

## Curriculum Vitae

### Alec B. Scranton

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#### Education:

Ph.D. (Chemical Engineering), Purdue University, May 1990. Advisor: Dr. N.A. Peppas  
B.S. (Chemical Engineering), University of Iowa, December 1984.

#### Professional Experience:

University of Iowa, College of Engineering Associate Dean for Academic Programs, 2003 to date  
University of Iowa, Professor and Chair, 2000 - 2003  
Michigan State University, Associate Professor, 1995 - 2000.  
Michigan State University, Assistant Professor, 1990 - 1995.  
Purdue University, Graduate Research Assistant, 1985 - 1990.  
Argonne National Laboratory, Research Associate, Jan. 1985 - Aug. 1985.

#### Awards and Honors:

Cooperative Research Award, American Chemical Society, Division of Polymeric Materials: Science and Engineering, March 2007  
Best Conference Paper Award, Radtech North America Annual Conference, 2004  
University of Iowa College of Engineering Research Award, 2003  
Elected, Director of AIChE Materials Engineering and Science Division, 2002  
J.J. Martin Award from the ASEE, 2000  
Johansen Crosby Endowed Professorship, 1998  
AIChE Outstanding Professor Award, 1995-96  
Michigan State University Teacher-Scholar Award, 1995  
Dow Chemical Company Environmental Enhancement Award, 1995  
Elected to the Executive Committee of the American Chemical Society, Division of Polymeric Materials: Science and Engineering, 1994, re-elected 1996  
Withrow Teaching Excellence Award, 1993  
Contributing Editor of Polymer News, 1993 - 1998  
AIChE Outstanding Professor Award, 1991-92  
Du Pont Young Faculty Award, 1990, 1991  
Donnon Fellowship, 1989  
National Science Foundation Graduate Fellowship, 1985-1987  
Purdue University Graduate Fellowship, 1985-1987  
American Institute of Chemists Student Award, 1984  
Archie Alexander Scholarship, 1983-1984  
3M Scholarship, 1982-1983  
American Institute of Chemical Engineers Scholarship Award, 1982  
Melville F. Clemmets Scholarship, 1981-1982  
Chemical Engineering Alumni Scholarship, 1980-1981

### **Technical Sessions Chaired:**

*Smart, Active, and Responsive Polymers*, AIChE Annual Meeting, Los Angeles, Nov. 1991.

*Polymer Spectroscopy*, AIChE Annual Meeting, Miami, November, 1992.

*Polysiloxanes; Cyclic Polymers; Photoactive Polymers and Stabilizers*, ACS Fall National Meeting, Chicago, August 23 1995.

*Polymeric Thin Films* (2 sessions), AIChE Annual Meeting, Miami, November, 1995.

*Young Faculty Forum*, AIChE Annual Meeting, Miami, November, 1995 (selected as the Outstanding Session of the AIChE 1995 Annual Meeting based upon highest overall session quality rating).

*Advances in Photopolymerizations*, (4 sessions) ACS Spring Meeting, New Orleans, March 1996.

*Young Faculty Forum*, AIChE Annual Meeting, Chicago, November, 1996.

*Polymer Reaction Engineering*, AIChE National Meeting, Los Angeles, November, 1997.

*Spectroscopic Characterization of Polymers*, ACS Fall Meeting, New Orleans, August, 1999.

*Polymerization Kinetics and Reaction Engineering*, AIChE National Meeting, Dallas, November, 1999.

*New Concepts in Polymeric Materials*, ACS Spring Meeting, San Francisco, March, 2000.

*Materials for Information Storage*, ACS Fall Meeting, Washington DC, August, 2000.

*New Concepts in Polymeric Materials*, ACS Spring Meeting, San Diego, April, 2001.

*Department Chairs Forum*, AIChE Annual Meeting, San Francisco, November, 2003.

*Advances in Photoinitiated Polymerization*, ACS Fall Meeting, Philadelphia, PA, August, 2004

*Department Chairs Forum*, AIChE Annual Meeting, Austin, November, 2004.

### **Publications** (1990 to date):

A.B. Scranton and N.A. Peppas, "A Statistical Model of Free-Radical Copolymerization /Crosslinking Reactions," *Journal of Polymer Science, Polymer Chemistry*, **28**, 39 (1990).

A.B. Scranton, A.G. Mikos, L.C. Scranton, and N.A. Peppas, "The Physical Mechanism for the Production of Hydrophilic Polymer Microparticles from Aqueous Suspensions," *Journal of Applied Polymer Science*, **40**, 997 (1990).

A.B. Scranton, J. Klier, and N.A. Peppas, "Soluble Chain Fractions in Hydrophilic Polymer Networks: Origin and Effect on Dynamic Uptake Overshoots," *Polymer*, **31**, 1288 (1990).

J. Klier, A.B. Scranton, and N.A. Peppas, "Self Associating Networks of Poly(Methacrylic Acid-g-Ethylene Glycol)," *Macromolecules*, **23**, 4944 (1990).

**Publications**, continued:

A.B. Scranton, J. Klier, and N.A. Peppas, "Complexation Thermodynamics of Free and Graft Oligomers with Complementary Polymers," *Journal of Polymer Science, Polymer Physics*, **29**, 211 (1991).

A.B. Scranton, J. Klier, and N.A. Peppas, "Statistics of Free Radical Polymerizations: Reaction Directionality and Multiple Termination Mechanisms," *Macromolecules*, **24**, 1412 (1991).

A.B. Scranton, C.N. Bowman, J. Klier, and N.A. Peppas, "Polymerization Reaction Dynamics of Ethylene Glycol Methacrylates and Dimethacrylates by Calorimetry," *Polymer*, **33**, 1683 (1992).

A.B. Scranton, J. Klier, and C.L. Aronson, "Complexation of Polymeric Acids with Polymeric Bases," in "Polyelectrolyte Gels," edited by R.S. Harland and R.K. Prud'homme, ACS Symposium Series 480, American Chemical Society, Washington, DC, p. 171 (1992).

C.L. Aronson and A.B. Scranton, "Complexation of Poly(4-vinyl phenol) with Poly(N,N-dimethylacrylamide)," Proceedings of the 8th Annual ASM/ESD Advanced Composites Conference, Chicago, IL (1992).

E.W. Nelson, T.P. Carter and A.B. Scranton, "Photosensitization of Cationic Photopolymerizations by Anthracene," *Polym. Mat. Sci. and Eng.*, **69**, 363 (1993).

E.W. Nelson, T.P. Carter and A.B. Scranton, "Fluorescence Monitoring of Cationic Photopolymerizations of Divinyl Ethers Photosensitized by Anthracene," *Polymer Preprints*, **34**, 779 (1993).

A.B. Kinney and A.B. Scranton, "Formation and Structure of Crosslinked Polyacrylates," *Polym. Mat. Sci. and Eng.*, **69**, 487 (1993).

E.W. Nelson, T.P. Carter and A.B. Scranton, "Fluorescence Monitoring of Cationic Photopolymerizations: Divinyl Ethers Photosensitized by Anthracene Derivatives," *Macromolecules*, **27**, 1013 (1994).

J.L. Jacobs, E.W. Nelson, and A.B. Scranton, "Use of Fluorescence to Monitor Temperature and Observe Water Effects in Cationic Photopolymerizations of Divinyl Ethers," *Polym. Mat. Sci. and Eng.*, **70**, 74 (1994).

A.B. Kinney and A.B. Scranton, "Formation and Structure of Crosslinked Polyacrylates: Methods for Modeling Network Formation" in *Advances in Superabsorbent Polymers*, edited by N.A. Peppas and F. L. Buchholz, ACS Symposium Series 573, American Chemical Society, Washington, p. 1 (1994).

A.B. Scranton, B. Rangarajan and J. Klier, "Biomedical Applications of Polyelectrolytes," *Advances in Polymer Science*, **122**, 1 (1995).

E.W. Nelson, T.P. Carter and A.B. Scranton, "The Role of the Triplet State in the Photosensitization of Cationic Polymerizations by Anthracene," *Journal of Polymer Science, Polymer Chemistry*, **33**, 247 (1995).

A.M. Mathur and A.B. Scranton, "Synthesis and Ion-Binding Properties of Polymeric Pseudocrown Ethers: A Molecular Dynamics Study," *Sep. Sci. and Technol.*, **30**, 1071 (1995).

E.W. Nelson, and A.B. Scranton, "In Situ Raman Spectroscopy for Cure Monitoring of Divinyl Ether Cationic Photopolymerizations," *Polym. Mat. Sci. and Eng.*, **72**, 413 (1995).

**Publications**, continued:

C.L. Crofcheck, E.W. Nelson, J.L. Jacobs, and A.B. Scranton, "Temperature-Sensitive Luminescence for Monitoring High-Speed Cationic Photopolymerizations," *Polym. Mat. Sci. and Eng.*, **72**, 50 (1995).

J.L. Jessop, A.B. Scranton, and G.J. Blanchard, "In Situ Cure Monitoring of a Vinyl Ester Polymer Using Fiber Optic Fluorescence Sensors," *Polym. Mat. Sci. and Eng.*, **72**, 58 (1995).

J.L. Jacobs and A.B. Scranton, "A Transmission Electron Microscopic Study of the Morphology of Cationically Photopolymerized Divinyl Ethers," *Polym. Mat. Sci. and Eng.*, **72**, 367 (1995).

E.W. Nelson, J.L. Jacobs, A.B. Scranton, K.S. Anseth, and C.N. Bowman, "Photo-Differential Calorimetry Studies of Cationic Polymerizations of Divinyl Ethers," *Polym. Mat. Sci. and Eng.*, **72**, 481 (1995).

C.L. Crofcheck, E.W. Nelson, J.L. Jacobs and A.B. Scranton, "Temperature-Sensitive Luminescence of Tris( $\beta$ -diketone) Europium Chelates for Monitoring High Speed Cationic Photopolymerizations," *Journal of Polymer Science, Polymer Chemistry*, **33**, 1735 (1995).

L.S. Coons, B. Rangarajan, D. Godshall, A.B. Scranton, "Production of Polymeric Composites Based Upon Photopolymerization Methods" in "Innovative Processing & Characterization of Composite Materials," edited by R.T. Gibson, T.W. Chou, and P.K. Raju, NCA Symposium Series Vol. 20, ASME, New York, p. 227-240, 1995.

E.W. Nelson, J.L. Jacobs, and A.B. Scranton, K.S. Anseth, and C.N. Bowman, "Photo-Differential Scanning Calorimetry Studies of Cationic Polymerizations of Divinyl Ethers," *Polymer*, **36**, 4651 (1995).

A.M. Mathur and A.B. Scranton, "Characterization of Hydrogels Using Nuclear Magnetic Resonance Spectroscopy," *Biomaterials*, **17**, 547 (1996).

E.W. Nelson and A.B. Scranton "Kinetics of Cationic Photopolymerizations of Divinyl Ethers Characterized Using *In Situ* Raman Spectroscopy," *Journal of Polymer Science, Polymer Chemistry*, **34**, 403 (1996).

B. Rangarajan, L.S. Coons and A.B. Scranton, "Characterization of Hydrogels Using Luminescence Spectroscopy," *Biomaterials*, **17**, 649 (1996).

A.M. Mathur, S.K. Moorjani and A.B. Scranton, "Methods for Synthesis of Hydrogel Networks: A Review," *J. Macromol. Sci, Rev. Macromol. Chem. Phys.*, **C36**, 405 (1996).

E.W. Nelson and A.B. Scranton, "In Situ Raman Spectroscopy for Cure Monitoring of Cationic Photopolymerizations of Divinyl Ethers," *J. Raman Spectroscopy*, **27**, 137 (1996).

L.S. Coons, B. Rangarajan, and A.B. Scranton, "Photopolymerizations of Composites," *Polym. Mat. Sci. and Eng.*, **74**, 389 (1996).

S.K. Moorjani, B. Rangarajan, A.B. Scranton, "The Effect of Viscosity on the Rate of Photosensitization of Diaryliodonium Salts by Anthracene," *Polym. Mat. Sci. and Eng.*, **74**, 315 (1996).

A.B. Scranton, S.K. Moorjani, K.J. Sirovatka, and E.W. Nelson, "Photosensitization of Iodonium Salts for Cationic Photopolymerizations," *Polym. Mat. Sci. and Eng.*, **75**, 193 (1996).

**Publications**, continued:

A.M. Mathur and A.B. Scranton, "Synthesis and Ion-Binding Properties of Polymeric Pseudocrown Ethers II: Template Ion Induced Cyclization Of Oligomeric Ethylene Glycol Diacrylates," *Sep. Sci. and Technol.*, **32**, 285 (1997).

S.K. Moorjani, B. Rangarajan, and A.B. Scranton, "The Effect of Viscosity on the Rate of Photosensitization of Diaryliodonium Salts by Anthracene," *ACS Symposium Series*, **673**, 95 (1997).

A.M. Mathur, A.B. Scranton, and J. Klier, "Reversible Block/Graft Copolymeric Emulsifiers Based Upon Intramolecular Complexes," *Polym. Mater. Sci. Eng.*, **76**, 295 (1997).

L.S. Coons, B. Rangarajan, D. Godshall, and A.B. Scranton, "Photopolymerization of Vinyl Ester - Glass Fiber Composites," *ACS Symposium Series*, **673**, 203 (1997).

A.M. Mathur, V. Narayanan and A.B. Scranton "Coatings Formed by the Photopolymerization of Epoxidized Soybean Oil Containing Cyclohexanedimethanol Divinylether as a Reactive Diluent" Proceedings of the 5th. International Congress of Paint Industry Suppliers, **1**, 419 (1997).

V. Narayanan and A.B. Scranton, "UV Curing of Composites," *Radtech Report*, **11** (6) 25, (1997).

V. Narayanan and A.B. Scranton, "Photopolymerizations of Composites," *Trends in Polymer Science*, **5**, 415 (1997).

A.M. Mathur, B. Drescher, J. Klier and A.B. Scranton, "Polymeric Emulsifiers Based on Reversible Formation of Hydrophobic Units," *Nature*, **392**, 367 (1998).

K.K. Baikerikar, B. Rangarajan, D. Godshall, and A.B. Scranton "Photopolymerizable Encapsulants for Microelectronic Devices," Radtech '98 International Conference Proceedings, 712 (1998).

V. Narayanan, K.K. Baikerikar, and A.B. Scranton "A Study of Initiating Systems for Photopolymerization of Composites," Radtech '98 International Conference Proceedings, 31, (1998).

A.M. Mathur, K.F. Hammonds, J. Klier and A.B. Scranton, "Equilibrium Swelling of Poly(methacrylic acid-g-ethylene glycol) Hydrogels: Effect of Swelling Medium and Synthesis Conditions," *J. Control. Rel.*, **54**, 177 (1998).

P. Kohli, A. B. Scranton and G. J. Blanchard, "Copolymerization of Maleimides and Vinyl Ethers: A Kinetic and Structural Study," *Macromolecules*, **31**, 5681 (1998).

J.L.P. Jessop, G.J. Blanchard, and A.B. Scranton, "In-situ Cure Monitoring Using Fiber-Optic Fluorescence Sensors," *Radtech Report*, **12**, 27 (1998).

Arvind M. Mathur, V. Narayanan, and A.B. Scranton "UV Curable Epoxidized Oils with Vinylethers as Reactive Diluents," Radtech '98 International Conference Proceedings, 486 (1998).

B. Rangarajan, L. Capodieci, R. Subramanian, M. Templeton, and A. Scranton, "Sampling Strategies for sub-100 nm Overlay," SPIE Proceedings, **3332**, 348, 1998.

A.M. Mathur and A.B. Scranton, "Synthesis and Ion-Binding Properties of Polymeric Pseudocrown Ethers III: Ion Binding Studies," *Sep. Sci. and Technol.*, **34**, 855 (1999).

**Publications**, continued:

J.L.P. Jessop, S.N. Goldie, A.B. Scranton, G.J. Blanchard, B. Rangarajan, L. Capodiecici, R. Subramanian, M.K. Templeton, "Characterizing Acid Mobility in Chemically Amplified Resists via Spectroscopic Methods," *Advances in Resist Technology and Processing*, **3678**, 914, 1999.

A.B. Scranton, R.M. Russell, N. Basker, J.L.P. Jessop, and L.C. Scranton "Teaching Material and Energy Balances on the Internet" *ASEE National Conference Proceedings, CD-ROM edition*, June 1999.

A.B. Scranton, "Radiation Curing in the Next Millennium: New Directions in Photopolymerization," *Radtech Report*, **13**, 36 (1999).

K.S. Padon and A.B. Scranton, "Recent Advances in Three Component Photoinitiators" *Recent Res. Devel. Polymer Science*, **3**, 369, (1999).

K.K. Baikerikar and A.B. Scranton "Viscosity Characterization of Highly Filled Photopolymerizable Liquid Encapsulants for Microelectronic Devices" *Polymer Composites*, **21**, 297 (2000).

B. Drescher and A.B. Scranton, "Reversible Block/Graft Copolymeric Emulsifiers Based Upon Intramolecular Complexation," *Polym. Mat. Sci. and Eng.*, **82**, 21 (2000).

K.S. Padon and A.B. Scranton, "Mechanistic Studies of the Three Component Photoinitiator System Methylene Blue, N-Methyldiethanolamine and Diphenyliodonium Chloride," *Polym. Mat. Sci. and Eng.*, **82**, 27 (2000).

K.K. Baikerikar and A.B. Scranton, "Photopolymerizable Liquid Encapsulants," *Polym. Mat. Sci. and Eng.*, **82**, 39 (2000).

J.L.P. Jessop, S.N. Goldie, A.B. Scranton, and G.J. Blanchard, "Spectroscopic Characterization of Acid Mobility in 248 nm Chemically Amplified Resists," *Polym. Mat. Sci. and Eng.*, **82**, 48 (2000).

A.B. Scranton, B. Drescher, E.W. Nelson and J.L. Jacobs "Use of Infrared and Raman Spectroscopy for Characterization of Controlled Release Systems" *Handbook of Pharmaceutical Controlled Release Technology*, edited by D. Wise, Marcel Dekker, New York, p. 131-154, 2000.

J.L.P. Jessop, S.N. Goldie, A.B. Scranton, G.J. Blanchard, B. Rangarajan, Uzodinma Okoroanyanwu, R. Subramanian, M.K. Templeton, "Spectroscopic Characterization of Acid Mobility in Chemically Amplified Resists," *Advances in Resist Technology and Processing XVII*, **3999** (2000).

A.M. Mathur, B. Drescher, A.B. Scranton, and J. Klier, "A Polarity-Sensitive Fluorescence Study of the pH-Dependent Aggregation of Poly(methacrylic acid-g-ethylene glycol) Copolymers in Water," *Spectroscopy*, **15**(4), 36 (2000).

K.S. Padon and A.B. Scranton, "A Mechanistic Investigation of the Three-component Radical Photoinitiator System Methylene Blue, N-methyldiethanolamine, and Diphenyliodonium Chloride," *Journal of Polymer Science, Polymer Chemistry*, **38**, 2057 (2000).

K.S. Padon and A.B. Scranton, "The Effect of Oxygen on the Three-Component Radical Photoinitiator System Methylene Blue, N-Methyldiethanolamine, and Diphenyliodonium Chloride," *Journal of Polymer Science, Polymer Chemistry*, **38**, 3336 (2000).

**Publications**, continued:

Brian J. Elliott, Alec B. Scranton, James H. Cameron and Christopher N. Bowman, "Characterization and Polymerization of Metal Complexes of Poly(ethylene glycol) Diacrylates and the Synthesis of Polymeric Pseudocrown Ethers," *Chem. Mater.* **12**, 633, (2000).

K.K. Baikerikar and A.B. Scranton "Photopolymerizable Liquid Encapsulants for Microelectronic Devices," *Polymer*, **42**, 431-441 (2001).

B. Drescher and A.B. Scranton, "Synthesis and Characterization of Polymeric Emulsifiers Containing Reversible Hydrophobes: Poly(methacrylic acid-g-ethylene glycol)," *Polymer*, **42**, 49 (2001).

K.S. Padon, A.B. Scranton, "A Mechanistic Investigation of the Three-Component Radical Photoinitiator System Eosin Y Spirit Soluble, N-methyl-diethanolamine, and Diphenyliodonium Chloride," *Journal of Polymer Science, Polymer Chemistry*, **39**, 715 (2001).

K.K. Baikerikar and A.B. Scranton "Photopolymerizable Liquid Encapsulants for Microelectronic Devices: Thermal and Mechanical Properties of Systems with reduced In-Mold Cure Times" *Journal of Applied Polymer Science*, **81**, (14), 3449-3461 (2001).

K.S. Padon, D. Kim, and A.B. Scranton, "Spectroscopic Investigation of Three Component Initiator Systems," *Polymer Preprints*, **42**, 705 (2001).

K.K. Baikerikar, V. Sipani, C. Coretsopoulos and A.B. Scranton, "Photopolymerization of Silica-Filled Composites: Encapsulants for Microelectronic Devices," *Polymer Preprints*, **42**, 789 (2001).

A.B. Scranton, and K.K. Baikerikar, "Photopolymerizable Liquid Encapsulants for Microelectronics," Radtech Europe Conference Proceedings, 259, 2001.

V. Sipani, C.N. Coretsopoulos, and A.B. Scranton, "Photopolymerization of Composite Materials," *Trends in Photochemistry and Photobiology*, **7**, 169 (2001).

G. A. Miller, L. Gou, V. Narayanan, and A.B. Scranton, "Modeling of Photobleaching for Photoinitiation of Thick Polymerization Systems," *Journal of Polymer Science, Polymer Chemistry*, **40**, 793 (2002).

R. Nagarajan, C.E. Hoyle, A.B. Scranton and M. El-Maazawi, "Determination of Overall Photoinitiator Efficiencies," Radtech North America Technical Conference Proceedings, 120 (2002).

A.B. Scranton, G.A. Miller, L. Gou, and M. El-Maazawi, "Modeling of Photobleaching for Photoinitiation of Thick Polymerization Systems," Radtech North America Technical Conference Proceedings, 129 (2002).

D. Kim, M. El-Maazawi, and A.B. Scranton, "Formation of Ground State Complex in Electron-Transfer Photoinitiator Systems," Radtech North America Technical Conference Proceedings, 152 (2002).

J.L.P. Jessop, S.N. Goldie, A.B. Scranton and G.J. Blanchard, "Spectroscopic Characterization of Acid Generation and Concentration and Free Volume Evolution in Chemically Amplified Resists," *J. Vac. Sci. Technol. B*, **20** (1), 219-225 (2002).

A.B. Scranton, V. Sipani, K. Jain and M. El-Maazawi, "Photopolymerization of Thick Polymer Systems," Proceedings of the 30<sup>th</sup> International Waterborne, High-Solids, and Powder Coatings Symposium, New Orleans, LA, page 283 (2003).

**Publications**, continued:

V. Sipani and A.B. Scranton, "Cationic Photopolymerization of Epoxide Monomers: Characterization of Active Center Propagation Lifetime," *Mat. Sci. and Eng.*, **88**, 217 (2003).

K.S. Padon, D. Kim, M. El-Maazawi and A.B. Scranton, "Spectroscopic Investigation of Three Component Initiator Systems," *ACS Symposium Series*, **847**, 15 (2003).

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V. Sipani and A.B. Scranton, "Dark-cure studies of cationic photopolymerizations of epoxides: Characterization of the active center lifetime and kinetic rate constants," *Journal of Polymer Science, Polymer Chemistry*, **41**, 2064-2072, (2003).

V. Sipani, L.S. Coons, B. Rangarajan, and A.B. Scranton, "Photopolymerization of Composites: Recent Developments in Glass-Fiber and Silica-Filled Systems," *Radtech Report*, **17**, 22 (2003).

V. Sipani and A.B. Scranton, "Kinetic Studies of Cationic Photopolymerizations of Phenyl Glycidyl Ether," *Journal of Photochemistry and Photobiology*, **159**, 189 (2003).

A.B. Scranton, "Web-Based Distance Education: Experiences Teaching Material and Energy Balances," American Society for Engineering Education North Midwest Region Conference Proceedings, 2003.

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L. Gou, C.N. Coretsopoulos, and A.B. Scranton "Measurement of the Dissolved Oxygen Concentration in Acrylate Monomers Using a Novel Photochemical Method," *Journal of Polymer Science*, **42**, 1285 (2004).

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**Publications**, continued:

D. Kim and A.B. Scranton, "The Role of Diphenyl Iodonium Salt (DPI) in Three-Component Photoinitiator Systems Containing Methylene Blue (MB) and an Electron Donor," *Journal of Polymer Science*, **42**, 5863 (2004).

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A.B. Scranton and C.N. Bowman, "Update on the NSF/Industry/University/ Cooperative Research Center for Fundamentals and Applications of Photopolymerization," *Radtech Report*, May/June issue, 22 (2004).

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J.D. Oxman, D.W. Jacobs, M.C. Trom, V. Sipani, B. Ficek, and A. B. Scranton, "Evaluation of Initiator Systems for Controlled and Sequentially Curable Free Radical/Cationic Hybrid Photopolymerizations," *Journal of Polymer Science*, **43**, 1747 (2005).

N. Stephenson, D. Kriks, M. Al-Maazawi, and A.B. Scranton, "Spatial and Temporal Evolution of the Photoinitiation Rate for Thick Polymer Systems Illuminated on Both Sides," *Polymer International*, **54**, 1429 (2005).

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L. Gou, B. Opheim, C.N. Coretsopoulos, and A.B. Scranton, "Consumption of the Molecular Oxygen in Polymerization Systems Using Photosensitized Oxidation of Dimethylantracene," *Chemical Engineering Communications*, **193**, 620, (2006).

B.A. Ficek, L. Magwood, C. Coretsopoulos, and A.B. Scranton, "Stage-Curable Hybrid Radical/Cationic Photopolymerizations," *Photochemistry and UV Curing: New Trends*, 293 (2006).

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N.S. Kenning, D. Kriks, M. El-Maazawi, and A.B. Scranton, "Spatial and Temporal Evolution of the Photoinitiation Rate for Thick Polymer Systems Illuminated with Polychromatic Light," *Polymer International*, **55**, 994 (2006).

### **Edited Volumes:**

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“Advances in Photopolymerizations, Fundamentals and Applications,” edited by A.B. Scranton, C.N. Bowman, and R.W. Peiffer, *ACS Symposium Series Vol. 673*, American Chemical Society, Washington DC (1997).

### **Patents:**

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G.J. Blanchard, J.L. Jessop, and A.B. Scranton, “Apparatus for *in situ*, Noninvasive Polymer Cure Determination,” U.S. Patent #5,707,587, issued January 13, 1998.

A.B. Scranton, A.M. Mathur, and J. Klier, “Polymers Comprising Reversible Hydrophobic Functionalities,” U.S. Patent #5,739,210, issued April 14, 1998.

A.B. Scranton, A.M. Mathur, and J. Klier, “Emulsifiers and Thickeners Comprising Reversible Hydrophobic Functionalities,” U.S. Patent #5,844,039, issued December 1, 1998.

A.B. Scranton, B. Rangarajan, and L.S. Coons, “Thick Composite Parts made From Photopolymerizable Compositions and Methods for Making Such Parts,” U.S. Patent No 5,855,837, issued January 5, 1999.

R.W. Worden and A.B. Scranton, “Method for Forming Reversible Colloidal Gas or Liquid Aphrons and Compositions Produced,” U.S. Patent number 6,022,727, issued February 8, 2000.

A.B. Scranton, B. Rangarajan and K.K. Baikerikar, “Photopolymerizable Encapsulants for Microelectronic Devices ,” U.S. Patent number 6,099,783, issued August 8, 2000.

A.B. Scranton, L Gou, “Photochemical Method to Eliminate Oxygen Inhibition of Free Radical Polymerizations, U.S. Patent number 7,141,615, issued November 28, 2006.

### **Columns as Contributing Editor of *Polymer News*:**

A.B. Scranton, “Dynamic Uptake Overshoots in Polymer Systems,” *Polymer News*, **18**, 205 (1993).

A.B. Scranton, “Mobility and Transport in Polymer Systems: Applications of NMR Spectroscopy I: Basics of NMR Spectroscopy,” *Polymer News*, **18**, 268 (1993).

A.B. Scranton, “Mobility and Transport in Polymer Systems: Applications of NMR Spectroscopy II: NMR Relaxational Studies,” *Polymer News*, **18**, 367 (1993).

J.L. Jacobs and A.B. Scranton, “Molecular Mobility in Free Radical Crosslinking Polymerizations,” *Polymer News*, **19**, 80 (1994).

B.S. Kopp and A.B. Scranton, “Mobility and Transport in Polymer Systems: Applications of Luminescence Spectroscopy: Part I. Basic Principles of Luminescence,” *Polymer News*, **19**, 283 (1994).

B.S. Kopp and A.B. Scranton, “Mobility and Transport in Polymer Systems: Applications of Luminescence Spectroscopy: Part II. Luminescence Quenching,” *Polymer News* **19**, 372 (1994).

**Columns as Contributing Editor of *Polymer News*, continued:**

L.E. Snelson and A.B. Scranton, "Design and Application of Barrier Polymers Part I. Introduction to Barrier Polymers," *Polymer News* **20**, 275 (1995).

L.E. Snelson and A.B. Scranton, "Design and Application of Barrier Polymers Part II. The Effect of Polymer Structure," *Polymer News* **20**, 386 (1995).

M.J. Bell and A. B. Scranton, "Polymer Mobility and the Glass Transition: Part I. Basic Principles," *Polymer News*, **21**, 129 (1996).

M.J. Bell and A. B. Scranton, "Polymer Mobility and the Glass Transition: Part II. Molecular Description," *Polymer News*, **21**, 199 (1996).

J.D. Clark and A.B. Scranton, "Applications of Fluorescence Depolarization: Part I. Fundamental Concepts," *Polymer News*, **22**, 135 (1997).

J.D. Clark and A.B. Scranton, "Applications of Fluorescence Depolarization: Part II. Characterization of Polymer Mobility," *Polymer News*, **22**, 286 (1997).

**Book Reviews:**

J. Klier and A.B. Scranton, review of *Biological and Synthetic Polymer Networks*, edited by O. Kramer, Elsevier Applied Science, 1988, *Biomaterials*, **10**, 142 (1989).

A.B. Kinney and A.B. Scranton, review of *Biosensors and Chemical Sensors* edited by P.G. Edelman and J. Wang, ACS Symposium Series #487, 1992 *Polymers News*, **18**, 287 (1993).

J.C. Rockwell and A.B. Scranton, review of *Polymeric Delivery Systems* edited by M.A. El-Nokaly, D.M. Piatt, and B.A. Charpentier, ACS Symposium Series #520, 1993 *Polymers News*, **19**, 63 (1994).

A.M. Mathur and A.B. Scranton, review of *Polymeric Gas Separation Membranes*, by R.E. Kesting and A.K. Frizsche, Wiley, 1993, *Polymer News*, **19**, 189 (1994).

J.L. Jessop and A.B. Scranton, review of *Sensors in Bioprocess Control*, edited by J.V. Twork and A.M. Yacynych, Marcel Dekker, 1990, *J. Contr. Rel.*, **32**, 201 (1994).

A.M. Mathur and A.B. Scranton, review of *Transport Properties in Polymers*, by J. Stastna and D. De Kee, Technomic, 1995, *Polymer News*, **20**, 407 (1995).

A.M. Mathur and A.B. Scranton, review of *Interactions of Surfactants with Polymers and Proteins*, edited by E.D. Goddard and K.P. Ananthapadmanabhan, CRC Press, 1993, *J. Control. Rel.*, **39**, 106 (1996).

K.K. Baikerikar and A.B. Scranton, review of *Assignment of the Glass Transition*, edited by R.J. Seyler, American Society for Testing and Materials, *Polymer News*, **22**, 263 (1997).

K.S. Padon and A.B. Scranton, review of *Cationic Polymerization: Mechanisms, Synthesis, and Applications*, edited by K. Matyjaszewski, Marcel Dekker, 1996, *J. Control. Rel.*, **49**, 304 (1997).

### **Invited Lectures:**

“Macromolecular Network Formation by Polyaddition reactions,” The University of Iowa, Iowa City, Iowa, September 5, 1989.

“The Roles of NMR Spectroscopy and Molecular Modeling in the Analysis of Polymeric Systems,” The Dow Chemical Company, Midland, Michigan, May 24, 1990.

“Self-Associating Networks of Poly(Methacrylic Acid-g-Ethylene Glycol),” Hope College, Holland, Michigan, January 18, 1991.

“Synthesis and Characterization of Novel Hydrogels,” Kimberly-Clark Corporation, Neenah, Wisconsin, May 24, 1991.

“Formation and Structure of Crosslinked Polyacrylates,” ACS Fall Meeting, Symposium on Advances in Superabsorbent Polymers, Chicago, August 25, 1993.

“Fluorescence Monitoring of Cationic Photopolymerizations of Divinyl Ethers Photosensitized by Anthracene,” ACS National Meeting, Chicago, IL, August 25, 1993.

“High-Speed, Solvent-Free Cationic Photopolymerizations,” 19th Mr. Clean Conference, Cocoa Beach, Florida, October 18, 1994.

“High-Speed, Solvent-Free Cationic Photopolymerizations,” Delco Electronics Inc., Kokomo, Indiana, January 20, 1995.

“Structure and Properties of Hydrogels,” The Institute of Materials Science, Orlando, Florida, March 8, 1995.

“High-Speed Cationic Photopolymerizations of Vinyl Ethers,” Center for Fundamental Materials Research, East Lansing, MI April 28, 1995.

“Kinetics and Mechanisms of Cationic Photopolymerizations of Vinyl Ethers,” AT&T Bell Laboratories, Murry Hill, New Jersey, May 11, 1995.

“Kinetics and Mechanisms of Cationic Photopolymerizations of Vinyl Ethers,” Gordon Research Conference, Chemistry and Physics of Coatings and Films, New Hampton, New Hampshire, July 25, 1995.

“Recent Advances in Green Chemistry” U.S. Environmental Protection Agency, Federal Facilities Pollution Prevention Conference, Chicago, Illinois, September 6, 1995.

“Novel Block/Graft Copolymer Surfactants,” The Dow Chemical Company, Midland, Michigan, October 5, 1995.

“Photopolymerizations of Composites,” Gordon Research Conference on Composite Materials, Ventura, California, January 10, 1996.

“High-Performance UV Cured Furniture Top-Coats” Haworth Incorporated, Holland Michigan, January 30, 1996.

“Cationic Photopolymerizations,” Oakland University, Rochester, Michigan, February 21, 1996.

**Invited Lectures, continued:**

“Film Formation in Water-Borne Coatings,” The Institute of Materials Science, Orlando, Florida, March 12, 1996.

“Photosensitization Of Iodonium Salts For Cationic Photopolymerizations,” ACS National Meeting, Orlando, Florida, August 1996

“Reversible Multiblock Copolymeric Emulsifiers Based upon Polymer Complexation,” Dow Chemical Company, September 26, 1996.

“Kinetics of Cationic Photopolymerizations of Divinyl Ethers: *In Situ* Characterization of the Photosensitization and Propagation Reactions Using Fluorescence and Raman Spectroscopy,” 3M Corporation, St. Paul, MN, December 18, 1996.

“Kinetics and Mechanisms of Cationic Photopolymerizations,” University of Colorado, Boulder, CO, January 23, 1997.

“Cationic Photopolymerizations of Polymer Films and Coatings,” The Dow Chemical Company, February 11, 1997.

“Kinetics of Cationic Photopolymerizations of Divinyl Ethers” ISP Corporation, Wayne, NJ, April 24, 1997.

“New Directions in Photopolymerizations,” DSM Desotech Inc., Elgin, IL, May 16, 1997.

“Cationic Polymerizations of Epoxidized Soybean Oil,” Michigan Soybean Promotion Committee, East Lansing, MI, February 18, 1998.

“Photopolymerization Kinetics,” NSF Conference on Photopolymerization, University of Southern Mississippi, Hattiesburg, MS, March 3, 1998.

“Radiation Curing of Coatings,” Detroit Coatings Society, Detroit, MI, March 23, 1998.

“Radiation Curing in Next Millenium: New Directions in Photopolymerization,” Keynote Lecture, Radtech '98 International Conference, April 20, 1998.

“Design and Synthesis of Reversible Multiblock Copolymeric Emulsifiers Based upon Polymer Complexation,” University of Colorado, April 23, 1998.

“Design and Synthesis of Reversible Multiblock Copolymeric Emulsifiers Based upon Polymer Complexation,” University of Iowa, December 3, 1998.

“Design and Synthesis of Reversible Multiblock Copolymeric Emulsifiers Based upon Polymer Complexation,” Michigan State University, Department of Chemical Engineering, January 14, 1999.

“Fluorescence and Raman Spectroscopy for in situ Characterization of Cationic Photopolymerization,” Michigan State University, Analytical Chemistry Seminar Series. January 21, 1999.

“*In Situ* Characterization of the Kinetics of Cationic Photopolymerizations Using Fluorescence and Raman Spectroscopy,” Dow Corning Corporation, July 21, 1999.

**Invited Lectures**, continued:

“Spectroscopic Methods for Characterizing Photoinduced Reactions in Polymer Systems,” ACS National Meeting, Analytical Division, August 25, 1999.

“Design and Synthesis of Reversible Multiblock Copolymeric Emulsifiers Based upon Polymer Complexation,” Wayne State University, September 22, 1999.

“The Role of Academic/Industrial Interactions in the Development of Photopolymerization Science,” Radtech International Fall Meeting, Arlington, VA, October 6, 1999.

“Fundamentals and Applications of Photopolymerization,” Sartomer Company, Exton, PA, April 17, 2000.

“Fundamentals and Applications of Photopolymerization,” Ashland Inc., Columbus, OH, June 27, 2000.

“Development of a Web-Based Course on Photopolymerization Science,” Radtech International Winter Meeting, Orlando, Florida, January 30, 2001.

“Design and Synthesis of Reversible Emulsifiers Based upon Polymer Complexation,” Iowa State University, February 8, 2001.

“Spectroscopic Characterization of Photopolymerizations,” University of Iowa, Physical Chemistry Seminar, March 1, 2001.

“Fundamentals and Applications of Photopolymerization,” Millipore Corp., Bedford, MA, June 14, 2001.

“Photopolymerization of Silica-Filled Composites: Encapsulants for Microelectronic Devices,” ACS National Meeting, Polymer Division, August 29, 2001.

“Fundamentals and Applications of Photopolymerization,” Loctite Corp., Rocky Hill, CT, December 18, 2001.

“Photopolymerizations of Thick Polymers and Composites,” Photopolymerization Fundamentals Meeting, Breckenridge, CO, June 10, 2002.

“Fundamentals and Applications of Photopolymerization,” National Starch Corporation, Bridgewater, NJ, July 1, 2002.

“Fundamentals of Cationic Photopolymerizations,” Dow Chemical Company, Bound Brook, NJ, August 6, 2002.

“Maximizing the Teaching, Research, and Service Contributions with Small Faculties,” Department Chair’s Forum, Annual AIChE Meeting, Indianapolis, IN, November 5, 2002.

“Photopolymerization of Thick Polymer Systems,” 30<sup>th</sup> International Waterborne, High-Solids, and Powder Coatings Symposium, New Orleans, LA, February 27, 2003.

“Photopolymerization of Thick Polymer Films,” Gordon Research Conference, Chemistry and Physics of Coatings and Films, New London, New Hampshire, July 15, 2003.

**Invited Lectures, continued:**

“The Twenty Greatest Engineering Achievements of the 20<sup>th</sup> Century,” Iowa Engineering Society, Cedar Rapids, Iowa, February 24, 2004

“Advances in Light-induced Polymerization: Photopolymerization of Thick Systems and Elimination of Oxygen inhibition,” Michigan State University, East Lansing, MI, February 26, 2004.

“Advances in Light-induced Polymerization: Photopolymerization of Thick Systems and Elimination of Oxygen inhibition,” University of Iowa Physical Chemistry Seminar, Iowa City, IA, April 5, 2004.

“Photopolymerization, See the Light,” University of Iowa College of Engineering, College-wide Seminar, September 23, 2004.

“Photopolymerization, See the Light,” Clemson University, Clemson, South Carolina, February 10, 2005

“Photopolymerization, See the Light,” Iowa State University Spring 2005 Distinguished Professor Lecture, Ames, Iowa, March 10, 2005

“Advances in Photopolymerization,” Iowa State University, Ames, Iowa, March 10, 2005

“Oxygen in Free Radical Polymerizations,” Photopolymerization Fundamentals Meeting, Breckenridge, CO, June 28, 2005.

“Advances in Photopolymerization Systems,” PPG Industries, Allison Park, PA, September 13, 2005.

“Photopolymerization, See the Light,” Boeing, Wichita, Kansas, October 7, 2005.

“Structured Illumination for Reduction of Shrinkage Stress,” 3M Corporation, St. Paul, MN, October 27, 2005.

“Advances in Cationic Photopolymerization,” Toyota Technical Center, Ann Arbor, MI, November 14, 2005.

“Challenges and Opportunities in Engineering,” Iowa Engineering Society, Muscatine, Iowa, February 23, 2006.

“Careers in Engineering,” Welcoming address at the State Science and Engineering Fair of Iowa, March 24, 2006.

## **Presentations:**

N.A. Peppas, A.B. Scranton, and L.C. Scranton, "Suspension Polymerization of 2-Hydroxyethyl Methacrylate," Annual AIChE Meeting, New York, November 16, 1987.

A.B. Scranton and N.A. Peppas, "Copolymerization and Crosslinking Reaction of Hydrophilic Monomers," Annual AIChE Meeting, Washington D.C., December 3, 1988.

N.A. Peppas, A.B. Scranton, and D.E. Edwards, "A Branching Theory for the Analysis of Certain Sol-Gel Processes," Annual AIChE Meeting, Washington D.C., December 5, 1988.

A.B. Scranton, J Klier, and N.A. Peppas, "Soluble Fraction Effects on Dynamic Swelling of Hydrogels," Annual AIChE Meeting, San Francisco, November 7, 1989.

A.B. Scranton and N.A. Peppas, "Copolymerization/Crosslinking Reaction of 2-Hydroxyethyl Methacrylate with Ethylene Glycol Dimethacrylate," Annual AIChE Meeting, San Francisco, November 8, 1989.

J. Klier, A.B. Scranton and N.A. Peppas, "Self-Association of Poly(methacrylic acid-g-ethylene glycol) as Studied by Nuclear Overhauser Effect and NMR Relaxation Time Measurements," Annual AIChE Meeting, San Francisco, November 8, 1989.

J. Klier, A.B. Scranton and N.A. Peppas, "Complex-Forming Hydrogels Sensitive to Environmental Conditions," Central Regional Meeting, ACS, University Center, Michigan, June 7, 1990.

C.L. Aronson and A.B. Scranton, "Solution State NMR Relaxational Studies of Polymeric Systems," ACS Fall Scientific Meeting, Midland, Michigan, October 12, 1990.

A.B. Scranton, J. Klier, and N.A. Peppas, "Complexation of Polymeric Acids with Complementary Oligomeric Bases," Annual AIChE Meeting, Chicago, November 14, 1990.

K.F. Hammonds and A.B. Scranton, "Equilibrium Swelling of Poly(methacrylic acid-g-ethylene glycol) Networks," ACS Fall Scientific Meeting, Midland, Michigan, October 26, 1991.

A.M. Mathur, K.F. Hammonds, C.L. Aronson, A.B. Scranton and J. Klier, "Responsive Materials Based Upon Polymer Complexation," Annual AIChE Meeting, Los Angeles, November 20, 1991.

K.E. Abt and A.B. Scranton, "Responsive Poly(methacrylic acid-g-ethylene glycol) Networks," Great Lakes College Chemistry Conference, East Lansing, MI, April 4, 1992.

C.L. Aronson and A.B. Scranton, "Complexation of Poly(4-vinyl phenol) with Poly(N,N-dimethylacrylamide)" 8th Annual ASM/ESD Advanced Composites Conference, Chicago, IL November 5, 1992.

E.W. Nelson and A.B. Scranton, "Fluorescence Methods for Monitoring UV Initiated Cationic Polymerizations," ACS Fall Scientific Meeting, University Center, Michigan, November 7, 1992.

A.M. Mathur and A.B. Scranton, "Ion Binding Properties of Poly(ethylene glycol) Diacrylates and Dimethacrylates," ACS Fall Scientific Meeting, University Center, Michigan, November 7, 1992.

L.S. Coons and A.B. Scranton, "Simultaneous Radical and Cationic Polymerizations," ACS Fall Scientific Meeting, University Center, Michigan, November 7, 1992.

**Presentations**, continued:

E.W. Nelson, T.P. Carter and A.B. Scranton, "Photosensitization of Cationic Photopolymerizations by Anthracene," ACS National Meeting, Chicago, IL, August 24, 1993.

E.W. Nelson, T.P. Carter and A.B. Scranton, "Fluorescence Monitoring of Cationic Photopolymerizations of Divinyl Ethers Photosensitized by Anthracene," ACS National Meeting, Chicago, IL, August 25, 1993.

A.B. Kinney and A.B. Scranton, "Formation and Structure of Crosslinked Polyacrylates," ACS National Meeting, Chicago, IL, August 25, 1993.

A.M. Mathur and A.B. Scranton, "Synthesis and Ion Binding Properties of Polymeric Pseudocrown Ethers," Eight Symposium on Separation Science and Technology for Energy Applications, Gatlinburg, TN, October 25, 1993.

C.L. Aronson and A.B. Scranton, "Hydrogen Bonded Interpolymer Complexes of Poly(N,N-Dimethylacrylamide with Poly(4-vinyl phenol)" ACS Fall Scientific Meeting, University Center, MI, October 23, 1993.

E.W. Nelson, T.P. Carter and A.B. Scranton, "Spectroscopic Monitoring of High Speed Cationic Photopolymerizations of Bisvinyl Ether Films," AIChE Annual Meeting, St. Louis, Missouri, November 11, 1993.

A.B. Scranton and J. Klier, "Responsive Poly(Methacrylic Acid-g-Ethylene Glycol) Hydrogels," AIChE Annual Meeting, St. Louis, Missouri, November 8, 1993.

J.L. Jacobs, E.W. Nelson, and A.B. Scranton, "Use of Fluorescence to Monitor Temperature and Observe Water Effects in Cationic Photopolymerizations of Divinyl Ethers," ACS National Meeting, San Diego, CA, March 13, 1994.

C.L. Crofcheck, E.W. Nelson and A.B. Scranton, "Temperature Sensitive Fluorescence for Monitoring High Speed Cationic Photopolymerizations," AIChE North Central Regional Meeting, Ann Arbor, MI, March 19, 1994.

C.L. Crofcheck, E.W. Nelson and A.B. Scranton, "Temperature Sensitive Fluorescence for Monitoring High Speed Cationic Photopolymerizations," Great Lakes College Chemistry Conference, East Lansing, MI, April 9, 1994.

J.L. Jessop, A.B. Scranton, and G.J. Blanchard, "In Situ Cure Monitoring for Composite Processing Using Fiber Optic Fluorescence Sensors," Eight Annual CFMR/Industry Symposium, East Lansing, MI, April 11, 1994.

E.W. Nelson, and A.B. Scranton, "*In Situ* Raman Spectroscopy for Cure Monitoring of Divinyl Ether Cationic Photopolymerizations," ACS National Meeting, Anaheim, CA, April 5, 1995.

C.L. Crofcheck, E.W. Nelson, J.L. Jacobs, and A.B. Scranton, "Temperature-Sensitive Luminescence for Monitoring High-Speed Cationic Photopolymerizations," ACS National Meeting, Anaheim, CA, April 2, 1995.

J.L. Jessop, A.B. Scranton, and G.J. Blanchard, "*In Situ* Cure Monitoring of a Vinyl Ester Polymer Using Fiber Optic Fluorescence Sensors," ACS National Meeting, Anaheim, CA, April 2, 1995.

**Presentations**, continued:

J.L. Jacobs and A.B. Scranton, "A Transmission Electron Microscopic Study of the Morphology of Cationically Photopolymerized Divinyl Ethers," ACS National Meeting, Anaheim, CA, April 4, 1995.

E.W. Nelson, J.L. Jacobs, A.B. Scranton, K.S. Anseth, and C.N. Bowman, "Photo-Differential Calorimetry Studies of Cationic Polymerizations of Divinyl Ethers," ACS National Meeting, Anaheim, CA, April 5, 1995.

J.L. Jessop, A.B. Scranton, and G.J. Blanchard, "In Situ Cure Monitoring for Composite Processing Using Fiber Optic Fluorescence Sensors," Ninth Annual CFMR/Industry Symposium, East Lansing, MI, April 10, 1995.

L.S. Coons, B. Rangarajan, and A.B. Scranton, "Novel High-Speed, Low-Cost Composite Processing Methods Based Upon Photopolymerizations," Symposium on Polymer Composites Processing, East Lansing, Michigan, June 8, 1995.

B. Rangarajan and A.B. Scranton, "Applications of Solvent-Free Photopolymerizations," 21st Mr. Clean Conference, Indianapolis, IN, October 19, 1995.

A.M. Mathur and A.B. Scranton, "Synthesis and Ion-Binding Properties of Polymeric Pseudocrown Ethers II," Ninth Symposium on Separation Science and Technology for Energy Applications, Gatlinburg, TN, October 23, 1995.

J.L. Jessop, A.B. Scranton and G.J. Blanchard, "*In-situ* Cure Monitoring for Composites Processing Using Fiber Optic Fluorescence Sensors," 11th Annual Advanced Composites Conference, Dearborn, Michigan, November 7, 1995.

L.S. Coons, B. Rangarajan, and A.B. Scranton, "Production of Thick Polymers and Composites Based Upon Photopolymerizations," 11th Annual Advanced Composites Conference, Dearborn, Michigan, November 7, 1995.

E.W. Nelson and A.B. Scranton, "Kinetics of Cationic Photopolymerizations of Vinyl Ethers," AIChE Annual Meeting, Miami, Florida, November 14, 1995.

L.S. Coons, B. Rangarajan, D. Godshall, A.B. Scranton, "Production of Polymeric Composites Based Upon Photopolymerization Methods" ASME, National Meeting, San Francisco, CA, November 13, 1995.

E.W. Nelson and A.B. Scranton, "High-Speed, Solvent-Free Cationic Photopolymerizations of Vinyl Ethers," AIChE Annual Meeting, Miami, Florida, November 16, 1995.

B.K. Becker, A.M. Mathur, and A.B. Scranton, "Novel Reversible Multiblock Copolymeric Emulsifiers," ACS National Meeting, New Orleans, LA, March 28, 1996.

S.K. Moorjani, B. Rangarajan, A.B. Scranton, "The Effect Of Viscosity On The Rate of Photosensitization Of Diaryliodonium Salts By Anthracene," ACS National Meeting, New Orleans, LA, March 28, 1996.

L.S. Coons, B. Rangarajan, and A.B. Scranton, "Photopolymerizations of Composites," ACS National Meeting, New Orleans, LA, March 29, 1996.

**Presentations**, continued:

B.K. Becker, A.M. Mathur, and A.B. Scranton, "Novel Reversible Multiblock Copolymeric Emulsifiers," AIChE Regional Meeting, Columbus, Ohio, April 27, 1996.

L.S. Coons, B. Rangarajan, D. Godshall, and A.B. Scranton, "Production of Polymeric Composites Based Upon Ultraviolet Photopolymerization Methods," 28<sup>th</sup> ACS Central Regional Meeting, Dayton Ohio, June 10, 1996.

A.M. Mathur, A.B. Scranton, and J. Klier, "Polymeric Emulsifiers Based Upon Reversible Intramolecular Complexation," AIChE Spring National Meeting, Houston, March 10, 1997.

R. Chen and A.B. Scranton, "Polymers from Renewable Feedstocks: Cationic Photopolymerizations of Epoxidized Soybean Oil, AIChE Regional Meeting, East Lansing, MI, April 12, 1997.

A.M. Mathur, B. Drescher, A.B. Scranton, and J. Klier, "Reversible Block-Graft Copolymeric Emulsifiers Based Upon Polymer Complexation," ACS National Meeting, San Francisco, April 15, 1997.

A.M. Mathur, V. Narayanan and A.B. Scranton "Coatings formed by the Photopolymerization of Epoxidized Soybean Oil Containing Cyclohexanedimethanol Divinylether as a Reactive Diluent" 5th. International Exhibition of Paint Industry Suppliers, Sao Paulo, Brazil, Sept. 15-17 1997.

P. Kohli, A. B. Scranton and G. J. Blanchard, "Understanding Photopolymerization of Bismaleimides and Divinylethers: A New Class of Charge-Transfer Polymerization", The Federation of Analytical Chemistry and Spectroscopy Societies XXIV Annual Meeting, Providence, RI, October, 30, 1997.

V. Narayanan and A.B. Scranton, "Modeling of Photobleaching of Initiators in Solution," AIChE Annual Meeting, Los Angeles, November 17, 1997.

B.J. Elliott, A.B. Scranton and C.N. Bowman, "Synthesis of Pseudocrown Ether Membranes for Adsorption and Separation of Metal Ions," AIChE Annual Meeting, Los Angeles, November 17, 1997.

B. Rangarajan, L. Capodieci, R. Subramanian, M. Templeton, and A. Scranton, "Sampling Strategies for sub-100 nm Overlay," SPIE Annual Conference, February 24, 1998.

K.K. Baikerikar, B. Rangarajan, D. Godshall, and A.B. Scranton "Photopolymerizable Encapsulants for Microelectronic Devices," Radtech '98 International North American Conference, April 21, 1998.

V. Narayanan, K.K. Baikerikar, and A.B. Scranton "A Study of Initiating Systems for Photopolymerization of Composites," Radtech '98 International North American Conference, April 20, 1998.

Arvind M. Mathur, V. Narayanan, and A.B. Scranton "UV Curable Epoxidized Oils with Vinylethers as Reactive Diluents," Radtech '98 International North American Conference, April 22, 1998.

P. Srivastava, B. Crescher, J.W. Heckman, R.M. Worden and A.B. Scranton, "Characterization of Colloidal Liquid and Gas Aphrons Formed Using Novel, Reversible, Copolymeric Block/Graft Emulsifiers," AIChE Annual Meeting, November 17, 1998.

B.J. Elliot, A.B. Scranton, and C.N. Bowman, "Polymeric Pseudocrown Ether Membranes for Adsorption and Separation of Metal Ions," AIChE Annual Meeting, November 19, 1998.

**Presentations**, continued:

J.L.P. Jessop, S.N. Goldie, A.B. Scranton, G.J. Blanchard, B. Rangarajan, L. Capodiecici, and R. Subramanian, "Characterizing Acid Mobility in Chemically Amplified Resists via Spectroscopic Methods," SPIE International Microlithography Conference, Anaheim, CA, March 1999.

C. Browning, D. Clark, C Harney, K. Stuart, M. Bounds, J. McCoy, L. Terrell, S. Whitehead, A. Scranton, and E. Jackson, "NOBCChE at Michigan State University: Achieving Academic Excellence Through Diversity and Interaction," ACS National Meeting, Anaheim California, March 22, 1999.

A.B. Scranton, R.M. Russell, N. Basker, J.L.P. Jessop, and L.C. Scranton "Teaching Material and Energy Balances on the Internet" ASEE National Conference, Charlotte, North Carolina, June 23, 1999.

K.S. Padon and A.B. Scranton, "Fundamental Studies of Photoinitiation and Cure of a New Initiator System for Coatings Cured with Visible Light," Gordon Research Conference on Coatings and Films, New London, NH, July 12, 1999.

J.L.P. Jessop, S.N. Goldie, A.B. Scranton, and G.J. Blanchard, "Characterizing Acid Mobility in Chemically Amplified Resists via Spectroscopic Methods," AIChE Annual Meeting, Dallas, TX, November 1999.

J.L.P. Jessop, S.N. Goldie, A.B. Scranton, G.J. Blanchard, B. Rangarajan, U. Okoroanyanwu, R. Subramanian, M.K. Templeton, "Spectroscopic Characterization of Acid Mobility in Chemically Amplified Resists," SPIE International Microlithography Conference, Anaheim, CA, February 2000.

B. Drescher and A.B. Scranton, "Reversible Block/Graft Copolymeric Emulsifiers Based Upon Intramolecular Complexation," ACS Spring National Meeting, San Francisco, March 26, 2000.

K.S. Padon and A.B. Scranton, "Mechanistic Studies of the Three Component Photoinitiator System Methylene Blue, N-Methyldiethanolamine and Diphenyliodonium Chloride," ACS Spring National Meeting, San Francisco, March 26, 2000.

K.K. Baikerikar and A.B. Scranton, "Photopolymerizable Liquid Encapsulants," ACS Spring National Meeting, San Francisco, March 27, 2000.

J.L.P. Jessop, S.N. Goldie, A.B. Scranton, and G.J. Blanchard, "Spectroscopic Characterization of Acid Mobility in 248 nm Chemically Amplified Resists," ACS Spring National Meeting, San Francisco, March 27, 2000.

A.B. Scranton and L.C. Scranton, "Teaching Material and Energy Balances on the Internet: Continuous Improvement of a Web-based Course," ASEE Annual Conference and Exposition, St. Louis, June 20, 2000.

A.B. Scranton and L.C. Scranton, "A Cooperative Learning Group Project Implemented on the Internet: The People Balance Project," ASEE Annual Conference and Exposition, St. Louis, June 20, 2000.

A.B. Scranton and K.S. Padon, "Spectroscopic Methods for Characterizing Photopolymerization Systems," AIChE Annual Meeting, Los Angeles November 13, 2000.

K.S. Padon, D. Kim, and A.B. Scranton, "Spectroscopic Investigation of Three Component Initiator Systems," ACS National Meeting, Chicago, August 28, 2001.

**Presentations**, continued:

R. Nagarajan, C.E. Hoyle, A.B. Scranton and M. El-Maazawi, "Determination of Overall Photoinitiator Efficiencies," Radtech North America Technical Conference, Indianapolis, IN, April 29, 2002.

A.B. Scranton, G.A. Miller, L. Gou, and M. El-Maazawi, "Modeling of Photobleaching for Photoinitiation of Thick Polymerization Systems," Radtech North America Technical Conference, Indianapolis, IN, April 29, 2002.

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V. Sipani and A.B. Scranton, "Fundamental Characterization of Cationic Photopolymerization," AIChE Annual Meeting, Indianapolis, IN, November 4, 2002.

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K. Jain and A.B. Scranton, "Photopolymerization of Butyl acrylate-In-Water Microemulsion," AIChE Annual Meeting, Indianapolis, IN, November 4, 2002.

D. Kim and A.B. Scranton, "Fundamental Characterization of Three Component Initiator Systems," AIChE Annual Meeting, Indianapolis, IN, November 4, 2002.

V. Sipani and A.B. Scranton, "Cationic Photopolymerization of Epoxide Monomers: Characterization of Active Center Propagation Lifetime," New Orleans, LA, March 25, 2003.

A.B. Scranton, "Web-Based Distance Education: Experiences Teaching Material and Energy Balances," American Society for Engineering Education North Midwest Region Meeting, Ames, Iowa, October 11, 2003.

V. Sipani and A.B. Scranton, "Kinetic Studies of Cationic Photopolymerizations of Epoxide Monomers," AIChE Annual Meeting, San Francisco, CA, November 17, 2003.

L. Gou and A.B. Scranton, "Photochemical Method to Eliminate Oxygen Inhibition," AIChE Annual Meeting, San Francisco, CA, November 17, 2003.

D. Kim and A.B. Scranton, "Effect of Electron Donor Structure on the Kinetics of Visible Three-Component Photo-Initiator Systems," AIChE Annual Meeting, San Francisco, CA, November 17, 2003.

K. Jain, N.L. Stephenson, and A.B. Scranton "Photobleaching of Thick Polymer Systems," AIChE Annual Meeting, San Francisco, CA, November 17, 2003.

K. Jain, A.B. Scranton, B.A. Ficek, P. Rasmussen, and D. Rethwisch "Microemulsions of Soybean Oil," AIChE Annual Meeting, San Francisco, CA, November 17, 2003.

A.B. Scranton, N. Stephenson, and D. Kriks, "Modeling of Photoinitiation of Thick Polymers Illuminated with Polychromatic Light," Radtech International North America Biannual Conference, Charlotte, NC, May 3, 2004.

L. Gou and A.B. Scranton, "A Photochemical Method to Eliminate Oxygen Inhibition in Photocured Systems," Radtech International North America Biannual Conference, Charlotte, NC, May 3, 2004.

**Presentations**, continued:

D. Kim and A.B. Scranton, "Effect of Electron Donor Structure on the Kinetics of Visible Three-component Photoinitiator Systems," Radtech International North America Biannual Conference, Charlotte, NC, May 4, 2004.

V. Sipani and A.B. Scranton, "Characterization of the Kinetic Rate Constants for the Cationic Photopolymerizations of Epoxide Monomers," Radtech International North America Biannual Conference, Charlotte, NC, May 4, 2004.

N. Stephenson, D. Kriks, and A.B. Scranton, "Modeling of Photoinitiation of Thick Polymer Systems," ACS Fall National Meeting, Philadelphia, August 24, 2004.

L. Gou, C.N. Coretsopoulos, and A.B. Scranton, "Reduction of Oxygen Inhibition in Free Radical Photopolymerization," ACS Fall National Meeting, Philadelphia, August 24, 2004.

K. Jain, P. Rasmussen, A.B. Scranton, and D.R. Rethwisch, "Enhanced Epoxidation of Soybean Oil through Microemulsion Technique," ACS Fall National Meeting, Philadelphia, August 25, 2004.

V. Sipani, A. Kirsch, and A.B. Scranton, "Characterization of Kinetic Rate Constants of Cationic Photopolymerizations of Epoxides," ACS Fall National Meeting, Philadelphia, August 25, 2004.

A. B. Scranton, "Research in Center for Fundamentals and Applications of Photopolymerization," Radtech International North America Biannual Conference, Chicago, April 26, 2006.

N. Kenning, D. Kriks, M. El-Maazawi, and A. B. Scranton, "Photoinitiation Rate Profiles for Thick Polymerization Systems," Radtech International North America Biannual Conference, Chicago, April 26, 2006.