
RODNEY J. ANDREWS
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PROFESSIONAL PREPARATION

Michigan State University, E. Lansing, Michigan, Chemical Engineering, B.Sc., 1994
University of Kentucky, Lexington, Kentucky, Chemical Engineering, Ph.D., 1999
Professional Engineer, Commonwealth of Kentucky (License # 24738)

APPOINTMENTS

2011- Director, Kentucky NSF EPSCoR
2007- Director, Center for Applied Energy Research, University of Kentucky.
2007- Associate Professor, Chemical Engineering, University of Kentucky. Joint Appointment as Associate Professor, Mechanical Engineering, UKy.
2003-2007 Associate Director, Center for Applied Energy Research, University of Kentucky.
2003-2005 Assistant Adjunct Professor, Mechanical Engineering, University of Kentucky (participant NSF-sponsored 'Nanoscale Engineering Certificate Program').
2001-2003 Assoc. Engineer III, Center for Applied Energy Research, UKy
1999-2001 Assoc. Engineer II, Center for Applied Energy Research, UKy
Jan. 1997 Visiting Researcher, Institute for Advanced Materials Studies, Kyushu
& Dec. 1995 University, Kyushu, Japan.

PATENTS

8,167,955 Carbon fiber reinforced carbon foams for repair and reconstruction of bone defects
7,504,078 Continuous production of aligned carbon nanotubes
7,160,531 Process for the continuous production of aligned carbon nanotubes
6,908,572 Mixing and dispersion of nanotubes by gas or vapor expansion
6,872,403 Polymethylmethacrylate augmented with carbon nanotubes
6,599,961 Polymethylmethacrylate augmented with carbon nanotubes

SELECTED PUBLICATIONS

1. Bradley, R.H., Cassity, K., Andrews, R., Meier, M., Osbeck, S., Andreu, A., Johnston, C., Crossley, A. Surface studies of hydroxylated multi-wall carbon nanotubes (2012) Applied Surface Science, 258 (11), pp. 4835-4843.
2. Bradley, R.H., Andreu, A., Cassity, K., Osbeck, S., Andrews, R., Meier, M., Johnston, C. Dependence of water vapour adsorption on the polarity of the graphene surfaces of multi-wall carbon nanotubes (2010) Adsorption Science and Technology, 28 (10), pp. 903-912.
3. Mangu, R., Rajaputra, S., Clore, P., Qian, D., Andrews, R., Singh, V.P. Ammonia sensing properties of multiwalled carbon nanotubes embedded in porous alumina templates (2010) Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 174 (1-3), pp. 2-8.
4. Satarkar, N.S., Johnson, D., Marrs, B., Andrews, R., Poh, C., Gharaibeh, B., Saito, K., Anderson, K.W., Hilt, J.Z. Hydrogel-MWCNT nanocomposites: Synthesis, characterization, and heating with radiofrequency fields (2010) Journal of Applied Polymer Science, 117 (3), pp. 1813-1819.
5. Han, S.G., Andrews, R., Gairola, C.G. Acute pulmonary response of mice to multi-wall carbon nanotubes (2010) Inhalation Toxicology, 22 (4), pp. 340-347.
6. Crocker, M., Andrews, R. The rationale for biofuels (2010) RSC Energy and Environment Series, 2010 (1), pp. 1-25.
7. Andrews, R.J., Rantell, T., Jacques, D., Hower, J.C., Steven Gardner, J., Amick, M. Mild coal extraction for the production of anode coke from Blue Gem coal (2010) Fuel, 89 (9), pp. 2640-2647.

8. Crofcheck, C., Montross, M.D., Berkovich, A., Andrews, R. The effect of temperature on the mild solvent extraction of white and red oak (2005) *Biomass and Bioenergy*, 28 (6), pp. 572-578.
9. Derbyshire, F., Jagtoyen, M., Andrews, R., Rao, A., Martin-Gullon I., Grulke, E. "Carbon materials in environmental applications" in *Chemistry and Physics of Carbon*, L. Radovic, ed., 27, New York: Marcel Dekker, 2000.
10. Derbyshire, F., Andrews, R., Jacques, D., Jagtoyen, M., Kimber, G., Rantell, T. Synthesis of isotropic carbon fibers and activated carbon fibers from pitch precursors. (2001) *Fuel*, 80 (3), pp. 345-356.
11. Andrews, R., Jacques, D., Rao, A.M., Derbyshire, F., Qian, D., Fan, X., Dickey, E.C., Chen, J. Continuous production of aligned carbon nanotubes: A step closer to commercial realization. (1999) *Chemical Physics Letters*, 303 (5-6), pp. 467-474.
12. Qian, D., Dickey, E.C., Andrews, R., Rantell, T. Load transfer and deformation mechanisms in carbon nanotube-polystyrene composites. (2000) *Applied Physics Letters*, 76 (20), pp. 2868-2870.
13. Majumder, M., Chopra, N., Andrews, R., Hinds, B.J. Nanoscale hydrodynamics: Enhanced flow in carbon nanotubes (2005) *Nature*, 438 (7064), p. 44.
14. Hinds, B.J., Chopra, N., Rantell, T., Andrews, R., Gavalas, V., Bachas, L.G. Aligned multiwalled carbon nanotube membranes. (2004) *Science*, 303 (5654), pp. 62-65.

SYNERGISTIC ACTIVITIES

- Executive Committee, *American Carbon Society*, 2013-2019
- 2011 Graffen Lecturer, *American Carbon Society* (society's premier lectureship)
- Honorary Editorial Advisory Board, *Carbon Journal*, 2004-
- Advisory Committee, *American Carbon Society*, 2004-2010.
- Science Advisory Committee, *Carbon 2004: An International Conference on Carbon*, July 2004, Providence, RI and *Carbon 2007*, July 2007, Seattle, WA.
- Executive Committee, Consortium for Premium Carbon Products from Coal.

COLLABORATORS

Anthony J, University of Kentucky; Bachas LG, University of Kentucky; Barber AH, Wiseman Institute; Beyerlein I; Brinson LC, Northwestern University; Cassity KB, University of Kentucky; Chopra N; Clore P; Delong L, University of Kentucky; Eitan A, Israeli Army; Endo H; Fisher FT, NJIT; Foedinger R, Materials Sciences Corp; Gavalas V, University of Kentucky; Golubic T, Koppers, Inc; Grulke EA, University of Kentucky; Hager Jr. CH, NASA Glenn; Hinds BJ, University of Kentucky; Jacques D, University of Kentucky; Khabashesku VN; Kuwana K; Law SA; Lenihan JS, University of Kentucky; Majumder M; Mangu R; Marrs B, University of Kentucky; Meier MS, University of Kentucky; Miyoshi K, NASA Glenn; Pienkowski D, University of Kentucky; Qian D, University of Kentucky; Rajaputra S; Rantell T, University of Kentucky; Roberts JK, US Army AMRDEC; Saito K, University of Kentucky; Sanders JH, NASA Glenn; Sayir A, NASA Glenn; Schadler LS, RPI; Singh VP, University of Kentucky; Street Jr. KW, NASA Glenn; Vander Wal RL; Wagner HD, Wiseman Institute; Wang J; Weisenberger MC, University of Kentucky; Wombles R, Koppers, Inc; Yeary P, Alice Lloyd College; Zabinski JS, NASA Glenn; Zondlo J, West Virginia University

GRADUATE AND POSTDOCTORAL ADVISORS

Prof. Frank Derbyshire, thesis advisor, postdoctoral sponsor (deceased)
 Prof. Eric Grulke, thesis advisor (University of Kentucky)