

1. Name: Edward B Stokes

Academic Rank: Associate Professor

2. Degrees:

BSE	University of North Carolina at Charlotte	1981
BA	University of North Carolina at Charlotte	1981
MSE	University of North Carolina at Charlotte	1984
PhD	Rensselaer Polytechnic Institute, Troy, NY	1996

3. Number of years at UNC Charlotte: 8

- Associate Professor: 2002-present

4. Other related experience:

- Staff Scientist, GE Global Research Center, Schenectady, NY, 1996-2002
- Associate Staff Scientist, GE Global Research Center, Schenectady, NY, 1986-1996

5. Consulting, patents:

- Consulting with Teklicon, Expert Witness, March 2009 through September 2009.
- Co-founder and SBIR subcontractor to small business Dot Metrics Technologies, 2003-present.
- Patent Application #20090269868: “Methods of Manufacture for Quantum Dot optoelectronic devices with nanoscale epitaxial lateral overgrowth”: 2009.
- Patent 7,367,217: “Sensor device for detection of dissolved hydrocarbon gases in oil filled high-voltage electrical equipment”: 2008.

6. Research Project Participation:

- “SBIR Phase 2: Ultraviolet Germicidal Optical Flow Cell”, NSF / Dot Metrics Technologies, Feb 2009 – Jan 2011, \$129,849, Co-PI with Jim Oliver (Biology).
- “MRI: Development of a High-Pressure MOCVD for III-Nitride Semiconductor Devices”, NSF, Jul 2008 – Jun 2011, \$298,774, Co-PI with Mike Fiddy, Ray Tsu, Oleg Smolski (Physics).
- ‘SURF: Summer Undergraduate Research Fellowships’, NIST, Jun 2005 – Aug 2005, \$20,332, PI.
- “SBIR Phase II: Nanostructured Active Layers for Deep-green Light Emitting Diodes”, DARPA / Dot Metrics Technologies, Jul 2005 – Jun 2007, \$177,905, PI.

7. States(s) in which registered: None

8. Principal publications of last five years:

- Batoni, P., E.B. Stokes, S.F. LeBoeuf, T. Nohava, “Photocurrent spectroscopy investigation of deep level defects in Mg-doped GaN and Mg-doped Al_xGa_{1-x}N (0.20<x<0.52)”, Applied Physics Letters, 95, 131102 (2009).
- Batoni, P., K.N. Patel, C.C. Burkhart, T.K.Shah, V. Iyengar, M.T. Ahrens, S.T. Morton, S.M. Bobbio, E.B. Stokes, “Very Low Pressure Magnetron Reactive Ion Etching of GaN

and Al_xGa_{1-x}N Using Dichlorofluoromethane (Halocarbon 12)", Journal of Electronic Materials, 36, 1166 (2007).

- Pagan, J.G., E.B. Stokes, K.N. Patel, C.C. Burkhart, M.T. Ahrens, P.T. Barletta, and M.O'Steen, "Colloidal quantum dot active layers for light emitting diodes", Solid State Electronics, 50, 1461 (2006).
- Hodge, M.D., E.B. Stokes, and P. Batoni, "Fabrication and Electrical Characterization of Be-Doped Al_{0.42}Ga_{0.58}N MSMs", ECS Transactions, Vol. 3, No. 5, pp. 463-468 (2006).
- Pagan, J.G., M.T. Ahrens, E.B. Stokes, B.A. Martin, and M.-A. Hasan, "Integration of CdSe quantum dots with GaN optoelectronic materials", Phys. Stat. Sol. C (2005).

9. Scientific and Professional societies of which a member:

- Electrochemical Society (ECS), 1983 - present
- IEEE, 2000 – present
- Materials Research Society (MRS), 2000 – present

10. Honors and awards:

- General Electric silver patent medallion (2001)
- General Electric publication award (1998)
- "Green belt" in GE Six Sigma quality (1998)
- GE Plastics R&D Contributor of the Year (1996)
- General Electric bronze patent medallion (1989)

11. Institutional and professional service in the last five years:

- UNC Charlotte: Associate Director, Interdisciplinary Nanoscale Science PhD Program, 2009-present.
- Organizer and proceedings volume editor, ECS Symposium on Wide Bandgap Semiconductor Materials & Devices, annually since 2002.
- Steering committee, NC Nanotechnology Commercialization Conference, 2009 and 2010.
- Advisory board of Forsyth Technical College Nanotechnology program since 2010.

12. Professional development activities in the last five years:

- IEEE Southeastcon 2010.
- NC Nanotechnology Commercialization Conference, 2009 & 2010.
- Attended at least one national or international meeting of the Electrochemical Society (ECS) annually since 1995, usually as a symposium organizer, session chair, committee member, proceedings volume editor, and/or speaker.
- UNC Charlotte: Faculty Diversity Summer Institute (2006).

13. Percentage of time available for scholarly activity: 25%

14. Percentage of time committed to the program: EE: 90%, CpE: 10%