

Brian P. Grady  
School of Chemical, Biological and Materials Engineering  
Director, Institute for Applied Surfactant Research  
100 East Boyd EC Room T-223  
Norman, OK 73019-0628  
Phone: (405) 325-4369 Fax: (405) 325-5813  
bpgrody@ou.edu

BIRTHDATE: August 20, 1965

RESEARCH INTERESTS: Structure-Property Relationships of Polymers, Polymer-Coated Surfaces, Surfactant Adsorption at the Liquid-Solid Interface, Biodegradable Polymeric Nanoparticles, Ion-Containing Polymers, Polymer Composites, X-ray Absorption Spectroscopy

EDUCATION:

University of Illinois-Urbana/Champaign: 8/83-5/87

B.S. Chemical Engineering

GPA: 4.97/5.0-summa cum laude

University of Wisconsin-Madison: 9/89-1/94

PhD Chemical Engineering

Thesis Advisor: Stuart L. Cooper

Thesis Title: Orientation and Relaxation Mechanisms in Ionomers

GPA (technical classes): 4.0/4.0

RESEARCH AND PROFESSIONAL EXPERIENCE:

University of Oklahoma: Asst. Professor 3/94-6/99 Assoc. Professor 7/99-6/05, Professor 7/05-present

I am currently employed as a Professor in the School of Chemical Engineering and Materials Science. The department is ABET accredited, has approximately 300 undergraduate and 70 graduate students, and grants B.S., M.S. and Ph.D. degrees.

Visiting Professor, Chulalongkorn University: 7/98-present

Once a year for two weeks, I travel to the Petroleum and Petrochemical College at Chulalongkorn University in Thailand to teach half of a graduate course. I also co-advise MS and PhD students, and have co-advise approximately 20 students over the 10+ year time period.

Max Planck Institute for Colloid and Interfacial Science: 8/00-8/01

I spent one year on sabbatical in this institute which is located just outside Berlin, Germany. My research was on the behavior of surfactants at the solid/liquid interface, and localized reactions at this interface.

Research Associate at Tinker AFB: Summer 1995

I was selected to participate in the Summer Faculty Research Program by the Air Force Office of Scientific Research. I worked primarily on two projects: identification of

adhesive type and curing conditions for an engine stator case seal and the surface modification of glass mats to improve polymer/glass compatibility for composites.

University of Wisconsin-Madison: 9/89-2/94

My thesis research was divided into two areas: x-ray scattering of ion-containing polymers at small angles, and orientation and deformation properties of ion-containing polymers.

Procter and Gamble: 6/87-8/89

As a project engineer, I was responsible for the design, construction, startup and operation of a \$200,000 pilot plant. My many duties included managing the technicians and contractors required to operate this pilot plant.

#### HONORS OR AWARDS:

President's Associates Presidential Professorship: 2006

IUPAC Young Observer: 2001

Alexander von Humboldt Research Fellowship: 2000

National Science Foundation CAREER Award: 1998

College of Engineering Conoco Distinguished Lectureship Award: 1997

University of Oklahoma Junior Faculty Research Award: 6/94-8/94, 6/96-8/96

National Defense Science and Engineering Graduate Fellowship: 9/90-9/93

Wisconsin Alumni Research Foundation Fellowship: 9/89-9/90

University of Illinois Bronze Tablet: 1987

Reynold Clayton Fuson Award: 1987

Phi Beta Kappa: 1987

Tau Beta Pi: 1986

#### PROFESSIONAL SOCIETIES:

American Institute of Chemical Engineers

American Chemical Society

Division of Polymer Chemistry

Division of Polymer Materials Science and Engineering

Society of Plastics Engineers

#### OTHER PROFESSIONAL ACTIVITIES:

Most Significant

Secretary, Society of Plastics Engineers 2010-2011

Director, Institute for Applied Surfactant Research, University of Oklahoma 2009-present

Vice-President, Society of Plastics Engineers: 2008-2011

Chair, ANTEC Committee, Society of Plastics Engineers, 2007-2008

Chair, Engineering Properties and Structure Division, Society of Plastics Engineers 2007-2008

Chair, University of Oklahoma Budget Council, 2006-2007

Co-organizer of 2006 Texas and Southwest Thermal Analysis and Rheology Forum (NATEX), Dallas TX

Technical Program Chair, Engineering Properties and Structure Division, ANTEC 2006, National Meeting of Society of Plastics Engineers

Member Executive Committee, Nanonet Oklahoma 2005-present

Chair, University of Oklahoma Research Council, 2004-2005

#### Others

Co-organizer of Session “Nanocomposites” at the National Meeting of the North American Thermal Analysis Society, Sept 2009

Co-organizer of Symposium entitled “Polymers and Carbon Nanotubes” at the American Chemical Society National Meeting, POLY Division, March 2009

Co-organizer of New Technology Forum entitled “Nanocomposites” at the New Technology Conference, Society of Plastics Engineers, October 2008

Organizer of New Technology Forum entitled “Carbon Nanotubes in Polymers” ANTEC 2007, National Meeting of Society of Plastics Engineers

Associate Director, Institute for Applied Surfactant Research, University of Oklahoma 2007-2009

Co-organizer of Symposium to recognize Stuart L. Cooper, AIChE National Meeting 2006, San Francisco, CA.

Vice-Chair Engineering Properties and Structure Division, Society of Plastics Engineers 2006-2007

Vice-Chair for the ANTEC Committee, Society of Plastics Engineers, 2006-2007

Board of Directors, Engineering Properties and Structure Division, Society of Plastics Engineers 2004-present

Councilor, Society of Plastics Engineers, Oklahoma City Section, 2004-2006; Oklahoma Section 2007-2008

Newsletter Chair, Oklahoma City Section of the Society of Plastics Engineers, 1998-2006

Co-organizer of 2005 Texas and Southwest Thermal Analysis and Rheology Forum (NATEX),

Dallas TX.

Co-organizer and co-chair of Session at 2004 National Meeting of American Institute of Chemical Engineers "Structure and Properties of Polymers II, Polymer Blends"

Co-organized Session "Films and Fibers" for 20<sup>th</sup> annual Polymer Processing Society Meeting, Akron, Ohio 2004.

International Advisory Committee for the 8<sup>th</sup> Pacific Polymer Conference, Bangkok, Thailand, 2003

Chair of Session at the 8<sup>th</sup> Pacific Polymer Conference held in November 2003, "Polymer Blends and Composites"

Co-organizer and co-chair of Session at 2003 National Meeting of American Institute of Chemical Engineers "Polymer Thin Films and Interfaces I"

Co-organizer and co-chair of Session at 2003 National Meeting of American Institute of Chemical Engineers "Polymer Thin Films and Interfaces III"

Chair of Session at ANTEC 2003, National Meeting of Society of Plastics Engineers "Engineering Properties & Structure-Recent Advances in Polymer Structure, Properties and Morphology"

Co-organizer and co-chair of Session at 2002 National Meeting of American Institute of Chemical Engineers "Diffusion in Polymers and Membranes I"

Chair of Session at 2002 National Meeting of Society of Plastics Engineers (ANTEC 2002) "Preparation and Characterization of Properties".

Co-organizer and co-chair of Session at 2001 National Meeting of American Institute of Chemical Engineers " Polymerization Kinetics, Catalysis and Reaction Engineering #2"

Co-organizer of joint EPSDIV/ACS (PMSE Division) Polyolefin Symposium at 2001 Society of Plastics Engineers Annual Meeting (ANTEC 2001).

Co-organizer and co-chair of Session at 2000 National Meeting of American Institute of Chemical Engineers "Structure and Properties of Polymers-I"

Chair of Session 1999 National Meeting of American Physical Society "Crystallization I"

Technical Program Committee, Engineering Properties and Structure Division, Society of Plastics Engineers 1998-present

Co-organizer and co-chair of Session at 1998 National Meeting of American Institute of Chemical Engineers "Structure and Properties of Polymer Thin Films-II"

Co-organizer and co-chair of Session at 1997 National Meeting of American Institute of Chemical Engineers "Structure and Properties of Polymers"

Chair of Session at ANTEC 1997, National Meeting of Society of Plastics Engineers "Engineering Properties & Structure-New Technology Polymer Architecture and Blends-Structure Morphology and Property Control"

Chair of Session at 1997 National Meeting of American Physical Society "Polymer Blends", Replacement Chair for Session "Polymer Melts"

Chair of Session at 1996 Spring National Meeting of American Chemical Society "Ionomer Complexes and Blends, Complexes and Micelles"

Reviewed Manuscripts for: Journal of Polymer Science; Polymer Physics Edition, Journal of Materials Science, Journal of Applied Polymer Science, Polymer Engineering and Science, Polymer Composites, Journal of Composite Materials, Macromolecules, Polymer, European Polymer Journal, Journal of the American Chemical Society, Langmuir, Chemistry of Materials, Advanced Functional Materials, Journal of Colloid and Interface Science, Colloids and Surfaces A, Industrial & Engineering Chemistry, Macromolecular Science and Engineering

Reviewer on multiple National Science Foundation Panels including CAREER Program, Nanoscale Exploratory Research program and Major Research Instrumentation Program.

Reviewer for NSDEG and NSF Graduate Fellowship Applications

CONSULTING EXPERIENCE:

Ceral USA 2009

Consulted on corrosion coatings for aircraft. Currently Quality Assurance Manager.

Surfactant Associates 2009

Consulted on project related to formulations for hard surface cleaners for Fortune 500 company.

RoxiSpice 2008-2009

Consulted on adhesive formulations for spices adhered to drinkware

Hough Ear Institute 2008-2010

Consulted on biodegradable nanoparticles.

Light Concrete 2007

Consulted on high-foam formulations for concrete

AsOne 2006-2007

Consulted on project involving recycled rubber

Gojo Inc 2007

Consulted on high-foam formulations for hand sanitizers

Star-Labs 2003-present

Consulted on Ballistic Protection systems

Premix Inc. 2001

Consulted on Vinyl Ester Resins

Carlisle Foods 1999-2000, 2001-2002

Consulted on Gel Materials

Chemical Products Inc.: 1997-2000

Consulted on preparing surfaces for coating with polymers

Dupont Inc. 1996-2000

Project involved x-ray absorption spectroscopy

PFS Thermoplastic Coatings 1997-1998

Project involved material selection for thermoplastic powder coatings

Integrated Sciences 1996

Project involved mixing of solids with uncured thermoset resins

Ethicon Inc.: January 1991-July 1992

Project involved synthesis and testing of UV-curable and bioabsorbable acrylates.

## Refereed Publications by Brian P. Grady

### 1) Journal Articles and Conference Proceedings

- 1) X. Yu, B.P. Grady, R.S. Reiner and S.L. Cooper, "Properties of Polyamic Acid Ionomers", *Journal of Applied Polymer Science*, **47**, 1673 (1993).
- 2) X. Yu, B.P. Grady, R.S. Reiner and S.L. Cooper, "Mechanical and Thermal Properties of UV-Curable Polyurethane and Polyurea Acrylates" *Journal of Applied Polymer Science*, **49**, 1943 (1993).
- 3) B.P. Grady, H. Matsuoka, N. Ise, Y. Nakatani and S.L. Cooper, "Influence of Sample Preparation Method on the Ultra Small Angle X-ray Scattering of Lightly Sulfonated Polystyrenes", *Macromolecules*, **26**, 4064 (1993).
- 4) R.J. Goddard, B.P. Grady and S.L. Cooper, "The Room Temperature Annealing Peak in Ionomers: Ionic Crystallites or Water Absorption", *Macromolecules*, **27**, 1710 (1994).
- 5) B.P. Grady, E.M. O'Connell, C.Z. Yang and S.L. Cooper, "Blends of Metal Acetates and Polyurethanes Containing Pyridine Rings II. SAXS and EXAFS Studies", *Journal of Polymer Science, Part B: Polymer Physics*, **32**, 2357 (1994).
- 6) B.P. Grady and S.L. Cooper, "EXAFS Studies of the Internal Aggregate Structure in Lightly Sulfonated Polystyrene I. Determination of the Coordination Environment about the Cation", *Macromolecules*, **27**, 6627 (1994).
- 7) B.P. Grady and S.L. Cooper, "EXAFS Studies of the Internal Aggregate Structure in Lightly Sulfonated Polystyrene II. The Effect of Uniaxial Orientation", *Macromolecules*, **27**, 6635 (1994).
- 8) B.P. Grady and R.B. Moore, "EXAFS Studies of Various Sulfonated and Carboxylated Cadmium Ionomers", *Macromolecules*, **29**, 1685 (1996).
- 9) W.B. Genetti, B.P. Grady and E.A. O'Rear, "The Effect of Orientation on Electrically Conducting Polymer Composite Properties" in Electronic Packaging Materials Science IX, Materials Research Society Symposia Series, Volume 445. S.K. Groothuis, P.S. Ho, K. Ishida and T. Wu Eds., (Pittsburgh: Materials Research Society) 1997.
- 10) K.C. Lim, J.D. Margerum, A.M. Lackner, E. Sherman, M.S. Ho, B.M. Fung, W.B. Genetti and B.P. Grady, "A Liquid Crystal Based Polymer for Applications in MMW Modulation Devices", *Molecular Crystals and Liquid Crystals*, **302**, 187 (1997).
- 11) S. Chintapalli, R.E. Frech and B.P. Grady, "An Investigation of the High Molecular Weight Poly(ethylene oxide)-Zinc Bromide Complexes" *Polymer*, **38**, 6189 (1997).
- 12) W.B. Genetti, W.L. Yuan, B.P. Grady, E.A. O'Rear, C.L. Lai and D.T. Glatzhofer, "Polymer Matrix Composites: Conductivity Enhancement through Polypyrrole Coating of Nickel

Flake", *Journal of Materials Science*, **33**, 3085 (1998).

13) B.C. McAlister and B.P. Grady, "Simulation of Small Angle X-ray Scattering from Single Particle Systems", *Journal of Applied Crystallography*, **31**, 594 (1998)

14) W.B. Genetti, R.J. Lamirand and B.P. Grady, "Wide-Angle X-ray Scattering Study of Crystalline Orientation in Reticulate-Doped Polymer Composites", *Journal of Applied Polymer Science*, **70**, 1785 (1998).

15) B.P. Grady, E.A. O'Rear, L. Penn and A. Pedicini, "Admicellar Polymerization of Styrene-Isoprene on Glass Cloth for Use in Composite Manufacture" *Polymer Composites*, **19**, 579 (1998).

16) B.P. Grady, J.A. Floyd, W.B. Genetti, P. Vanhoorne and R.A. Register, "X-ray Absorption Spectroscopy Studies of Zinc Neutralized Ethylene-Methacrylic Ionomers" *Polymer*, **40**, 283 (1999).

17) B.P. Grady, "Effect of Co-Neutralization on Internal Aggregate Structure in Ethylene-Based Ionomers" *Macromolecules*, **32**, 2983 (1999).

18) A. Welty, S. Ooi, and B.P. Grady, "Effect of Water on Internal Aggregate Structure in Zinc-Neutralized Ionomers" *Macromolecules*, **32**, 2989 (1999).

19) W.B. Genetti, P.M. Hunt, M. Shah, A.M. Lowe, E.A. O'Rear and B.P. Grady, "Conductivity Enhancement of Polymer Composites through Admicellar Polymerization of Pyrrole on Particulate Surfaces", Fundamental and Applied Aspects of Chemically Modified Surfaces, J.P. Blitz and C.B. Little eds, (Cambridge, UK: Royal Society of Chemistry) 1999.

20) B.P. Grady, "Relative Size of Ionic Aggregates Determined by X-ray Absorption Spectroscopy" *Polymer*, **41**, 2325 (2000).

21) C. Tan, B.M. Fung and B.P. Grady, "Properties of Liquid Crystal Epoxy Thermosets Cured in a Magnetic Field", *Macromolecules*, **33**, 6249 (2000).

22) K.V. Farrell and B.P. Grady, "Effect of Temperature on Aggregate Local Structure in a Zinc-Neutralized Carboxylate Ionomer", *Macromolecules*, **33**, 7122 (2000).

23) B.P. Grady, P.R. Start, K.A. Mauritz, "Effect of Sol-Gel Polymerization of Tetraethylorthosilicate on Internal Aggregate Structure in Zinc-Neutralized Ethylene-Methacrylic Acid Ionomers", *Journal of Polymer Science Part B: Polymer Physics*, **39**, 197 (2001).

24) B.P. Grady, W.B. Genetti, R. J. Lamirand and M. Shah, "An Investigation of Heat Transfer Effects in Isothermal Crystallization Studies of Low-Density Polyethylene", *Polymer Engineering and Science*, **41**, 820 (2001).

25) H. Gecol, J.F. Scamehorn, S.D. Christian, B.P. Grady, and F.E. Riddell, "Use of



Surfactants to Remove Water Based Inks from Plastic Films”, *Colloids and Surfaces A: Physicochemical and Engineering Aspects*, **189**, 55 (2001).

26) H.J. Barraza, M.J. Hwa, K. Blakely, E.A. O’Rear, and B.P. Grady, “Wetting Behavior of Elastomer-Modified Glass Fibers”, *Langmuir*, **17**, 5288 (2001).

27) K.V. Farrell and B.P. Grady, "Studies of Cation Local Environment in Sodium-Neutralized Ethylene Copolymer Ionomers", *Macromolecules*, **34**, 7108 (2001).

28) W. Pattanakul, R. Magaraphan, and B.P. Grady, “Compounding of Poly(dimethyl siloxane) to Reduce Tack in Natural Rubber”, *Journal of Applied Polymer Science*, **82**, 519 (2001).

29) B.P. Grady, C.P. Rhodes, S. York and R.E. Frech, “Effect of Temperature on Local Structure in Poly(ethylene oxide)-Zinc Bromide Salt Complexes”, *Macromolecules*, **34**, 8523 (2001).

30) A. de Rovere, B.P. Grady and R.L. Shambaugh, “The Influence of Processing Parameters on the Properties of Melt-Spun Polypropylene Hollow Fibers”, *Journal of Applied Polymer Science*, **83**, 1759 (2002).

31) B.P. Grady, “The Use of X-ray Absorption Spectroscopy in the Study of Synthetic Polymers”, *Microchemical Journal*, **71**, 267 (2002).

32) B.P. Grady, F. Pompeo, R.L. Shambaugh and D.E. Resasco, “Nucleation of Polypropylene Crystallization by Single-Walled Carbon Nanotubes”, *Journal of Physical Chemistry B*, **106**, 5852 (2002).

33) W. Yuan, E.A. O’Rear, B.P. Grady and D.T. Glatzhofer, “Nanometer-Thick Polypyrrole Films Formed by Admicellar Polymerization under Conditions of Depleting Adsolubilization”, *Langmuir*, **18**, 3343 (2002).

34) K. Bunsomit, R. Magaraphan, E.A. O’Rear and B. P. Grady, “Polypyrrole-Coated Natural Rubber Latex by Admicellar Polymerization”, *Colloid and Polymer Science*, **280**, 509 (2002).

35) N. Goel, S. N. Shah and B.P. Grady, “Correlating Viscoelastic Measurements of Fracturing Fluid to Particles Suspension and Solids Transport”, *Journal of Petroleum Science and Engineering*, **35**, 59 (2002).

36) H. Gecol, J.F. Scamehorn, S.D. Christian, B.P. Grady, and F.E. Riddell, "Deinking of Water Based Ink Printing from Plastic Film using Nonionic Surfactants", *Journal of Surfactants and Detergents*, **5**, 363 (2002).

37) A.D.W. Carswell, A.M. Lowe, X. Wei, B.P. Grady, “CMC Determination in the Presence of Surfactant-Adsorbing Inorganic Particulates”, *Colloids and Surfaces A: Physicochemical and Engineering Aspects*, **212**, 147 (2003).

- 38) B.C. McAlister, B.P. Grady, "The Use of Monte-Carlo Simulations to Calculate Small-Angle Scattering Patterns", *Macromolecular Symposia*, **190**, 117 (2003).
- 39) U. Somnuk, N. Yanumet, J. Ellis, B.P. Grady and E.A. O'Rear, "Adhesion Improvement in Glass Fiber Reinforced Polyethylene Composites via Admicellar Polymerization", *Polymer Composites*, **24**, 171 (2003)
- 40) P. Leewajanakul, R. Pattanaolarn, J. W. Ellis, M. Nithitanakul and B.P. Grady, "The Use of Zinc-Neutralized Ethylene-Methacrylic Acid Copolymer Ionomers as Blend Compatibilizers for Nylon 6 and Low Density Polyethylene", *Journal of Applied Polymer Science*, **89**, 620 (2003).
- 41) X. Wei, A.D.W. Carswell, W. Alvarez and B.P. Grady, "X-ray Photoelectron Spectroscopic Studies of Hydrophilic Surfaces Modified via Admicellar Polymerization", *Journal of Colloid and Interface Science*, **264**, 296 (2003).
- 42) A.D.W. Carswell, E.A. O'Rear, B.P. Grady, "Adsorbed Surfactants as Templates for the Synthesis of Morphologically Controlled Polyaniline and Polypyrrole Nanostructures on Flat Surfaces: From Spheres to Wires to Flat Films", *Journal of the American Chemical Society*, **125**, 14793 (2003).
- 43) K. Blakely, B.P. Grady, H.J. Barraza and E.A. O'Rear, "Effects of Styrene-Isoprene Copolymer Glass Fiber Coatings on Woven Glass Cloth Epoxy Composite Performance", *Polymer Composites*, **25**, 82 (2004).
- 44) N. Pongrakananon, N. Somrang, W. Visitsart, P. Supaphol, M. Nithitanakul and B. P. Grady, "Blends of Ethylene-Methyl Acrylate-Acrylic Acid Terpolymers with Ethylene-Acrylic Acid Copolymers: Mechanical and Thermomechanical Properties", *Journal of Applied Polymer Science*, **91**, 2216 (2004).
- 45) O. Probst, E.M. Moore, B.P. Grady and D.E. Resasco, "Nucleation of Polyvinyl Alcohol Crystallization by Single-walled Carbon Nanotubes", *Polymer*, **45**, 4437 (2004).
- 46) P. Lekpittaya, N. Yanumet, B.P. Grady, and E.A. O'Rear, "Resistivity of Conductive Polymer-Coated Fabric", *Journal of Applied Polymer Science*, **92**, 2629 (2004).
- 47) N. Somrang, M. Nithitanakul, P. Supaphol and B.P. Grady, "Non-Isothermal Melt Crystallization Kinetics for Ethylene-Acrylic Acid Copolymers and Ethylene-Methyl Acrylate-Acrylic Acid Terpolymers", *European Polymer Journal*, **40**, 829 (2004)
- 48) E.M. Moore, D.L. Ortiz, V.T. Marla, R.L. Shambaugh and B.P. Grady, "Enhancing the Strength of Polypropylene Fibers with Carbon Nanotubes" *Journal of Applied Polymer Science*, **93**, 2926 (2004).
- 49) B.P. Grady, J.G.P. Goossens and M.E. Wouters "The Morphology of Zinc-Neutralized Maleated Ethylene-Propylene Copolymer Ionomers: The Structure of Ionic Aggregates as Studied by X-ray Absorption Spectroscopy" *Macromolecules*, **37**, 8585 (2004).

- 50) A. Lahor, M. Nithitanakul, B.P. Grady, "Blends of Low-Density Polyethylene with Nylon Compatibilized with a Sodium Neutralized Carboxylate Ionomer" *European Polymer Journal*, **40**, 2409 (2004).
- 51) M. Marquez and B.P. Grady, "The Use of Surface Tension to Predict the Formation of 2D Arrays of Latex Spheres formed via the Langmuir-Blodgett Technique", *Langmuir*, **20**, 10998 (2004).
- 52) M. Marquez, B.P. Grady and I.D. Robb, "Different Methods for Surface Modification of Hydrophilic Particulates with Polymers" *Colloids and Surfaces A: Physicochem. Eng. Aspects*, **266**, 18 (2005).
- 53) R.D. Kopke, R.A. Wassel, F. Mondalek, B.P. Grady, K. Chen, J. Liu, D. Gibson, K.J. Dormer "Magnetic Nanoparticles: Inner Ear Targeted Molecule Delivery and Middle Ear Implant", *Audiology and Neurotology* **11**, 123 (2006).
- 54) M.J. Hargis and B.P. Grady, "Effect of Sample Size on Isothermal Crystallization Measurements Performed in a Differential Scanning Calorimeter: A Method to Determine Avrami Parameters Without Sample Thickness Effects" *Thermochimica Acta*, **443**, 152 (2006).
- 55) M. Marquez, A. Robben, B.P. Grady and I.D. Robb, "Viscosity and Yield Stress Reduction in Non-colloidal Concentrated Suspensions by Surface Modification with Polymers and Surfactants and/or Nanoparticle Addition" *Journal of Colloid and Interface Science*, **295**, 374 (2006).
- 56) P. Rungruang, B.P. Grady and P. Supaphol, "Surface-Modified Calcium Carbonate Particles by Admicellar Polymerization to be used as Filler for Isotactic Polypropylene, *Colloids and Surfaces A: Physicochem. Eng. Aspects*, **275**, 114 (2006).
- 57) M. Hargis, B.P. Grady, L. Aktas, K.R. Bomireddy, S. Howsman, M.C. Altan, T. Rose and H. Rose, "Calorimetric and Rheological Measurements of Three Commercial Thermosetting Prepreg Epoxies", *Journal of Composite Materials*, **40**, 873 (2006).
- 58) M. Marquez, K. Patel, A.D.W. Carswell, D.W. Schmidtke and B.P. Grady, "Fabrication of Nanometer-Scale Polymeric Structures on Surfaces: Pillars and Honeycombs", *Langmuir*, **22**, 8011 (2006).
- 59) B.P. Grady. "The Use of Solution Viscosity to Characterize Single-Walled Carbon Nanotube Dispersions", *Macromolecular Chemistry and Physics*, **207**, 2167 (2006).
- 59) R.A. Wassel, B.P. Grady, R.D. Kopke, K.J. Dormer, "Dispersion of super paramagnetic iron oxide nanoparticles in poly(D,L-lactide-co-glycolide) microparticles" *Colloids and Surfaces A: Physicochemical and Engineering Aspects*, **292**, 125 (2007).
- 60) D.A. Acosta, G.P. Funkhouser and B.P. Grady, "Mechanical Properties and Rheology of

Polyalkenoate Cements Based on Manganese Tetraoxide” *Journal of Materials Science*, **42**, 3632 (2007)

61) B. Chatreenuwat, M. Nithitanakul, B.P. Grady, “The Effect of Zinc Oxide Addition on the Compatibilization Efficiency of Maleic Anhydride Grafted High-Density Polyethylene Compatibilizer for High-Density Polyethylene/Polyamide 6 Blends”, *Journal of Applied Polymer Science*, **103**, 3871 (2007).

63) F. Buffa, G.A. Abraham, B.P. Grady and D.E. Resasco, “Effect of Nanotube Functionalization on the Properties of Single-Walled Carbon Nanotube-Polyurethane Composites” *Journal of Polymer Science: Part B Polymer Physics*, **45**, 490 (2007).

64) M.L.P. Ha, B.P. Grady, D.E. Resasco, L. Balzano, W.T. Ford, “Composites of Single-wall Carbon Nanotubes and Copolymer Latices of Styrene and Isoprene” *Macromolecular Chemistry and Physics*, **208**, 446 (2007).

65) M. Marquez, S. Kim, J. Jung, N. Truong, D. Teeters, B.P. Grady, “Factors Affecting the Synthesis of Polymeric Nanostructures from Template Assisted Admicellar Polymerization” *Langmuir*, **23**, 10008 (2007).

66) C.M. Burba, R. Frech, B.P. Grady, “Stretched PEO-LiCF<sub>3</sub>SO<sub>3</sub> films: Polarized IR spectroscopy and X-ray diffraction” *Electrochimica Acta*, **53**, 1548 (2007).

67) F.G. Mondalek, B.J. Lawrence, B.P. Kropp, B.P. Grady, K.M. Fung, S.V. Madihally, H.K. Lin, The Incorporation of Poly(lactic-co-glycolic) Acid Nanoparticles into Porcine Small Intestinal Submucosa Biomaterials, *Biomaterials*, **29**, 1159 (2008)

68) W. Sinthavathavorn, M. Nithitanakul, R. Magaraphan, B.P. Grady, “Blends of Polyamide 6 with Low-Density Polyethylene Compatibilized with Ethylene-Methacrylic Acid Based Copolymer Ionomers: Effect of Neutralizing Cation”, *Journal of Applied Polymer Science*, **107**, 3090 (2008).

69) C. Gutig, B.P. Grady, A. Striolo, “Experimental Studies on the Adsorption of Two Surfactants on Solid-Aqueous Interfaces: Adsorption Isotherms and Kinetics” *Langmuir*, **24**, 4806 (2008); Correction: *Langmuir*, **24**, 13814 (2008).

70) B.P. Grady, “Review and Critical Analysis of the Morphology of Random Ionomers Across Many Length Scales” *Polymer Engineering and Science*, **48**, 1029 (2008)

71) N. Muksing, M. Nithitanakul, B.P. Grady, R. Magaraphan, “Melt Rheology and Extrudate Swell of Organobentonite-filled Polypropylene Nanocomposites”, *Polymer Testing*, **27**, 470 (2008).

72) M.N. Tchoul, W.T. Ford, M.L.P. Ha, I. Chavez-Sumarriva, B.P. Grady, G.L. Lolli, D.E. Resasco, S. Arepalli, “Composites of single-walled carbon nanotubes and polystyrene: preparation and electrical conductivity”, *Chemistry of Materials*, **20**, 3120 (2008).

- 73) W. Sinthavathavorn, M. Nithitanakul, B.P. Grady, R. Magaraphan, "Melt Rheology of Low-density polyethylene/polyamide 6 using Ionomer as a Compatibilizer", *Polymer Bulletin*, **61**, 331 (2008)
- 74) H. Luo, G. Churu, E.F. Fabrizio, J. Schnobrich, A. Hobbs, A. Dass, S. Mutik, Y. Zhang, B.P. Grady, A. Capecelatro, C. Sotiriou-Leventis, H. Lu, N. Leventis, "Synthesis and Characterization of the Physical, Chemical and Mechanical properties of Isocyanate-crosslinked Vanadia Aerogels" *J. Sol-Gel Science and Technology*, **48**, 113 (2008).
- 75) J. Peters, D.V. Papavassiliou, B.P. Grady, "Unique Thermal Conductivity Behavior of Single-Walled Carbon Nanotube-Polystyrene Composites", *Macromolecules*, **41**, 7274 (2008).
- 76) K. Hatami, B.P. Grady, M.C. Ulmer, "Sensor-Enabled Geosynthetics: Use of Conducting Carbon Networks as Geosynthetic Sensors", *Journal of Geotechnical and Geoenvironmental Engineering*, **135**, 863 (2009)
- 77) L. Shi, M. Ghezzi, G. Caminati, P. Lo Nostro, B.P. Grady, A. Striolo, "Adsorption Isotherms of Aqueous C12E6 and CTAB Surfactants on Solid Surfaces in the Presence of Low-Molecular-Weight Co-Adsorbents", *Langmuir*, **25**, 5536 (2009)
- 78) E.J. Acosta, E. Szekeres, J.H. Harwell, B.P. Grady, D.A. Sabatini, "Morphology of ionic microemulsions: comparison of SANS studies and the net-average curvature (NAC) model", *Soft Matter*, **5**, 551 (2009).
- 79) Z.R. Taylor, K. Patel, T.G. Spain, J.C. Keay, J.D. Jernigen, E.S. Sanchez, B.P. Grady, M.B. Johnson, D.W. Schmidtke, "Fabrication of Protein Dot Arrays via Particle Lithography", *Langmuir*, **25**, 10932 (2009).
- 80) B.P. Grady, A. Paul, J. Peters and W.T. Ford, "Glass Transition Behavior of Single-Walled Carbon Nanotube-Polystyrene Composites", *Macromolecules*, **42**, 6152 (2009).
- 81) W. Sinthavathavorn, M. Nithitanakul, B.P. Grady, R. Magaraphan, "Melt Rheology and Die Swell of PA6/LDPE blends by using lithium ionomer as a compatibilizer", *Polymer Bulletin*, **63**, 23 (2009).
- 82) B.P. Grady, D.J. Arthur, J. Ferguson, "Single-Walled Carbon Nanotube/Ultra-High Molecular Weight Polyethylene Composites With Percolation at Low Nanotube Contents" *Polymer Engineering and Science*, **49**, 2440 (2009).
- 83) J.L. Lopata, K.M. Werts, J.F. Scamehorn, B.P. Grady, "Thermodynamics of Mixed Anionic/Nonionic Surfactant Adsorption on Alumina", *Colloid and Interface Science*, **342**, 415 (2010).
- 84) J. Junkasem, R. Rujiravanit, B.P. Grady, P. Supaphol, X-ray diffraction and dynamic mechanical analyses of alpha-chitin whisker-reinforced poly(vinyl alcohol) nanocomposite nanofibers, *Polymer International*, **59**, 85 (2010).

85) B.P. Grady “Recent Developments Concerning the Dispersion of Carbon Nanotubes in Polymers”, *Macromolecular Rapid Communications*, **31**, 247 (2010).

86) F.G. Mondalek, R.A. Ashley, C.C. Roth, Y. Kubar, M.A. Ihnat, K.M. Fung, B.P. Grady, B.P. Kropp, H.K. Lin, “Enhanced angiogenesis of modified porcine small intestine submucosa with hyaluronic acid-poly (lactide-co-glycolide) nanoparticles: From fabrication to pre-clinical validation”, accepted *Journal of Biomedical Materials Research: Part A*

87) S. Wu, L.B. Garfield, N.E Rupert, B.P. Grady, G.P. Funkhouser, “Strength Improvement via Coating of a Cylindrical Hole by Layer-by-Layer Assembled Polymer Particles” accepted *ACS Applied Materials and Interfaces*.

88) Y. Wang, X. Gao, D. Bourne, B.P. Grady, K. Chen, K. Dormer, R.D. Kopke “Incorporation, Release and Effectiveness of Dexamethasone in Biodegradable Poly(lactic-co-glycolic acid) Nanoparticles for Inner Ear Drug Delivery” submitted to *Nanomedicine*

## 2) Book Chapters

1) B.P. Grady and S.L. Cooper, "Thermoplastic Elastomers", in Science and Technology of Rubber (2nd Edition), J.E. Mark, B. Erman and F.R. Eirich, Eds., (San Diego: Academic Press) 1994.

2) E.J. Bickrest, J.L. Cook, B.P. Grady, K. Jamshidi, L. Livinghouse, R.A. Rytz, "Material Selection", in Tool and Manufacturing Engineers Handbook, Volume 8, Plastic Part Manufacturing, Philip Mitchell, Ed., (Dearborn, MI: Society of Manufacturing Engineers) 1996.

3) B.P. Grady and S.L. Cooper, "Morphological Structure-Characterization", Ionomers: Synthesis, Structure, Properties and Applications, M.R. Tant, K.A. Mauritz and G.L. Wilkes Eds., (New York: Chapman and Hall) 1996.

4) J.H. O'Haver, B.P. Grady, E.A. O'Rear and J.H. Harwell, "Admicellar Polymerization", Reactions and Synthesis in Surfactant Systems (Surfactant Science, Vol. 100), J. Texter ed. (New York, Marcel Dekker) 2001.

5) B.P. Grady, A. R. Slagle, Linda Zhu, E.E. Tucker, Sherril D. Christian, John F. Scamehorn, "Surface Tension Measurements with Top-Loading Balances", in “Adsorption and Aggregation of Surfactants in Solution”, K.L. Mittal, and D.O. Shah eds, (New York: Marcel Dekker) 2003.

6) A.D.W. Carswell and B.P. Grady, “Electrically Conducting Polymeric Nanostructures: Techniques for One-Dimensional Synthesis” in Dekker Encyclopedia of Nanoscience and Nanotechnology, James A. Schwarz, Cristian Contescu, and Karol Putyera eds. (New York: Marcel Dekker) 2004.

- 7) B.P. Grady and S.L. Cooper, "Thermoplastic Elastomers", in Science and Technology of Rubber (3rd Edition), J.E. Mark, B. Erman and F.R. Eirich, Eds., (San Diego: Academic Press) 2005.
- 8) Y. Hamidi, M.C. Altan and B.P. Grady "Polymer Composites" Encyclopedia of Chemical Processing, (New York: Taylor and Francis) 2006.
- 9) M. Marquez and B.P. Grady, "Patterned Nanostructures from Particle Lithography", accepted by Encyclopedia of Nanoscience and Nanotechnology, (Stevenson Ranch, CA: American Scientific Publishers)