Charles B. Fleddermann
Professor of Electrical and Computer Engineering; and,
Associate Dean for Academic Affairs, School of Engineering
University of New Mexico

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Education:

Ph.D., Electrical Engineering, University of Illinois at Urbana-Champaign, 1985.

M.S., Electrical Engineering, University of Illinois at Urbana-Champaign, 1980.

B.S., Electrical Engineering, University of Notre Dame, 1977.

Professional Experience:

Dean of Graduate Studies (Acting), University of New Mexico, April 2007–June 2009.

Associate Dean for Academic Affairs, School of Engineering, University of New Mexico, 2002-present.

Associate Chair for Undergraduate Affairs, Dept. of Electrical and Computer Engineering, University of New Mexico, 2001.

Professor, Dept. of Electrical and Computer Engineering, University of New Mexico, 1998-present.

Associate Professor, Dept. of Electrical and Computer Engineering, University of New Mexico, 1991-1998.

Sabbatical, Sandia National Laboratories, 1996-97 academic year.

Assistant Professor, Dept. of Electrical and Computer Engineering, University of New Mexico, 1985-1991.

Joint Sandia National Laboratories-UNM professor, 1985-1988.

Electrical Design Engineer, Texas Instruments, Inc., 1977.

Professional and Honorary Societies:

Member of the Institute of Electrical and Electronics Engineers (IEEE), *Senior Member*; the American Physical Society (APS); and the American Society for Engineering Education (ASEE). Inducted into Tau Beta Pi and Eta Kappa Nu honor societies.

Areas of Teaching Experience:

Engineering Ethics
Microelectronics
Semiconductor processing methods
Gaseous electronics and plasma science
Photovoltaics and Energy
Semiconductor device physics
Electromagnetics
Digital and analog electronics
Circuit theory
Engineering design
Freshman level introduction to electrical and computer engineering

Major Professor for 20 M.S. and Ph.D. students

Teaching Awards:

Named Gardner-Zemke Professor of Electrical and Computer Engineering, Univ. of New Mexico, 2002 (awarded for outstanding teaching).

ECE Distinguished Teacher Award, ECE Department, University of New Mexico, 2001.

New Courses Developed:

Solar Photovoltaics (ECE 495/595), taught as special topics course two times since Spring 2005.

Engineering Ethics (ECE/ME/CE 409), Spring 1994, initiated a one-credit hour seminar course in ethics for the undergraduate curriculum.

Senior Design I and II (ECE 419 & 420), Fall 1997, redesigned existing senior lab courses into a two-course sequence with projects sponsored by local industry.

Areas of Research Experience:

Plasma deposition of materials for microelectronics
Optical diagnostics of plasma and beam processes
Plasma etching of ceramics
Sputter deposition of thin films
Thermal plasma processing of hazardous wastes
Electron emission from ferroelectrics
Solar photovoltaics
Engineering education

Significant Research Accomplishments:

Measurements of reactive species densities in plasma etch reactors used in the integrated circuit industry. This provides important information to developers of plasma etch tools and developers of plasma etch processes in industry.

Development of plasma etching techniques for ceramic thin films, especially high-temperature superconductors and ferroelectric materials. Full realization of potential applications of these materials required the development of methods to pattern thin films fabricated from high-technology ceramics. Work at UNM pioneered plasma methods similar to those used in the IC industry for patterning ceramic thin films.

Development of thin film resistive ceramic coatings for suppression of vacuum breakdown. Enabled higher performance in high-power microwave applications.

Measurement of electron density dynamics in silane and methane gas discharges. Important for developers of plasma deposition equipment and plasma deposition processes for the integrated circuit industry.

Professional Activities:

Editor-in-Chief, IEEE Transactions on education; July 2007-present.; Associate Editor, IEEE Transactions on Education; 2000-2007.

ABET program evaluator, 2011- present. Will begin serving as a PEV beginning with the 2011-12 accreditation cycle. First visit as PEV: September 2011.

Member of IEEE Education Society Administrative Committee, July 2007- 2009.

Consultant to New Mexico Society of Professional Engineers: Create and present professional development seminars on Engineering Ethics for working engineers; ongoing activity beginning summer 2006 with over 30 events in four years.

Member of Engineering Program advisory committee for Central New Mexico Community College, Fall 2007-present.

Taught professional development courses on solar energy and engineering ethics for UNM Continuing Education, Fall 2008-present.

Member of the Engineering B Enhancement Review Panel for the Louisiana Board of Regents Support Fund. This fund supports special projects at universities throughout Louisiana. Spring 2006 to present.

Invited participant in ABET retreat on the future of ABET 2000, Richmond VA, October, 2003.

Chair of an ABET-like academic program review for the electrical engineering program at the University of Costa Rica, December, 1998.

Secretary, Gaseous Electronics Conference, 1997-98.

Charged with organizing and running the 1998 meeting in Maui, Hawai'i.

President, New Mexico Section of the Materials Research Society, 1989-1993.

Manuscript reviewer for: IEEE Transactions on Plasma Science, IEEE Trans. on Education, Physical Review, Journal of the Electro- Chemical Society, Journal of Applied Physics, Materials Letters, Journal of Physical Chemistry, IEEE Electron Device Letters

Proposal reviewer for NSF.

Textbook reviewer for McGraw-Hill, John Wiley, West Educational Publishing and Kluwer Academic Publishers.

Outreach:

PI on NSF GK-12 grant that placed UNM engineering and science graduate students in classrooms in the West Mesa HS cluster.

Designed to help teachers develop curriculum, lab activities, and educational plans in the area of optics. Provided grad students with $30k stipend to pursue graduate education while supporting K-12 STEM education.

Board Chair, Albuquerque Institute for Mathematics and Science (AIMS@UNM)

Charter school established in 2004 designed to provide science/math focused education. I was instrumental in having the school located at UNM and in fostering connections between AIMS and UNM SOE, College of Education, and College of Arts and Sciences. First graduating class in 2009 had 23 members, all of whom went on to four-year colleges, 21 enrolling at UNM. Of the 21, three were directly admitted into the School of Engineering.

International Education:

US Dept. of Education funded exchange program with Brazil

PI on a grant funding exchanges with three partner universities in Brazil. This has facilitated students from many disciplines at UNM studying in Brazil, as well as Brazilian students coming to the US including three studying Civil Engineering.

Polytechnic of Namibia (PON), Africa

Visited PON to develop exchange program for faculty and students. This has resulted in an extended visit to UNM by a mechanical engineering faculty member from PON, the signing of an MOU with PON, and potential visits currently being planned by UNM faculty to visit PON.

University, college, and departmental committees (recent activities):

Chair, UNM Conflict of Interest Committee, 2010- present.

This committee works with PIs to manage conflicts of interest in research.

Member of Provost's committee on campus housing. 2010-11 academic year.

Committee advises Provost on priorities for on-campus housing.

Member of UNM management team for negotiations with USUNM (staff union), 2010-11 academic year.

Team handled negotiations with union representing UNM staff, including academic advisors.

Member of Provost's task force on Research Centers, 2009-2011.

Tasked with developing comprehensive plan for organizing and managing research centers at UNM.

Member of Research Ethics Advisory Committee, 2008- present.

Committee charged with developing policies for promoting ethical conduct of research throughout UNM, and for developing training opportunities to ensure that UNM is in compliance with federal and state ethics standards.

Member of UNM Core Curriculum task force. 2009-10 academic year.

Task force charged with making recommendations for changing and improving the UNM undergraduate core curriculum.

Member of UNM Provost's task force on honors housing, 2009-10 academic year.

Task force charged with assessing need for an honors dormitory at UNM Task force also developed recommendations on the scope of the facility.

Member, UNM Special Focus Committee for the HLC accreditation visit, 2008-09 academic year.

Committee charged with developing the self-study for UNM's special focus on educating diverse populations for the university-wide accreditation.

Member of UNM Athletic Council, 2006- 2009.

This is a faculty senate committee charged with oversight of the athletic programs of the university.

Member of UNM Research Policy Committee, 1998-2006; chair 2002-2005.

This is a faculty senate committee charged with oversight of the research efforts of the university. As chair, led RPC in major revisions to policies on intellectual property, research misconduct, conflict of interest, and extra compensation.

Member of ECE department strategic planning committee, 1999-2001.

Member of ECE undergraduate curriculum committee, 1987-1988, and 1992-2002; chair 1995-1998.

Participated in major revisions of ECE undergraduate curriculum, laboratory courses, 1995-96; and development of an undergraduate program outcomes assessment procedure.

Member of ECE Promotion and Tenure Committee, 1997-98.

Elected to faculty senate, 1993-1996; elected to operations committee (the executive committee of the senate) 1995-96.

Community Service:

Chair, Board of Trustees, Albuquerque Institute for Mathematics and Science (AIMS@UNM); new charter math, science, and technology high school which opened fall 2005 and will be housed on the UNM campus, 2004- present.

Member, Board of Directors, New Mexico Engineering Foundation, 2002-2009. Have served as Treasurer.

Board Member, Sundance Swim Association (summer swim league for children aged 5-18), 2004-2006. Served as league president during 2005 swim season.

Publications and Presentations

Publications

Nearly 600 citations to my scholarly work.

Books:

Charles Fleddermann, *Engineering Ethics,* Prentice Hall, 4th edition, 2011.

> *This text has been adopted by numerous domestic universities including Iowa State University, University of Florida, University of Texas, Lehigh University, and Virginia Polytechnic Institute. It has been translated into Chinese, Korean, Dutch, and Indonesian, and has been licensed for sale in India.*

Charles Fleddermann and Martin Bradshaw, *Introduction to Electrical and Computer Engineering,* Prentice Hall, 2003.

> *This text has been translated into Turkish.*

Journal Articles and Proceedings:

1. K. Mills and C. Fleddermann, "Getting the Best from Nanotechnology: Changing the Way Societal and Ethical Implications of Technology are Addressed," IEEE Technology and Society Magazine, **24** (4), 18-26 (2005).

2. F. Liu and C. B. Fleddermann, "Electron Emission from Thin Film Ferroelectric Cathodes," Applied Physics Letters **76** (12), 1618-1620 (2000).

3. C. B. Fleddermann, "Engineering Ethics Cases for Electrical and Computer Engineering Students," IEEE Transactions on Education **43** (3), 284-287 (2000).

4. R. P. Joshi, P. Kayasit, N. Islam, E. Schamiloglu, C. B. Fleddermann, and J. Schoenberg, "Simulation Studies of Persistent Photoconductivity and Filamentary Conduction in Opposed Contact Semi-insulating GaAs High Power Switches," Journal of Applied Physics **86** (7), 3833-3843 (1999).

5. N. E. Islam, E. Schamiloglu, C. B. Fleddermann, R. P. Joshi, and L. Zheng, "Simulation Studies of Lateral and Opposed Contact GaAs Photoconductive Switch Geometries," in Ultra-Wideband Short-Pulse Electromagnetics 4, (Plenum Press, New York, 1998) in press.

6. G. A. Hebner and C. B. Fleddermann, "Relative Atomic Chlorine Density in Chlorine Boron Trichloride Containing Inductively Coupled Discharges," Journal of Applied Physics **83** (10), 5102-5107 (1998).

7. C. B. Fleddermann and G. A. Hebner, “Measurements of Relative BCl Density in BCl_3-containing Inductively-coupled rf Plasmas,” Journal of Applied Physics **83** (8), 4030-4036 (1998).

8. C. B. Fleddermann and G. A. Hebner, “Positive and Negative Chlorine Ion Kinetics in Inductively-Coupled Cl_2/BCl_3 Plasmas,” in *Process Control, Diagnostics, and Modeling in Semiconductor Manufacturing*, ed. by M. Meyappan, D. J. Economou, and S. W. Butler, Electrochemical Society Proceedings, Vol. **97-9**, 1997, pp 145-152.

9. G. A. Hebner and C. B. Fleddermann, “Characterization of Pulse-modulated Inductively Coupled Plasmas in Argon and Chlorine,” Journal of Applied Physics **82** (6), 2814-2821 (1997).

10. G. A. Hebner, C. B. Fleddermann, and P. A. Miller, “Metastable Chlorine Ion Kinetics In Inductively Coupled Plasmas,” Journal of Vacuum Science and Technology A **15** (5), 2698-2708 (1997).

11. H. R. Snyder and C. B. Fleddermann, “Decomposition of Hazardous Liquids in a Plasma Arcjet Reactor,” IEEE Transactions on Plasma Science **25** (5), 1017-1022 (1997).

12. D. S. Ruby, C. B. Fleddermann, M. Roy, and S. Narayan, “Self-Aligned Selective-Emitter Plasma-Etchback and Passivation Process for Screen-Printed Silicon Solar Cells,” Solar Energy Materials and Solar Cells **48**, 255-260 (1997).

13. C. B. Fleddermann and G. A. Hebner, “Negative Ion Densities in Chlorine- and Boron Trichloride-containing Inductively-coupled Plasmas,” Journal of Vacuum Science and Technology A **15** (4) 1955-1962, July/August 1997.

14. Charles B. Fleddermann, "Plasma Etching and Plasma Physics Experiments for the Undergraduate Microelectronics Course," IEEE Transactions on Education **40** (3), pp. 207-212, August 1997.

15. C. B. Fleddermann and John Nation, “Ferroelectric Sources and Their Application to Pulse Power: A Review,” IEEE Transactions on Plasma Science **25** (2) 212-220, April 1997.

16. R. J. Focia, E. Schamiloglu, C. B. Fleddermann, F. J. Agee, and J. Gaudet, “Silicon Diodes in Avalanche Pulse Sharpening Applications,” IEEE Transactions on Plasma Science **25** (2) 138-144, April 1997.

17. H. R. Snyder, C. B. Fleddermann, and J. M. Gahl, “Destruction of Acetone Using a Small-scale Arcjet Plasma Torch,” Waste Management **16** (4), 289-294 (1996).

18. D. S. Ruby, W. L. Wilbanks, C. B. Fleddermann, M. D. Rosenblum, and M. Roy, “Optimization of PECVD Deposition Processes for Commercial Multicrystalline Silicon

Solar Cells," in Proceedings of the 25th IEEE Photovoltaic Specialists Conference, Washington, D.C., May, 1996.

19. R. J. Focia, E. Schamiloglu, and C. B. Fleddermann, "Numerical Simulation of the Avalanche Breakdown Process in Pulse Sharpening Diodes," in Proceedings of the AMEREM '96 Conference, Albuquerque, NM, May 1996.

20. D. S. Ruby, C. B. Fleddermann, M. Roy, and S. Narayanan, "Self-Aligned Selective-Emitter Plasma-Etchback and Passivation Process for Screen-Printed Silicon Solar Cells," Technical Digest of Conference Proceedings of the 9th International Photovoltaic Science and Engineering Conference, Miyazaki, Japan, Nov. 1996.

21. C. Grabowski, J. M. Gahl, E. Schamiloglu, and C. B. Fleddermann, "Pulse Shortening in High-Power Backward Wave Oscillators," Proceedings of *Intense Microwave Pulses IV*, SPIE Proceedings, vol. **2843**, pp. 251-259, (1996).

22. R. J. Focia, E. Schamiloglu, and C. B. Fleddermann, "Simple Techniques for the Generation of High Peak Power Pulses with Nanosecond and Subnanosecond Rise Times," Review of Scientific Instruments **67** (7), 2626-2629 (1996).

23. H. R. Snyder, C. B. Fleddermann, and J. M. Gahl, "Destruction of Liquid Solvent Wastes Using an Arcjet Plasma," International Journal of Environmentally Conscious Design and Manufacturing **4** (3-4), 53-57 1995.

24. D. S. Ruby, W. L. Wilbanks, C. B. Fleddermann, and J. I. Hanoka, "The Effect of Hydrogen-Plasma and PECVD-Nitride Deposition on Bulk and Surface Passivation in String-Ribbon Silicon Solar Cells," in Proceedings of the 13th European Photovoltaic Solar Energy Conference, Nice, France, October, 1995, pp. 1412-1414.

25. R. J. Focia, E. Schamiloglu, C. B. Fleddermann, W. C. Nunnally, and J. Gaudet, "Ultrafast High Power Switching Diodes," in Proceedings of the 10th IEEE International Pulsed Power Conference, W. Baker and G. Cooperstein, eds., Albuquerque, NM, June, 1995 (IEEE Cat, #95CH35833) pp. 723-728.

26. T. Cavazos, D. Shiffler, and C. Fleddermann, "Investigation of Electron Emission from Bulk Ferroelectric Ceramic Materials," in Proceedings of the 10th IEEE International Pulsed Power Conference, W. Baker and G. Cooperstein, eds., Albuquerque, NM, June, 1995 (IEEE Cat, #95CH35833) pp. 699-704.

27. H. R. Snyder, C.B. Fleddermann, and J. M. Gahl, "Destruction of Liquid Solvent Wastes Using an Arcjet Plasma," in Proceedings of the 5th Annual WERC Technology Development Conference, Las Cruces, NM, April 1995, pp. 202-208.

28. D. S. Ruby, K. N. Wroblewski, and C. B. Fleddermann, "A Statistical Analysis of the Effect of PECVD Deposition Parameters on Surface and Bulk Recombination in Silicon Solar Cells," in Proceedings of the 1st World Conference on Photovoltaic Energy

Conversion, Waikoloa, HI, December, 1994, IEEE catalog number 94CH3365-4, pp. 1335-1338, published May 1995.

29. E. Schamiloglu, J. Gahl, C. Fleddermann, D. Shiffler, L. Moreland, C. Grabowski, T. Cavazos, B. Wroblewski, and W. Wilbanks, "High Efficiency Backward-Wave Oscillators for High Power Microwave Generation: Present Status and Future Trends," proceedings of AGARD (Advisory Group for Aerospace Research & Development), Sensor and Propagation Panel Symposium, Ottawa, Canada, May 1994; AGARD Conference Proceedings, vol. **564**, High Power Microwaves, pp. 3-1 - 3-7, published March 1995.

30. C. B. Fleddermann, "Plasma Etching of PLZT: Review and Future Prospects," Integrated Ferroelectrics, **5** (1) 29-37 (1994).

31. C. S. Mayberry, B. Wroblewski, E. Schamiloglu, and C. B. Fleddermann, "Suppression of Vacuum Breakdown Using Thin Film Coatings," Journal of Applied Physics, **76** (7) 4448-4450, 1 October1994.

32. T. Cavazos, W. Wilbanks, C. B. Fleddermann, and D. Shiffler, "Repeatable Electron Emission from PLZT Ferroelectric Cathodes Using DC Reset," Applied Physics Letters **65** (20), 2612-2614, 14 November 1994.

33. T. Cavazos, W. Wilbanks, C. Fleddermann, and D. Shiffler, "Investigation of Electron Emission from Bulk (Pb,La)(Zr,Ti)O3 Ferroelectric Ceramics," in Technical Digest of the 1994 IEEE International Electron Devices Meeting (IEDM), San Francisco, CA, Dec. 1994, pp. 35-38 (IEEE cat. no. 94CH35706).

34. James R. Spehar, Roy A. Colclaser, and Charles B. Fleddermann, "The Effect of Oxidation of the Poly Gate on the ESD Performance of CMOS ICs," Proceedings of the 1994 EOS/ESD Symposium, Las Vegas, NV, Sept. 1994, pp. 257-265.

35. Charles B. Fleddermann, John Montoya, Salvadore Guel, Stephan D. Hersee, Don Kendall, and Kenneth Jungling, "Incorporation of Plasma Physics and Plasma Etching Into the Undergraduate Microelectronics Laboratory," in Proceedings of the 10th Biennial University/Government/Industry Microelectronic Symposium, ed. by M. Poponiak, IEEE, 1993, pp. 178-182.

36. T. Cavazos, D. Shiffler, B. Wroblewski, C. Fleddermann, J. Gahl, and E. Schamiloglu, "Initial Studies of Ferroelectric Cathodes," in Proceedings of the 9th IEEE International Pulsed Power Conference, Albuquerque, NM, June 1993, ed. by K. R. Prestwich and W. L. Baker, IEEE catalog #93CH3350-6, 1993, pp. 950-953.

37. H. Snyder and C. B. Fleddermann, "Measurements of Electron Density, Decay Time, and Floating Potential in Methane Discharges," Journal of Applied Physics, **73** (2) 1001-1003, 15 January 1993.

38. Don L. Kendall, Charles B. Fleddermann, and Kevin J. Malloy, "Critical Technologies for the Micromachining of Silicon," in The Mechanical Properties of Semiconductors, ed. by K. T. Faber and K. J. Malloy, Semiconductors and Semimetals series, Volume **37** (Academic Press, San Diego, CA. 1992), pp. 293-337.

39. A. J. Blair, G. Metzger, and C. B. Fleddermann, "Optical Absorption Spectroscopic Diagnostics During Sputter Deposition of Y-Ba-Cu-Oxide," Journal of Applied Physics, **72** (10) 4792-4797, 15 November 1992.

40. G. Metzger, A. J. Blair, and C. B. Fleddermann, "Atomic Absorption Spectroscopy: An In Situ Diagnostic for Sputter Deposition of Y-Ba-Cu-oxide," in Surface Chemistry and Beam-Solid Interactions, ed. by H. A. Atwater, F. A. Houle, and D. H. Lowndes (Mater. Res. Soc. Proc. **201**, Pittsburgh, PA, 1991), pp. 587-592.

41. M. R. Poor and C. B. Fleddermann, "Chemical Plasma Etching of Y-Ba-Cu-oxide Thin Films," Journal of Applied Physics, **70** (12) 7640-7642, 15 December 1991.

42. M. R. Poor and C. B. Fleddermann, "Measurements of Etch Rate and Film Stoichiometry Variations During Plasma Etching of PLZT Thin Films," Journal of Applied Physics, **70** (6) 3385-3387, 15 September 1991.

43. M. R. Poor and C. B. Fleddermann, "Studies of Plasma Etching of High-Temperature Superconducting Thin Films," in Plasma Processing and Synthesis of Materials III, edited by D. Apelian and J. Szekely (Mater. Res. Soc. Proc. **190**, Pittsburgh, PA. 1990) pp. 273-278.

44. M. R. Poor, A. M. Hurd, C. B. Fleddermann, and A. Y. Wu, "Plasma Etching of PLT Thin Films and Bulk PLZT Using Flourine- and Chlorine-Based Gases," in Ferroelectric Thin Films, edited by E. R. Myers and A. I. Kingdon (Mater. Res. Soc. Proc. **200**, Pittsburgh, PA. 1990) pp. 211-216.

45. M. R. Poor, A. M. Hurd, C. B. Fleddermann, and A. Y. Wu, "PLZT Thin Film Etching Using Plasma Techniques," Proc. of IEEE 1990 Seventh International Symposium on Applications of Ferroelectrics, Urbana-Champaign, IL., June 6-8, 1990, ed. by S. B. Krupanichi and S. K. Kurtz (IEEE Proceedings) pp. 702-705.

46. C. B. Fleddermann, "Optical Emission Spectroscopy During Sputtering of Y-Ba-Cu-oxide Targets," Journal of Applied Physics, **67** (8) 3815-3820, 15 April 1990.

47. G. Metzger and C. B. Fleddermann, "Effects of O_2 Ion Bombardment of Y-Ba-Cu-oxide During Thin Film Growth," in Beam-Solid Interactions: Physical Phenomena, edited by R. Knapp, P. Borgesen, and R. A. Zuhr (Mater. Res. Soc. Proc. **157**, Pittsburgh, PA. 1990) pp. 623-626.

48. J. P. West and C. B. Fleddermann, "Electron-Beam Assisted CVD of Silicon Homoepitaxial Films", in Laser- and Particle-Beam Chemical Processes, edited by A. W.

Johnson, G. L. Loper, and T. W. Sigmon (Mater. Res. Soc. Proc. **129**, Pittsburgh, PA. 1989) pp. 527-532.

49. C. B. Fleddermann, "Optical Emission Spectroscopic Studies of the Sputtering of Y-Ba-Cu-oxide Thin Films," Journal of Applied Physics **65** (7) 2861-2863, 1 April 1989.

50. C. B. Fleddermann, J. H. Beberman and J. T. Verdeyen, "Measurement of the Electron Density and the Attachment Rate Coefficient in Silane/helium Discharges," Journal of Applied Physics **58** (3) 1344-48, 1 August 1985.

51. C. B. Fleddermann, N. J. Ianno, J. T. Verdeyen and B. G. Streetman, "Discharge Annealing of Ion Implanted Silicon," in Laser- and Electron-Beam Interactions With Solids, edited by B. R. Appleton and G. K. Celler, (Mater. Res. Soc. Proc. **4**, Pittsburgh, PA., 1982) pp. 795-800.

Invited Talks

Charles Fleddermann, “Atrapados en la Tormenta: Ingenieros, Ética y el Huracán Katrina (Caught in the Storm: Engineers, Ethics and Hurricane Katrina)”, Keynote speech at 2nd International Conference on Development and Innovation With New Technologies in Engineering Education (FINTDI 2011), Teruel, Spain, May 2011. (Part of IEEE Distinguished Lecturer program.)

C. B. Fleddermann (panelist), “Innovation in Educational Programs,” 2006 Technology Leadership Forum, Rocky Mountain Technology Alliance, Colorado Springs, Nov. 2006.

C. B. Fleddermann (panelist), “The FE Exam as Assessment Tool,” 2002 ABET Annual Meeting, Pittsburgh, PA., Nov. 2002.

C. B. Fleddermann, “The Ethics of Technological Advancement: Just Because Something Can Be Done, Should It Be Done?” Seminar presented as part of Ohio University Institute for Applied and Professional Ethics seminar series, Athens, OH, May 2002.

G. A. Hebner and C. B. Fleddermann, “Atomic and Molecular Spectroscopy in Processing Plasmas,” presented at the 20th Dry Etch Symposium, Tokyo, Japan, Nov. 1998.

E. Schamiloglu, J. Gahl, C. Fleddermann, D. Shiffler, L. Moreland, C. Grabowski, T. Cavazos, B. Wroblewski, and W. Wilbanks, "High Efficiency Backward-Wave Oscillators for High Power Microwave Generation: Present Status and Future Trends," presented at AGARD (Advisory Group for Aerospace Research & Development) Symposium on High Power Microwaves, Ottawa, CA., May 1994.

Charles B. Fleddermann, "Plasma Preparation of Electronic Ceramics," presented in Department of Electrical Engineering seminar series, University of Texas at El Paso, April, 1994.

Charles B. Fleddermann, "Prospects for Application of Plasma Etching to Perovskite Ceramic Thin Films," presented at the 5th International Symposium on Integrated Ferroelectrics (ISIF), Colorado Springs, CO, April, 1993.