EE 325, 14225
Spring 1990, Introduction to Plasma Dynamics II, EE 397K, 14400
Fall 1990, Introduction to Plasma Dynamics III, EE 397K, 14680
Spring 1991, Intro. to Controlled Thermonuclear Fusion, EE 379K, 14450
Spring 1991, Elec. Engr. Honors Projects, EE 464H, 14370
Fall 1991, Magnetohydrodynamics, EE 393C, 14820
Fall 1991, Elec. Engr. Honors Projects, EE 464H, 14565
Spring 1992, Electromagnetic Engineering I, EE 325, 13990
Spring 1992, Elec. Engr. Honors Projects, EE 464H, 14275
Fall 1992, Intro to Plasma Dynamics, EE 393C, 15055
Fall 1992, Elec. Engr. Honors Projects, EE 464H, 14805
Spring 1993, Plasma Dyn. with Appl. to Fusion Exp., EE 397K, 14813
Spring 1993, Elec. Engr. Honors Projects, EE 464H, 14450
Fall 1993, Plasma Dynamics, Topic 2: Kinetic Theory, EE 393C, 14760
Fall 1993, Elec. Engr. Honors Projects, EE 464H, 14520
Spring 1994, Intro. to Elec. and Comp. Engr., EE 302, 13850, 13855
Spring 1994, Elec. Engr. Honors Projects, EE 464H, 14375
Fall 1994, Plasma Dynamics, Topic 3: Fluid Theory, EE 393C, 14315
Fall 1994, Elec. Engr. Honors Projects, EE 464H, 14035
Spring 1995, Intro. to Elec. and Comp. Engr., EE 302, 13630, 13635, 13640
Spring 1995, Elec. Engr. Honors Projects, EE 464H, 14190
Fall 1995, Intro. to Elec. and Comp. Engr., EE 302, 13805
Fall 1995, Elec. Engr. Honors Projects, EE 464H, 14435
Spring 1996, Plasma Processing of Semiconductors, EE 396K, 14615
Spring 1996, Intro. to Elec. and Comp. Engr., EE 302, 13770, 13775, 13777
Spring 1996, Elec. Engr. Honors Projects, EE 464H, 14310
Fall 1996, Plasma Processing of Semiconductors-II, EE 396K, 14527
Fall 1996, Elec. Engr. Honors Projects, EE 464H,14240,14245
Spring 1997, Plasma Processing of Semiconductors I, EE 396K, 14445
Spring 1997, Intro. to Elec. and Comp. Engr., EE 302, 13555, 13560, 13565
Spring 1997, Elec. Engr. Honors Projects, EE 464H, 14125
Fall 1997, Plasma Processing of Semiconductors-II, EE 396K, 15300
Fall 1997, Elec. Engr. Honors Projects, EE 464H,14970,14975
Spring 1998, Plasma Processing of Semiconductors I, EE 396K, 14890
Spring 1998, Intro. to Elec. and Comp. Engr., EE 302, 13940, 13945
Spring 1998, Elec. Engr. Honors Projects, EE 464H, 14535
Fall 1998, Plasma Processing of Semiconductors-II, EE 396K, 15485
Fall 1998, Elec. Engr. Honors Projects, EE 464H,15135,15140

Spring 1999, Plasma Processing of Semiconductors I, EE 396K, 15195
Spring 1999, Intro. to Elec. and Comp. Engr., EE 302, 14205
Spring 1999, Elec. Engr. Honors Projects, EE 464H, 14830, 14835
Fall 1999, Plasma Processing of Semiconductors I, EE 396K, 15348
Fall 1999, Elec. Engr. Honors Projects, EE 464H,14990,14995
Spring 2000, Plasma Processing of Semiconductors II, EE 396K, 15070
Spring 2000, Intro. to Elec. and Comp. Engr., EE 302, 14115
Spring 2000, Elec. Engr. Honors Projects, EE 464H, 14760, 14765
Fall 2000, Plasma Processing of Semiconductors I, EE 396K, 15610
Fall 2000, Elec. Engr. Honors Projects, EE 464H,15280,15285
Spring 2001, Plasma Processing of Semiconductors II, EE 396K, 15115
Spring 2001, Intro. to Elec. and Comp. Engr., EE 302, 14105,14110
Spring 2001, Elec. Engr. Honors Projects, EE 464H, 14750, 14755
Fall 2001, Plasma Processing of Semiconductors I, EE 396K, 15735
Fall 2001, Elec. Engr. Honors Projects, EE 464H,15415,15420
Spring 2002, Plasma Processing of Semiconductors II, EE 396K-20, 15265
Spring 2002, Intro. to Elec. and Comp. Engr., EE 302, 14175,14180
Spring 2002, Elec. Engr. Honors Projects, EE 464H, 14880, 14885
Fall 2002, Plasma Processing of Semiconductors I, EE 396K-19, 16060
Fall 2002, Elec. Engr. Honors Projects, EE 464H,15720,15725
Spring 2003, Plasma Processing of Semiconductors II, EE 396K-20, 15140
Spring 2003, Intro. to Elec. and Comp. Engr., EE 302, 14035,14040, 14045
Spring 2003, Honors Senior Design Project, EE 464H, 14830, 14835
Spring 2003, Corporate Senior Design Project, EE 464C, 14825
Fall 2003, Plasma Processing of Semiconductors I, EE 396K-19, 15590
Fall 2003, Honors Senior Design Project, EE 464H,15315,15320
Spring 2004, Intro. to Elec. and Comp. Engr., EE 302, 13975,13980
Spring 2004, Honors Senior Design Project, EE 464H, 14760, 14765
Spring 2004, Corporate Senior Design Project, EE 464C, 14755
Fall 2004, Plasma Processing of Semiconductors I, EE 396K-19, 16265
Fall 2004, Honors Senior Design Project, EE 464H,15915,15920
Spring 2005, Development of a Solar Car for NASC, EE379K, 15448
Spring 2005, Intro. to Elec. and Comp. Engr., EE 302, 14575,14580
Spring 2005, Honors Senior Design Project, EE 464H, 15315,15320,15325,15330
Spring 2005, Corporate Senior Design Project, EE 464C, 15310
Fall 2005, Plasma Processing of Semiconductors I, EE 396K-19, 16470
Fall 2005, Honors Senior Design Project, EE 464H,16140, 16145, 16150
Fall 2005, Corporate Senior Design Project, EE 464C, 16135
Spring 2006, Intro. to Elec. and Comp. Engr., EE 302, 14980, 14985, 14990
Spring 2006, Plasma Processing of Semiconductors II, EE 396K-20, 16055
Spring 2006, Honors Senior Design Project, EE 464H, 15680, 15685, 15690, 15695
Spring 2006, Corporate Senior Design Project, EE 464C, 15675
Fall 2006, Electromagnetic Engineering, EE 325, 16235
Fall 2006, Development of a Solar Car for NASC, EE 379K, 16765
Fall 2006, Development of a Solar Car for NASC, EE 309K, 16037
Fall 2006, Honors Senior Design Project, EE 464H,16655, 16660, 16665
Spring 2007, Intro. to Elec. and Comp. Engr., EE 302, 15450, 15455, 15460
Spring 2007, Honors Senior Design Project, EE 464H,16225, 16230, 16235, 16240

Spring 2007, Corporate Senior Design Project, EE 464C, 16195
Fall 2007, Development of a Solar Car for NASC, EE 309K, 16370
Fall 2007, Development of a Solar Car for NASC, EE 379K, 17135
Fall 2007, Plasma Processing of Semiconductors I, EE 396K-19, 17435
Fall 2007, Corporate Senior Design Project, EE 464C, 16970
Fall 2007, Honors Senior Design Project, EE 464H, 17000, 17005, 17010
Fall 2007, Honors Senior Design Project, EE 464R, 17055
Spring 2008, Plasma Processing of Semiconductors II, EE 396K-20, 16805
Spring 2008, Honors Senior Design Project, EE 464H,16380, 16385, 16390, 16395
Spring 2008, Honors Senior Design Project, EE 464R,16445
Spring 2008, Corporate Senior Design Project, EE 464C, 16350
Fall 2008, Development of a Solar Car for NASC, EE 309K, 16355
Fall 2008, Development of a Solar Car for NASC, EE 379K, 17105
Fall 2008, Development of a Solar Car for NASC, ASE 379L, 13787
Fall 2008, Development of a Solar Car for NASC, ME 379M, 18880
Spring 2009, Intro. to Elec. and Comp. Engr., EE 302, 15658, 15660, 15665
Spring 2009, Corporate Senior Design Project, EE 464C, 16425
Spring 2009, Honors Senior Design Project, EE 464H,16455, 16460, 16465, 16470
Spring 2009, Research Senior Design Project, EE 464R,16520
Spring 2009, Senior Design Project, EE 464K,16475,
Fall 2009, Development of a Solar Car for NASC, EE 309S, 16340
Fall 2009, Development of a Solar Car for NASC, EE 362S, 16910
Fall 2009, Development of a Solar Car for NASC, ASE 379L, 13755
Fall 2009, Development of a Solar Car for NASC, ME 379M, 18830
Fall 2009, Plasma Processing of Semiconductors I, EE 396K-19, 17335
Spring 2010, Honors Senior Design Project, EE 464H, 16650
Spring 2010, Research Senior Design Project, EE 464R, 16660
Spring 2010, Senior Design Project, EE 464K, 16655

Area Advisor, Plasma, Quantum Electronics and Optics (1988 - present)
Honors Program Coordinator (1989 - present)
Graduate Recruiter (2002 - present)
Area Coordinator, Plasma, Quantum Electronics and Optics (2009 - present)

Ph.D. Supervisions Completed:

John J. Zielinski, August 1992, Electrical and Computer Engineering, UT
Defu Zhang, May 1993, Electrical and Computer Engineering, UT
Kang-Lie Chiang, May 1997, Electrical and Computer Engineering, UT
Romik Chatterjee, December 1997, Electrical and Computer Engineering, UT
Mark A. Meier, August 1998, Electrical and Computer Engineering, UT
Christian D. Zuniga, December 2005, Electrical and Computer Engineering, UT
Edmund A. Spencer, May 2006, Electrical and Computer Engineering, UT
Ella M. Sciamma, December 2007, Electrical and Computer Engineering, UT
Minkyu Kim, December 2007, Electrical and Computer Engineering, UT

Charles A. Lee, August 2008, Electrical and Computer Engineering, UT

M.S. Supervisions Completed:

Saul G. Duran, May 1988, Electrical and Computer Engineering, UT
Mohankumar Guruswamy, May 1988, Electrical and Computer Engineering, UT
Mark W. Scrivener, August 1988, Electrical and Computer Engineering, UT
Bjorn W. Birkner, August 1990, Electrical and Computer Engineering, UT
Douglas T. Lowe, Jr., August 1990, Electrical and Computer Engineering, UT
Defu Zhang, August 1990, Electrical and Computer Engineering, UT
Yu-Fai Wong, December 1991, Electrical and Computer Engineering, UT
Randy L. Castles, May 1992, Electrical and Computer Engineering, UT
Kang-Lie Chiang, May 1992, Electrical and Computer Engineering, UT
Mark A. Meier, August 1992, Electrical and Computer Engineering, UT
Romik Chatterjee, August 1992, Electrical and Computer Engineering, UT
Indunil M. Netthikumara, May 1993, Electrical and Computer Engineering, UT
Imran Iqbal, December 1994, Electrical and Computer Engineering, UT
Geoffrey S. Royal, May 1995, Electrical and Computer Engineering, UT
Stephen D. Reedy, May 1995, Electrical and Computer Engineering, UT
Abm S. Rahman, August 1995, Electrical and Computer Engineering, UT
James A. McClurg, May 1999, Electrical and Computer Engineering, UT
Ashish Khanna, May 2000, Electrical and Computer Engineering, UT
Jason N. Gibson, May 2001, Electrical and Computer Engineering, UT
Raunak Chatterjee, May 2001, Electrical and Computer Engineering, UT
Edmund A. Spencer, May 2001, Electrical and Computer Engineering, UT
Christian D. Zuniga, August 2001, Electrical and Computer Engineering, UT
Alvaro G. Garcia, December 2003, Electrical and Computer Engineering, UT
Wei-Tai Lin, December 2003, Electrical and Computer Engineering, UT
Ashley J. Shugart, May 2004, Electrical and Computer Engineering, UT
Adam R. Schilffarth, May 2005, Electrical and Computer Engineering, UT
Harish Subbaraman, May 2006, Electrical and Computer Engineering, UT
Nirmala K. Kandadai, December 2008, Electrical and Computer Engineering, UT

Ph.D. in Progress:

A. Students admitted to candidacy:
   Alvaro Garcia
B. Post MS Students preparing to take PhD qualifying exam:
   Nirmala K. Kandadai

M.S. in Progress:

Matthew L. Wisher

Vita:

Gary Allen Hallock was born on August 19, 1954 in Riverhead, NY, to William K. Hallock and Jean Gray Hallock. His early years were spent on Long Island, where he attended Aquebogue Elementary School and Riverhead High School. He entered Rensselaer Polytechnic Institute in the fall of 1972, and obtained a B.S. in Electrical Engineering in 1976. He obtained a M.S.E.E. from RPI in 1977, benefiting from the instruction and advice of Professor Robert L. Hickok. His Master's work consisted of developing a video disk recording system for experimental data from the Rensselaer tokamak, and a computer interface to the laboratory's Nova minicomputer.

In 1978 he moved to Livermore, CA, and began work at Lawrence Livermore National Laboratory towards a doctorate. Here he developed a heavy ion beam probe diagnostic for the new tandem mirror fusion experiment (TMX). The work was again directed by Professor Robert L. Hickok, and Gary benefited under his supervision and also the scientific environment at the national laboratory. His Ph.D. degree was awarded in 1982.

In January 1982 he accepted a staff scientist position at Rensselaer, and moved to Knoxville, TN. Here he worked on two fusion experiments at the Oak Ridge National Laboratory, the Elmo-Bumpy-Torus Experiment (EBT) and the Impurity-Studies-Experiment (ISX). In 1983-84 the work focused on developing a heavy ion beam probe for the ISX-B experiment. This project provided the first space potential measurements in a neutral-beam heated tokamak.

Dr. Hallock joined the faculty of the Electrical and Computer Engineering Department of the University of Texas at Austin in 1984, becoming an Associate Professor in 1988 and Professor in 1995. He developed a heavy ion beam probe for the central cell of the Tara tandem mirror experiment. Results of this work included potential measurements and the study of tandem mirror instabilities. His current work involves the TEXT tokamak, where he is doing research on high resolution interferometry, laser scattering, density control, and plasma transport.

Gary enjoys running, dancing, swimming, skiing, and photography. He is married and has two daughters, Laura Annice and Deborah Marie.

Spouses's Name: Patricia

Revised: October 13, 2010