

James Claude Dickens, Ph.D., P.E.

EDUCATION

PhD (Electrical Engineering)	Texas Tech University	1995
MS (Electrical Engineering)	Texas Tech University	1993
BS (Electrical Engineering)	Texas Tech University	1991

Teaching areas: Electronics (analog and digital circuit design) Circuits, Pulsed Power, Electrical Power Distribution Systems, Power Electronics, Optics and Optical Systems, Failure Analysis, Fields, Microwave and RF Circuits, Communications and Communication Circuits, and Electric Space Propulsion.

Research areas: SiC Photoconductive Switching, Pulsed Power, Pulsed RF Sources and Applications, Communication Systems, High Speed Data Conversion, Jammer Systems and Topologies, Pulsed Lasers, Fiber Laser and applications, Electrical Failure Forensics, Grounding and Shielding, Power Electronics, High Efficiency DC/DC Converters, Explosive Pulsed Power, High Power Microwaves, Arc and Plasma Diagnostics, and Electric Space Propulsion.

PROFESSIONAL EXPERIENCE

Texas Tech University Electrical and Computer Engineering

Charles Bates Thornton Professor	Sept. 2009
Professor	Sept. 2008 – Aug. 2009
Associate Professor	Sept. 2001-Aug. 2008
Assistant Professor	Jan. 1999-Aug. 2001
Research Assistant Professor	May 1996 - Dec. 1998

AWARDS, PROFESSIONAL SOCIETIES, and SERVICES

- 2014 IEEE Sol Schneider Award, IEEE Dielectrics and Electrical Insulation Society
- 2016 IEEE International Power Modulator Conference Technical Committee
- Technical Program Co-Chair for the 2008 IEEE International Power Modulator Conference in Las Vegas, NV
- Guest editor of IEEE Transactions on Plasma Science Special Issue on Pulsed Power
- Lecturer at High Power Microwave Workshop at FOI in Grindsjön, Sweden, Aug. 2005.
- Presented an invited talk at Kumamoto University's International Forum on Pulsed Power Science. All expenses were paid by the host institution.
- 2005 Chancellor's Excellence in Research Award from Texas Tech University.
- Vice-Chairman of 2003 IEEE International Pulsed Power Conference.
- AIAA Electric Propulsion Technical Committee Secretary 2000-2002.
- AIAA Electric Propulsion Technical Committee 1999-present.
- Organizer and lecturer at workshop on Pulsed Power Technology, Bechtel, 2001.
- Organizer at workshop on Pulsed Power Technology, China Lake.
- Japanese Society for the Promotion of Science (JSPS) Fellow 1996
- American Institute of Aeronautics and Astronautics (AIAA), 1993-present.
- Institute of Electrical and Electronics Engineers (IEEE), 1990-present.

GRANTS AND CONTRACTS

- Dr. Dickens has been P.I / Co-P.I. on 5 highly competitive MURI grants.
- Dr. Dickens is P.I. on a highly competitive Navy IED basic research grant. (>400 original submissions 8 awarded)
- Dr. Dickens has been P.I. on six highly competitive DURIP equipment grants.

SELECTED PUBLICATIONS (JOURNALS)

1. “Window Breakdown Caused by High Power Microwaves,” IEEE Trans. Plasma Science, HPM Issue, 26 296 (1998) (with A. Neuber, M. Kristiansen, D. Hemmert, H. Krompholz, and L.L. Hatfield).
2. “Microwave Magnetic Field Effects on High Power Microwave Window Breakdown,” IEEE Transactions on Plasma Science, Special Issue on High Power Microwaves, Vol. 28, 472-477, 2000. (with D. Hemmert, A. Neuber, M. Kristiansen, H. Krompholz, and L.L. Hatfield).
3. “Subnanosecond Corona Inception in an Ultra Wideband Environment,” Plasma Science, IEEE Transactions on , Volume: 30 , Issue: 3 , June 2002 Pages:1211 - 1214 ,(with John Mankowski M. Kristiansen, J. Lehr, W. Prather, and J. Gaudet).
4. “DC Flashover of a Dielectric Surface in Atmospheric Conditions,” IEEE Transactions on Plasma Science, vol. 32, pp. 1828-1834 (2004) (with John T. Krile, Andreas A. Neuber, and Hermann G. Krompholz).
5. VUV Emission and Streamer Formation in Pulsed Dielectric Surface Flashover at Atmospheric Pressure, Rogers, T.G.; Neuber, A.A.; Frank, K.; Laity, G.R.; Dickens, J.C.; Plasma Science, IEEE Transactions on Volume: 38 , Issue: 10 , Part: 1 Digital Object Identifier: 10.1109/TPS.2010.2059714 Publication Year: 2010 , Page(s): 2764 - 2770

Professional Development

Guest editor of IEEE Transactions on Plasma Science Special Issue on Pulsed Power.

Invited talk at Kumamoto University’s International Forum on Pulsed Power Science. American Institute of Aeronautics and Astronautics (AIAA), 1993-present.

Organizer -- Pacific Symposium on Pulsed Power and Applications