



CURRICULUM VITA

Joshua U. Otaigbe (pronounced *OR-TIE-BAY*)
Full Professor of Polymer Science and Engineering
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EDUCATION:

- o Ph.D., Polymer Science and Engineering, UMIST, England, 1984
- o B.S., (with Honors) Industrial Chemistry, Univ. of Benin, Nigeria, 1979

Professional Engineering Registration

- o Chartered Engineer UK (member #554964).

EXPERIENCE:

The University of Southern Mississippi, USA:

- o Full Professor of Polymer Science and Engineering, 2002 –
- o Leader, Polymer Engineering & Composites Group, 2002 –

Iowa State University, USA:

- o Associate Professor (with Tenure) of Materials Science & Engineering, 2000-2002.
- o Associate Professor (with Tenure) of Chemical Engineering, 2000-2002.
- o Assistant Professor of Materials Science & Engineering, 1994-1999.
- o Assistant Professor of Chemical Engineering, 1998-1999.

University of Alberta, CANADA:

- o Research Associate Professor of Chemical & Materials Engineering, 1989-1992.

University of Benin, NIGERIA:

- o Assistant Professor to Professor of Industrial & Engineering Chemistry, 1984-1989.

Visiting Positions:

- o INSA de Lyon, Ingénierie des Matériaux Polymères Laboratoire des Matériaux Macromoléculaires, UMR CNRS 5223, Visiting Professor, 2009-2010 (Sabbatical Leave).
- o Swiss Federal Institute of Technology (ETH-Zurich), Visiting Professor, May 2003 - August 2003 (Subsequent visits in Summer 2004-2007).

Industrial Positions:

- o Project Leader, Corning Incorporated, 1992-94.

MAJOR HONORS AND AWARDS:

- o Fellow, Society of Plastics Engineers, elected 2005.
- o Fellow, Institute of Materials, Minerals & Mining (U.K.), elected 2002.
- o Member, Board of Directors, Society of Plastics Engineers-EPSPDIV, elected 2001.
- o Iowa State University, Engineering College Patent Recognition Award, 2001.
- o Invited Speaker, PAC RIM 4 Conference & Symposium, Maui, Hawaii, 2001.
- o Selected as an Honored Member in Who's Who of American Inventors, 1998-99 edition.
- o National Science Foundation CAREER Award, 1997.

PATENTS:

- Atomizing Apparatus For Making Polymer and Metal Powders and Whiskers" (with J.M. McAvoy et al.), *U.S. Pat.* 6,533,563 (March 18, 2003).
- Optical Devices and Their Method of Assembly (with R.S. Herndon, R.E. Johnson, and J.C. Wu), *U.S. Pat.* 6,444,076 (Sept. 3, 2002).
- Apparatus For and Method of Producing Monodisperse Submicron Polymer Powders From Solution", (with D.W. Noid, et al.), *U.S. Pat.* 6,461,546 (Oct. 8, 2002).
- Method of Making Polymer Powders And Whiskers As Well As Particulate Products of the Method and Atomizing Apparatus (with J.M. McAvoy, et al.), *U.S. Pat.* 6,171,433 (Jan. 9, 2001).

Patents Contd.:

- Sealing Frit Pastes (with K. Fink), *U.S. Pat.* 5,510,301 (April 23, 1996).
- Preparation of Powdered Glass Paste Compositions For Sealing Glass Panels to Funnel or Tubes in Television Picture Tubes (with K. Fink) *European Patent* 709,346 (April 1, 1996).
- Desulfurization of Carbonaceous Fuels By Coagglomeration With Sulfur Sorbents" (with N. Egiebor), *U.S. Pat.* 5,284,497 (Feb. 8, 1994).

LATEST PUBLICATIONS:

Book Chapters:

- The Processing, Structure and Properties of Elastomeric Fibers, in *Handbook of Textile Fiber Structure*, S. Eichhorn, J.W.S. Hearle, M. Jaffe and T. Kikutani, eds., Woodhead Publishers, 2009, Chap. 19.
- Effect of Method of Preparation on the Rheological Behavior of Polyurethane/POSS Nanostructured Hybrid Films (with S. Madbouly et al.), in *Nanotechnology Applications in Coatings*, R.H. Fernando and L. Sung (Eds), *ACS Symposium Series 1008*, Oxford Univ Press and ACS, 2009, Chap. xx.
- Polyurethane-POSS Nanostructured Hybrid Dispersions by the Prepolymer Mixing Process (with S. Madbouly et al.), in *"Nanotechnology Applications in Coatings*, R.H. Fernando and L. Sung (Eds), *ACS Symposium Series 1008*, Oxford Univ Press and ACS, 2009, Chap. xx
- Polyphosphate Glasses: An Overview, in *Polymeric Materials Encyclopedia*, CRC Press, 2004.
- Polymeric Nanoparticles (with B.G. Sumpter et al.), in *Encyclopedia of Nanoscience and Nanotechnology*, Vol. 8, 2003, American Scientific Publishers, pp. 873–903.
- Macrostructure and Viscosity of Aggregating Colloidal Casein Micelles Under Strong Shearing Force (with G. Konuklar, C.J. Carriere), Special Publication – Royal Society of Chemistry, Vol. 284 (*Food Colloids, Biopolymers and Materials*), E. Dickinson and T. van Vliet, eds., 2003, p. 93-99.
- Generation, Characterization, and Modeling of Polymer Nanoparticles (with M.D. Barnes et al.), in *Polymer Physics and Engineering*, 2001, Springer-Verlag, p. 1-86.
- Nanoscale Optical Probes of Polymer Dynamics in ultrasmall Volumes (with M.D. Barnes et al.), in *Computational Studies, Nanotechnology, and Solution Thermodynamics of Polymer Systems*, M D. Dadmun et al, eds., Kluwer Academic/Plenum Pub, 2001, p. 79.

Recent Journal Publications:

- Recent advances in synthesis, characterization and rheological properties of polyurethanes and POSS/polyurethane nanocomposites dispersions and films (with S. A. Madbouly), *Progress in Polymer Science*, 2009, in press.
- Aggregation of chrysotile synthetic nanotubes in the bulk and in solution probed by nitrogen adsorption and viscosity measurements (B.G. Olson, et al.), *Journal of Physical Chemistry C*, 112, 12943-12950 (2008).
- New Phosphate Glass/Polymer Hybrids—Current Status and Future Prospects (with K. Urman), *Progress in Polymer Science*, 32, 1462–1498 (2007).
- Rheology of Fluorophosphate Glass/Polyamide 12 Hybrids in the Low Concentration Regime (with K. Urman and T. Schweizer), *Journal of Rheology*, 51, 1171-1187 (2007).
- Detection of Nanometer-scale Mixing in Phosphate-Glass / Polyamide-6 Hybrids by ^1H - ^{31}P NMR (with A. Rawal and K. Urman, and K. Schmidt-Rohr), *Chemistry of Materials*, 18, 6333-6338 (2006).
- Kinetic Analysis of Fractal Gel Formation in Waterborne Polyurethane Dispersions Undergoing High Deformation Flows (with S. A. Madbouly), *Macromolecules*, 39, 4144-4159, 2006.
- Nanostructured Polymer Blends: Synthesis and Structure (with T. Alam et al.), *Polymer*, 46, 12468-12479 (2005).
- Rheokinetics of Thermal-Induced Gelation of Waterborne Polyurethane Dispersions (with S.A. Madbouly), *Macromolecules*, 38, 10178–10184, 2005.