

Stephen P. McCarthy
26 Ocean Blvd
North Hampton, NH 03862

Distinguished University Professor Emeritus
University of Massachusetts Lowell
Departments of Biomedical Engineering and Plastics Engineering
Lowell, Massachusetts 01854

EDUCATION AND ACADEMIC QUALIFICATIONS

PhD	Case Western Reserve University,	Macromolecular Science,	1984
M.S.E.	Princeton University,	Chemical Engineering,	1980
B.S.	Southeastern Massachusetts University,	Textile Chemistry,	1978
Certificate,	Worcester Polytechnic Institute,	Medical Device Management,	2005

PROFESSIONAL APPOINTMENTS

Distinguished University Professor Emeritus, 2020 - Present
Departments of Biomedical Engineering and Plastics Engineering
University of Massachusetts Lowell

Founder and Chair, 2015-2019
Department of Biomedical Engineering
University of Massachusetts Lowell

Founder and Director, 2010-2019
Massachusetts Medical Device Development Center (M2D2)
University of Massachusetts Lowell

Distinguished University Professor, 1991-2000
Department of Plastics Engineering
University of Massachusetts Lowell

Associate Professor, 1988-1991
Department of Plastics Engineering
University of Massachusetts Lowell

Assistant Professor, 1984-1988
Department of Plastics Engineering
University of Massachusetts Lowell

Advanced R&D Engineer, 1980-1981

Owens Corning Fiberglas, Technical Center, Granville, Ohio

LITIGATION EXPERIENCE

US Cases

2021 EPL Limited v. Colgate-Palmolive. Plaintiff Expert

Case No. PGR2022-00001

Plaintiff Attorneys: Sterne, Kessler, Goldstein & Fox

Plaintiff expert on Post-Grant Review of U.S. Patent No. 10,889,093

Declaration to Patent Trial and Appeal Board

Case settled

2016 Lifetime Products v. Maxchief Investments Plaintiff Expert

Case No. 8:18-CV-01230-JVS-ADS

Plaintiff Attorneys: Maschoff Brennan (David Wright, Kirk Harris)

Plaintiff expert on patent infringement case (3 depositions, 1 trial)

Award for plaintiff- \$9.7 million

2015 Lifetime Products v. Russell Brands. Plaintiff Expert

Case No. 1:12-cv-00026-DN-EJF

Plaintiff Attorneys: Maschoff Brennan (Kirk Harris, Michael Howell)

Plaintiff expert on patent infringement case (3 depositions).

Case settled

2011 Starlinger v. Windmoller – Plaintiff Expert

Plaintiff Attorneys: Workman. Nydegger (C.J. Veverka)

Plaintiff expert on patent infringement case -

Case settled

2009 Cangelosi v. Carlisle Tire - Defendant Expert

Defendant Attorneys: Harwood Lloyd, LLC (Michael Oropollo)

Defendant Expert on product liability case (1 deposition)-

Case settled

2007 Coons v. Chapman - Plaintiff Expert

Plaintiff Attorneys: DeLuca & Weizenbaum (Tim Eskey)

Plaintiff expert on product liability case – 1 deposition, 1 trial)

Jury award for plaintiff

2005 Cambridge Industries v. National Starch- Defendant Expert

Defendant Attorneys: Norris, McLaughlin, & Marcus (D. Guadalupe)

Defendant expert on contractual dispute –

Case settled

2005 TAP Pharmaceuticals v. Atrix :Laboratories- Defendant Expert

Defendant Attorneys: Foley Hoag (Lauren Knapp)

Defendant expert on patent infringement case –

Case settled

2004 Cuno v, Milipore Plaintiff Expert

Plaintiff Attorneys: Reed Smith (S. Chin)

Plaintiff expert on patent infringement case –

Case settled

2004 Lifetime Products v. FDL Plaintiff Expert

Plaintiff Attorneys: Workman Nydegger (R. Sears D. Wright)

Case settled

2004 Lifetime Products v. Correll Plaintiff Expert

Plaintiff Attorneys –Workman Nydegger (D. Wright, R. Sears

Plaintiff expert on patent infringement case (3 depositions)-

Case settled

2003 Jumpsport v. Hedstrom – Defendant Expert

Defendant Attorneys: Cesari & McKenna (K. Gannon, T. O’Konski)

Defendant expert on patent infringement case (2 depositions, 1 day trial)

Award for Plaintiff

2001-2 Stuhlert v. Monsanto - Defendant Expert

Defendant Attorneys: Steptoe & Johnson (L. Riff, D. Blakey)

Defendant expert on product liability case (1 deposition)–

Case settled

2000-1 Novamont v. Earthshell - Defendant Expert

Defendant Attorneys: Workman, Nydegger (C.J Veverka , D. Wright)

Defendant expert on patent infringement case –

Case settled

1999 AOKI Technical Laboratory v. FMT Corporation - Defendant Expert

Defendant Attorneys: Squire Sanders & Dempsey

Defendant expert on patent infringement case -

Case settled

1999 Ramirez v. Evenflo - Defendant Expert

Defendant Attorneys: Brown, McCarroll & Oaks Hartline, LLP

Defendant expert on product liability case (1 day deposition)

Case settled

1999 Biotec v. Novamont - Plaintiff Expert

Plaintiff Attorneys: Workman, Nydegger

Plaintiff expert on patent infringement case (1 day deposition, 1 day trial)

Jury Awarded for Plaintiff

1998 Dexter v. Harcros - Plaintiff Expert

Plaintiff Attorneys: Harvey & Frank

Plaintiff expert on product liability case (1 day deposition)

Case settled

1997 Velcro v. Binder - Plaintiff Expert

Plaintiff Attorneys: Weissburg

Plaintiff expert on patent infringement -

Outcome unknown

1995-6 Hughes v. M/A-COM - Defendant Expert

Defendant Attorneys: Rogozienski

Defendant expert on product liability case (6 days deposition)

Case settled

1990- Bhar Inc. vs. US

1 day trial (unknown outcome)

Defendant expert on product fraud (regrind use)

PATENTS ISSUED

“Micro and Nanospheres Based on Natural Materials”, Pending, with Balint Koroskenyi and Robert Nicolosi

“Novel Biodegradable Bone Plates and Bonding Systems”, with Jeffrey Weinzweig, USA Patent No. US2008/0234754 A1, Effective from September 25, 2008.

“Polysaccharide-Containing Block Copolymer Particles and Uses Thereof”, with Balint Koroskenyi and Robert Nicolosi, Pending, USA Patent Application 20110020227.

“Polysaccharide-Containing Block Copolymer Particles and Uses Thereof”, with Balint Koroskenyi and Robert Nicolosi, USA Patent Application 7,763,663.

“Surface Finishing Compression Molding with Multi-Layer Extrusion”, with Arthur Delusky, Robert Lucke, Thomas Ellison and Qing Guan, USA Patent No. 6,770,230.

- “Surface Finishing Compression Molding with Multi-Layer Extrusion”, with Arthur Delusky, Robert Lucke, Thomas Ellison and Qing Guan, USA Patent No. 6,964,802.
- “Molded Article and Process for Preparing Same”, with Thomas M. Ellison, Arthur Delusky and Qing Guan, USA Patent No. 6,670,028.
- “Process and Apparatus for Preparing a Molded Article”, with Thomas Ellison, and Arthur Delusky, USA Patent No. 6,506,334.
- “Molded Article”, with Thomas M. Ellison, Arthur K. Delusky, Robert Lucke, USA patent No. 6,440,593.
- “Refined Vegetable Oils and Extracts Thereof”, with Carl Lawton, Robert Nicolosi, USA Patent No. 6,197,357 B1.
- “Bioresorbable Copolymers”, with Richard A. Gross, Xianhai Chen, USA Patent No. 6,093,792.
- “Polylactic Acid-Based Blends”, with, Richard Gross, and Wenguang Ma, USA Patent No. 5,883,199.
- “Composition of and Method for Forming High Molecular Weight Predominately Syndiotactic Substituted-Poly (β -Propioesters)”, with Richard Gross and John Kemnitzer, USA Patent No. 5,440,007.
- “Biodegradable and Hydrogradable Diblock Copolymers Composed of Poly (β -Hydroxyalkanoates and Poly (Lactones) or Poly (Lactide) Chain Segments”, with Richard Gross and Michael Reeve, USA patent No. 5,439,985.
- “Gamma-Poly(Glutamic Acid) Esters”, with Richard Gross and Devang Shah, USA Patent No. 5,378,807.

SELECTED PUBLICATIONS

- A study on recycling of polyhydroxybutyrate (PHB) copolymer and its effect on material properties, Annual Technical Conference - Society of Plastics Engineers, Bhavin Shah, Robert Whitehouse and Stephen McCarthy vol. 70, (2012) pg 260-264.
- “Processing and Blends of Biopolymers”, 66th Annual Technical Conference – Society of Plastics Engineers, (2008)
- “Improving the toughness of poly(lactic acid)(PLA) through co-continuous, immiscible, biodegradable blends with PHA”. With Jinkoo Lee, Annual Technical Conference - Society of Plastics Engineers (2007), 65th 1569-1572.
- “The Effect of Nanoclays on the Properties of PLLA-modified Polymers: Part I: Mechanical and Thermal Properties”, D. Lewitus, A. Ophir, S. Kenig and S. McCarthy, J. Polymers and the Environment, Vol 14, no. 1, pp. 171-177, (2006).
- “Mechanical Testing and Characterization of Biopolymers”, Society of Plastics Engineers Annual Technical Conference, (Vol. 64), (2006).
- “Electrically Conductive Nano-composites in Powdered Injection Molding”, with Ankur Maheshwari, Society of Plastics Engineers Annual Technical Conference, (2003), (61st) (Vol. 61), pp. 616-619.
- “Process Dynamics in Sequential Valve Gate Injection Molding-Processing Strategy and Process Control”, Shin, Suk-young; Schott, Nick; McCarthy, Stephen., Society of Plastics Engineers Annual Technical Conference (2001), 59th(Vol. 1), 694-698.
- “Large, Structural, "Class A" Thermoplastic Automotive Part Production Without Painting”, McCarthy, Stephen; Guan, Qing; McCarthy, Shawn; Shetty, Malar Rohith; Ellison,

- Thomas, Annual Technical Conference - Soc. Plast. Eng. (2001), 59th(Vol. 3), 2448-2452.
- “Biodegradable Polymer Blends for Medical Applications”, with P. Canale, S. Mehta, Journal of Applied Medical Polymers, Volume 5, No. 2, Pgs. 65-71, (Autumn 2001)
- “Cavity Pressure Transfer Extends Prototype Tool Life”, with John Dell’Arciprete and Robert Malloy, Modern Plastics, Edited by William A. Kaplan, pgs. 125-128, (January 2000).
- ““Kinetic” Welding of Plastic Parts”, with Judith A.H. Jones, Yogish Mahadevaiah, Balint Koroskenyi, and Sanjay Mehta, 58th Society of Plastics Engineers Annual Technical Conference Proceedings, Volume 46, Number 1, pp. 1232-1236, May 2000.
- “Thermoplastic Paint (A.k.a. Film Finish, Paint Film, Dry Paint) A Complementary Technology for Exterior Automotive Plastic”, with Thomas Ellison, 58th Society of Plastics Engineers Annual Technical Conference Proceedings, Volume 46, Number 1, pp. 2607-2610, May 2000.
- ““Class A” Thermoplastic Automotive Part Production without Painting”, with Qing Guan, Chetan Makadia and Thomas Ellison, 58th Society of Plastics Engineers Annual Technical Conference Proceedings, Volume 46, Number 3, pp. 2654-2657, May 2000.
- “Analysis of Adhesive Properties of Different Engineering Thermoplastics To Elastomers By a Two-Shot Injection Molding Process”, Sandip Patel, Chetan Makadia, Qing Guan and Sanjay Mehta, 58th Society of Plastics Engineers Annual Technical Conference Proceedings, Volume 46, Number 3, pp. 2658-2662, May 2000.
- “Cavity Pressure Studies for Stereolithography Produced Tooling”, with John Dell’Arciprete and Robert Malloy, 58th Society of Plastics Engineers Annual Technical Conference Proceedings, Volume 45, Number 1, pp. 467-471, May 1999.
- “Rapid Tooling: A Study of Different Cooling Techniques for Mold Inserts Used in the Direct AIM (ACES Injection Molding) Process”, with Sandeep Saurkar, and Robert Malloy, 58th Society of Plastics Engineers Annual Technical Conference Proceedings, Volume 45, Number 1, pp. 1105-1108, May 1999.
- “A New Approach for In-Mold Finishing: The Valyi Surface Finishing/Compression Molding Process”, with Qing Guan, Sandip Patel, and Thomas Ellison, 58th Society of Plastics Engineers Annual Technical Conference Proceedings, Volume 45, Number 1, pp. 2911-2914, May 1999.
- "The Influence of Injection Molding Conditions on Biodegradable Polymers", with M. Parikh and R. Gross, Journal of Injection Molding Technology, Vol. 2, No. 1, pp. 30-36, March (1998)
- “Effect of Fiber Orientation on the Mechanical Properties of an Injection Molded Part and a Stereolithography-Insert Molded Part”, with M. Damle, S. Mehta, R. Malloy, Society of Plastics Engineers Annual Technical Conference, Volume 44, pgs. 584-588 (May 1998).
- “Analysis of Metal Coating Effects on Stereolithography Tooling for Injection Molding”, with David T. Burns and Robert Malloy Society of Plastics Engineers Annual Technical Conference, Volume 44, pgs. 888-892, (May 1998).
- “Reactive compatibilization of Biodegradable Blends of Poly(lactic acid) and Poly(ϵ -caprolactone), L. Wang, W. Ma, R.A. Gross & S.P. McCarthy, Polymer Degradation and Stability, 59, pg 161-168, (1997).
- “Pultrusion of Composites”, Advanced Composites Manufacturing, Ed. Timothy G. Gutowski, John Wiley & Sons, Inc., New York, (with J. Fanucci and S. Nolet), pgs.259-295, (1997).

- “Rapid Stereolithography Tooling for Injection Molding: The Effect of Cooling Channel Geometry”, (with M. Janczyk and R. McLaughlin), J.Injection Molding Technology, Vol. 1, No. 1 (1997).
- “Effects of Physical Aging, Crystallinity, and Orientation on the Enzymatic Degradation of Poly(Lactic Acid)”. (with H. Cai, V. Dave, R.A. Gross), J. Polym. Sci., Polymer Physics, 40, pgs. 2701-2708, (1996).
- “Self-Reinforcement of Polypropylene by Oscillating Packing Injection Molding Under Low Pressure”. (with Q. Guan, X. Zhu, D. Chu, K. Shen, F.S. Lai), J.Appl.Polm. Sci., 62, Pgs. 755-762, (1996).
- “Fiber Reinforced Nylon-6 Composites Produced by the Reaction Injection Pultrusion Process”. (with B.G. Cho, J. Fanucci, S. Nolet), Polymer Composites, 17(5), pgs. 673-681, October (1996)
- “Polymers in Biodegradable Surgical Devices: Blending Poly(Glycolic-Acid) with Other Biodegradable Plastics”, (with G. Rocha), Medical Plastics and Biomaterials, May/June 1996, Pgs. 44-48.
- “Effects of Crystallinity and Orientation on the Enzymatic Degradation of Poly(Lactic Acid)”, Soc. of Plastics Eng., Technical Papers, Vol. 40, (1995), (with Hua Cai, Vipul Dave, Richard A. Gross).
- “Liquid Crystalline Behavior of Konjac Glucomann in Aqueous Solutions”, Polym. Preprints, Am. Chem. Soc., Div. Polym. Sci., Vol. 35(2), pgs 448-449, (1994). (with Vipul Dave, Jo Ann Ratto, Deeleep Rout, Richard A. Gross, David L. Kaplan)
- “Behavior of Fiber Reinforcements During Composite Processing”, Journal of Polymer Composites, (1991) (with Y. Kim).
- "Verification Mold for Flow, Cooling, Shrinkage, and Warpage", Technical Papers, SPE, 36, 283 (1990). (with W. Discipio.).
- "Study of Pressure, Volume, and Temperature (PVT) Relations and High Temperature Thermal Analysis (DTA)", Polymer Preprints, 31,1,561 (1990) (with S.M. Bhatt.)
- "The Effect of Polypropylene Nucleants on the Rates of Crystallization of Poly (Ethylene Terephthalate)", Soc. of Plastics Eng., Technical Papers, 36, 1008 (1990) (with X. Chen.).
- "Mold Optimization Using Rule-Based Software", Soc. of Plastics Eng., Technical Papers, 36, 1107 (1990). (with D. Cinquegrana.).
- "The Effect of Crystallization Conditions on the Multiple Melting Peaks of Melt-Crystallized PET", Soc. of Plastics Eng., Technical Papers, 36, 1000 (1990). (with S.H. Leu)
- "Computer Flow Analysis Verification of Phenolics", Technical Papers, SPE, 36, 688 (1990). (with P.A. O'Brien, J. P. Beaumont.)
- "Effect of Glass Fiber Orientation on the Thermal Diffusivity and Thermal Conductivity of Polymer Melts", Technical Papers, SPE, 36, 565 (1990) (with K. Shah, S. Orroth.)
- "Rheological and Mechanical Properties of Immiscible Blends of EVOH and Styrene-Based Polymers", Technical Papers, SPE, 35, 1824, (1989). (with O. Chang, and N.R. Schott)
- "Compressibility and Relaxation of Fiber Reinforcements During Composite Processing" Soc. of Plastics Eng., Technical Papers, 36, 1252 (1990). (with Y.R. Kim, J.P. Fanucci,)
- "Verification of Material Characterization for Filling Simulation Software Packages", SPE RETEC , L-1, (with S.A. Orroth, and R. Clarke,) (1988).
-
-

SEMINARS

"Mechanical, Physical, and Rheological Properties of Polymers" Plastics Engineering Industrial Seminars, University of Lowell, 1985-present
Industrial Seminar at Clariant Corp. on June 2005
Industrial Seminar at Hewlett-Packard Company, Rehovot, Israel, 2003
Industrial Seminar at Exxon Company, Texas, 1999
"Medical Plastics Seminar", Plastics Engineering Industrial Seminars, University of Massachusetts Lowell, 1998
"Biodegradable Polymers and Blends", Plastics Engineering Industrial Seminars, University of Lowell, 1985
"Computer Aided Injection Molding", Plastics Engineering Industrial Seminars, University of Lowell, 1985
Industrial Seminar at 3M Company, Minneapolis, May 1992

RESEARCH CONTRACTS AND GRANT SUPPORT

National Institutes of Health- POCTRN – CAPCaT, \$7,900,000
BARDA – DRIVe, \$500,000
Avaya, (Kinetic Welding) (Intellectual property donation), \$23,000,000
Solutia, (Nylon Pultrusion) (Intellectual property donation), \$5,779,500
Commonwealth of Massachusetts, "Massachusetts Medical Device Development Center", \$4,000,000
Valyi (CSBM) (licenses of Intellectual property donation), \$3,000,000
Metabolix, "Development of Novel of Biodegradable Materials, \$1,500,196
NSF Center for Biodegradable Polymer Research, \$1,200,000 Industrial Members (8/93-present), Principal Investigator
David Pernick UMass Lowell/Shenkar College Exchange Agreement, \$ 1,000,000
Valtek, LLC, "Class A" Thermoplastic Automotive Finish without Painting, \$625,000
Massachusetts Technology Collaborative John Adams Innovation Institute, "Massachusetts Medical Device Development Center", \$500,000
Polymer Degradation Research Center, \$475,000, Industrial Members (8/89-8/93)
Digital, "Plastics Materials Research", \$458,706
US Army Natick, "Advanced Materials from Renewable Resources", \$365,596,
US Environmental Protection Agency, \$300,004, (1998-2000), Principal Investigator
Institute for Plastics Innovation, Co-Director, \$300,000, Industrial Members, (1995-present)
Lucent Technologies, Kinetic Weld, \$165,000
Tycom, Undersea Photonic Connector, \$161,000
Metabolix Inc., Performance of PHA Derived Chemicals and Polyols in Polyurethane, \$141,465
Duracell Company, Polymeric Batteries, \$140,000
3M, "Composting Research", \$155,000
Massachusetts Technology Collaborative John Adams Innovation Institute, "Massachusetts Medical Device Development Center", \$150,000
UMass Presidents Office Seed Funding "Massachusetts Medical Device Development Center", \$135,000.
Monsanto Company, "Mold Analysis Research", \$123,000,

Warner Lambert, "Biodegradable Polymer Research", \$116,591
 National Science Foundation, "Biodegradable Polymer Research Center", \$110,000 (8/93-8/95)
 Massachusetts Centers of Excellence, "Mold Analysis Research", \$110,000
 Department of the Army, "Polymer Degradation Research", \$104,000
 Army Research Office "Aqueous Processing of Biopolymers", \$97,502
 Digital Equipment Company, "Rapid Prototyping", \$86,500
 American Composite Technology "Pultrusion Process Modelling", \$83,300
 Cabot Corporation, "Material Research for Ear Plugs", \$77,740
 Institute for Plastics Innovation, "Injection Molding Research", \$75,000
 Massachusetts Centers of Excellence, "Institute for Plastics Innovation", \$75,000
 Metabolix Inc., Performance of Polyhydroxyalkanoate Derived Chemicals and Polyols in Polyurethane, \$71,465
 Xenith Athletics, Inc., "Development Project for Impact Protection Equipment", \$70,428
 Vista Scientific, "Nanosphere-Antibiotic Corneal Contact Lens Delivery System, \$ 70,000
 Eastman Kodak, "Expert System Research", \$60,000
 Battelle, "Biodegradable Packaging Development", \$59,865
 DuPont Corian, \$50,000
 General Electric Company, "Mold Analysis Research", \$50,000
 GTE / Sylvania Corporation, "Mold Analysis Research", \$49,000
 Johnson & Johnson, "Material Research for Toothbrushes", \$45,500
 Monsanto Company, "Polymer Degradation Research", \$40,000
 Polysar Inc., "Polymer Degradation Research", \$40,000
 Himont USA, Inc., "Mold Analysis Research", \$31,400
 University of Massachusetts President Office, CVIP Technology Award, \$30,000
 Allied Signal, "Mold Analysis Research", \$30,000
 Implant Sciences Corporation Biodegradable Implant for Radiation \$30,000
 Rexam Corporation, \$30,000
 Invista, "Evaluation of Plasticizers", \$ 28,000
 Evenflo Products Company, "Baby Bottle Nipple Materials", \$27,000
 Massachusetts Centers of Excellence, "Polymer Degradation Research", \$25,000
 Polysar, Inc., "Permeability of Coextruded Sheet", \$24,000
 United States Army ARDEC, "Materials Development for Armament Packaging", \$24,988
 MoMelan Technologies, Inc., "Skin Grafting", \$23,000
 Smart Surfaces Inc., "Smart Mattress", \$23,000
 United States Army, "Theoretical Modelling of Transport", \$21,000
 Exxon Company, "PVC Plasticizer Desorption", \$20,300
 Advanced Electron Beam, "Low Energy Industrial Beams on Polymeric and Plastic Materials", \$20,000.
 Eastman Kodak, "Mold Design Software Development", \$20,000
 Dow Chemical Company, "Mold Analysis Research", \$20,000
 Moldflow Pty Ltd, "Mold Analysis Research", \$20,000
 Giner, \$20,000
 Human Scale, \$20,000
 World Minerals, Inc., "Barrier Filler Research", \$15,000
 Osram-Sylvania Inc., Injection Molding Research, \$15,000

Nypro, \$10,000

Densified Solutions, "Extrusion Testing", \$5,000

MMM management & Publications LLC, "Processing Polyactic Acid", \$4000

PROFESSIONAL ACTIVITIES

Board Member, UMCTTS Steering Committee, 2011-present

Reviewer, Biodegradable Polymer Institute (BPI), 1995 - 2012

Chair, Sections Committee, Society of Plastics Engineers, 2011-2012

Treasurer, SPE Medical Division, 2011-2012

Councilor, Society of Plastics Engineers Eastern New England Section, 2009-2012

Chair, SPE Medical Plastics Division, May 2011-present

Treasurer, BioEnvironmental Polymer Society (BEPS), July 2011-Present

Chair, SPE ANTEC Student Activities, May 2010-2011

Executive Board, ACS Division of Polymeric Materials and Engineering, 1993-2000

Councilor, Society of Plastics Engineering, 1991-1996

President, Bio/Environmental Polymer Society, 1995

Technical Program Chairman, Biodegradable Polymer Meeting, Boston, June 1994

Chairman, Fourth International Workshop on Biodegradable Polymers, Durham, N.H.,
October 1995

Secretary, U.S. Degradable Plastics Council, 1990-1992

Technical Program Co-Chairman, Society of Plastics Engineers, Inc. RETEC, Boston,
MA, November 1990.

Technical Program Co-Chairman, Society of Plastics Engineers, Inc. RETEC, Boston,
MA, October 1988

SOCIETY MEMBERSHIPS

American Society for Engineering Education

American Chemical Society

American Society for Standards and Materials

Bio/Environmentally Degradable Polymer Society

Biomaterials Society

Materials Research Society

Sigma Xi

Society of Plastics Engineers

EDITORIAL ACTIVITIES

Editor, Journal of Polymers and the Environment, 1991-2016

Editorial Board, Journal of Applied Polymer Science, 1995-2003

AWARDS

SPE Education Award, Society of Plastics Engineers, December 2013

St. Patrick Parish Anam Cara Award, March 2013

Irish Education 100 Award, December 2012

Distinguished University Professor, University of Massachusetts Lowell, April 2012

BEPS James Hammar Memorial Lifetime Achievement Award, October 2008
SPE ANTEC Medical Plastics Division Best Paper Award, Boston, MA, May 2005
SPE ANTEC Color and Appearance Division Best Paper Award, Orlando, FL, May 2000
SPE Dedication of Service 1991-1996 Award, May 1996
SPI 46th Composites Institute Annual Conference Best Paper Award, Washington DC, 1991
The Modern Plastics Best Paper Award, Washington, DC, 1991
SPE ANTEC Advanced Composites Division Best Paper Award, Dallas, TX, May 1990
Plastics Processing Workshop Award, Taipei, Taiwan, June 1986

UNIVERSITY AND SERVICE ACTIVITIES

Faculty Athletic Rep, UMass Lowell Athletics Department
Graduate Coordinator, Plastics Engineering Department
Director, Massachusetts Medical Device Development Center
Director, UMass Lowell Institute for Plastics Innovation
Director, NSF Center for Biodegradable Polymer Research, UMass Lowell

DISSERTATIONS/THESES - FACULTY ADVISOR

A. Completed PhD Dissertations as Faculty Advisor

Bhatt, Sanjiv, "A Novel Pressure-Volume-Temperature apparatus for Polymer Melts and Solids", 1996
Canale, Philip, "Reactive Processing of Biodegradable Polyesters with Dicumyl Peroxide: A Structural, Rheological and Property Study", PhD. Thesis, 1999
Cho, Bong Gyoo, "Fiber Reinforced Nylon-6 Composites by the RIM Pultrusion Process", D.Eng, 1992
Cinquegrana, David "Knowledge Based Mold Design", D.Eng Thesis May 1990
DeLuca, John, Development of turbine containments for aircraft, 1990
Donabedian, David H., "Plasticization, Chemical Modification and Graft Co-Polymers of Pullulan", PhD Thesis, 1993
Eagle, Frances, "1st and 2nd stage commercialization guidelines an indicator test for the commercialization of a traditionally manufactured product", 2001
Euaphantasate, Nukul, "An Investigation of Poly(Lactic-Acid) and PEO-PPO-PEO Block Copolymer Blends as Biomaterials", D.Eng Thesis, 2001
Fylaktou, Evanthia, "Pharmaceutical Implants: Drug incorporated antimicrobial sutures for medical applications", April 2014
Galicja, Gerardo Rocha "Biodegradable Polymers for Medical Devices - Blends of Poly(Glycolic Acid) with Others" D.Eng Thesis, Dec 1992
Hsu, TM, "Synthesis, Properties and Reactivity of Linear and Branched Hydropolysilane Copolymer and Terpolymers", 1991
Im, Heeseok, "The Rheological and Mechanical Properties of Biodegradable Poly(Lactic-Acid)/Poly(Butylene Succinate-co-Adipate) Blends", D.Eng Thesis, 2001
Kuo, Changshu Linus, "Synthesis and Characterization of Polybutadiene-Polyaniline Core-Shell Microparticles", D.Eng Thesis, 2002

Park, Sang-Wook, "A Study of the Processing Effect on the Morphology of Biodegradable Blends of Polystyrene and Hydroxypropylcellulose", 1992

Rios, Pablo Fabian, "Modeling investigation and formulation of hydrophobic coatings for potential self-cleaning applications", 2007

Kim, Young-Roak, "Modelling of Pultrusion Process", D.Eng Thesis, Dec 1990

Kimura, Katsuhiko, "Polymer Blends of Polyesters and Ethylene Vinyl Alcohol Copolymers", 1996

Kumeiga, Steven, "Synthesis, Characterization and Biodegradability of Polysaccharide-g-Poly(ϵ -Caprolactone Copolymers", 2002

Lee, Jinkoo, "Improving the toughness of poly(lactic acid)(PLA) through co-continuous, immiscible, biodegradable blends with PHA", 2008

Ma, Wenguang, "Polymer Blends of Polylactic Acid (PLA) and Polybutylene Succinate-Adipate", 2008

Schwillinski, Burkhard, "Object-Oriented Programming in the Simulation of Polymer Flows", 1995

Shady-Elghamrawi, Sally, "Pullulan – Polycaprolactone (PCL) Core-Shell Nanospheres: Encapsulated with Hydrophobic Ciprofloxacin and Designed for Ophthalmic Applications, 2010

Shah, Bhavin, "Reverse Temperature Profile Rheology and Recycle Study of Polyhydroxy Butyrate Copolymer within an Injection Machine", 2012

Shaked, Yanir, "Enhanced processability of Poly-Hydroxy-Alkanoates by Thermal Stabilization and Nucleation", 2008

Shin, Suk-Young, "Process Dynamic of Sequential Valve Gate Injection Molding (Processing Strategy and Process Control)", D.Eng Thesis, 2001

Shrivastava, Anshuman, "Melt Adhesives for Craniomaxillofacial Surgery: Alternative Approach Using Bioresorbable Polymers and Their Blends", 2010

Sun, Li-Kuo, "Plasticizer Desorption in PVC", D.Eng Thesis, May 1989

Thellen, Christopher, "High Barrier Multilayer Packaging by the Coextrusion Method: The Effect of Nanocomposites and Biodegradable Polymers on Flexible Film Properties", 2010

Viswanathan, Arvind, "Structure-Property Relationships in Novel Amphiphilic Polysaccharide Esters", PhD, 1999

Wang, Xiujun, "An Introduction to Biodegradable Polymer Blends", PhD, 1994

Wharram, Scott, "Novel Electrospun Silk Biomaterials Systems: An Alternative Approach to Wound Dressings Using Resorbable Biomaterials for Potential Delivery of Antibiotics, Immunio-peptides, and Tissue Regeneration Biotherapies, 2009

Wu, Tim (Tiangen), "Biodegradable Drug-Eluting Stent (Powerstent Absorb) for Coronary Arterial Disease---Development and Commercialization", 2012

Xu, Jin, "Synthesis and Study of Poly(Beta-Hydroxyalkanoates): Enzymatic Resolution and Polymerization of Substituted Beta-Propiolactones, 1995

Zonder, Lior, "Thermodynamic and Kinetic Aspects in Melt Mixing of Polymer Blends/Carbon Nanotubes Composites, 2012

B. Completed Masters Thesis as Faculty Advisor

- Agarwal Prashant, "Influence of Composition on the Aging Embrittlement of PHB Copolymers During its Post Fabrication Annealing at Room Temperature, 2010
- Ambekar, Abhishek, "Influence of post-fabrication annealing on PHA film properties", 2008
- Arumugam, Sathappan, A study of crystallization behavior of PHB homopolymer and copolymer blends as a function of aging conditions, 2012
- Berthume, William A. "Percutaneous Transluminar Coronary Angioplasty Electrode Guide Wire for Blood Flow Measurement", 1993
- Bandyopadhyay, Rahul, "Verification of Fiber Orientation Prediction Software", 1992
- Bardzik, John J., "Nitrogen Gas Permeability in g irradiated PVC film", 1992
- Bhogesara, Anil Rajubhai., "Injection Molding Productivity Machine Setup", 1994
- Ben-Daat, Dan, "Extrusion of Biodegradable Foam", 1996
- Berube, Alfred, "Pressure Monitoring of Injection Molding for Moldflow", 1993
- Bhalakia, Sujal, "Biodegradable Polymer Blends", 1993
- Bhojar, Renuka, "Characterization of the Microstructure of Poly Hydroxybutyrate (PHB) Copolymer During Their Post-Fabrication Annealing at Room Temperature, 2010
- Burns, David T, Analysis of 1 Micron Thickness Metal Spray coating Effects on Stereolithography Rapid Tooling for Injection Molding, 1997
- Cai, Hua, "A Study of Biodegradable Plasticized Cellulose Acetate, 1993
- Cai, Xu., "Plasticization of Cellulose Acetate and Preparation of its Composites with Poly-ε-Caprolactone ", 1993
- Cecere, Daniel A, "Rapid Tooling for Optical Molding Utilizing Cast It™ 2000 Aluminum Epoxy Alloy", 2003
- Chang, Oliver, "Rheological Properties of Blends of EVOH and Styrene Based Polymers", 1989
- Chen, Chin-Ho, "An Investigation into PVC/MBS Blends", August 1986
- Chen, Jih-Sang, "Effect of Plasticizer Desorption on Permeability of Saran", August 1990
- Chen, King-Ming, "Polyblends of Amorphous Nylon with Polystyrene Materials", 1990.
- Chen, Xin, "Crystallization Kinetics of Thermal Parameters of CPET", 1990
- Cheng, Yao, "Optimal Product and Process Design for the Plastic Corrugated Board", 1995
- Chheda, Harsh D., "Study of the properties of foamed wood flour filled polypropylene and poly(3-hydroxybutyrate-co-3-hydroxyvalerate) using direct extrusion", 2006
- Choi, Jinseog, "Thermoplastic Composite for Ballistic Applications", 1996
- Clarke, Rosemary, "Verification of a Computer Simulation Injection Mold Filling Software Package", 1988 (Co-advisor)
- Daga, Rahul, "Enhancing Thermal Conductivity of Poly-Hydroxy-alkanoates (PHA) to Reduce Flash In Injection Molded Parts", 2008
- D' Amico, Lisa, "Computer Aided Mold Filling ", 1991
- Damle, Mandar, "Effect of Fiber Orientation on The Mechanical Properties Of A Injection Molded Part And A Stereolithography Insert Molded Part", 1997
- Dave, Parasar, "Biodegradable Blends of PHBV", 1990
- Dell'Arciprete, John "Cavity Pressure Studies for Stereolithography Produced Tooling", 2001
- Discipio, William, Computer Aided Shrinkage Verification ", 1991

Dollinger, Harli M., "Novel Bicontinuous Poly(D, L-Lactic Acid) Ethylene/Vinyl Acetate Blends for BioMedical Applications", 1991

Dubey, Dharmesh K. "Compatibilization Studies of Biodegradable Polymers by Reactive Processing", 1992

Efrat, Tehila, "Nano Tailoring of Polyurethane Adhesive by Polyhedral Oligomeric Silsesquioxane (POSS)", 2005

Faletra, Christopher, "Computer Integrated Injection Molding",

Fitzgerald, Cheryl A., "Case Study on How to Improve Production", 1998

Frost, David, "Expert System for Part Design",

Gajria, Ajay M., "Effects of Physical Aging and Miscibility on Biodegradability of Poly(Lactic acid)/Polyvinyl Acetate Blends", 1994

Gada, Manish, "Plasticization of PHBV Using PCL and PEG as Plasticizers", 1993

Gagnon, Marc, "Birefringence Measurements in Injection Molding", March 1988

Ghiya, Vatsal P. "Effect of Citric Esters on PHBV, PCL and CA as Biodegradable Plasticizers", 1994

Gupta, Sunny, "Mechanical Properties of Low-Density Polyethylene (LDPE) Blended with Dicumyl Peroxide Modified Ultra-Low Density Polyethylene (ULDPE)", 2010

Hakani, Shamit, "Evaluation of Natural Antioxidant for Flexible Polyolefin by Oxidative Induction Time Testing", 1998

Hanley, Stephen, "Coextrusion Barrier Modelling and Evaluation", 1988

Haque, Tareq, "A Study of the Biodegradability of Cellulose Acetate and Polyethylene Glycol Blends and the Effect of Morphology on the Biodegradation of Cellulose Acetate", 1995

Hingorani, Arun, "Slit Die Rheometer", 1992

Jain, Sanjog Shyam, "Neoalkoxy Titanates and Zirconates in Thin-Wall Injection Molding", 1999

Janczyk, Michael J, "Thermal Design and Analysis of Stereolithography Rapid Tooling for Injection Molding, 1996

Jing, Ze, "Controlled Rheology Study of Odor Free Polypropylene by Extrusion Process", 2012

Jones, Scott. M, "Characterization of Flow Properties of BMC Using Reciprocating Screw Rheometer", 1992 (Co-advisor)

Joyce, Mark Daniel, "Weld Line Failure in a Thin Wall Ring", 2000

Kadam, Amruta P., "Sharkskin Melt Fracture Characterization of Poly (Hydroxy Butanoic Acid) Copolymers, 2010

Kadkol, Prabodh, "Processing of PHBV", 1991

Khare, Atul, "Diffusion of Gases Through Thermally Treated Polymer Films", 1989

Kramer, William, "Photodegradation of PVC", 1990

Krauss, Derek, "Investigation of the degradation and adhesion properties of over-molded biodegradable polymers:", 2006

Kouloungis, Niclis R., "Aerobic Biodegradability of Citrate Ester Plasticizers and Plasticized PLA Films in Simulated Soil and Compost Environments", 1996

Kozlowski, Henry "Solubility Parameters and Polymer Compatibility", 1986 (Co-advisor)

Kukade, Pranav, "Biodegradation of Poly (Hydroxy Butanoic Acid) Copolymer Mulch Films in Soil", 2010

Kulkarni, Suhas, "Effect of Polyvinyl Alcohol on Crystalline Behavior of Poly(b-hydroxy butyrate)", 1992

Labrecque, Lisa V., "The Effects of Citrate Esters as Plasticizers for Poly(Lactic Acid)", 1995

Labrecque, Roger, "Biodegradable Polymer Blends of Poly Lactic Acid and Poly Ester Amide", 1997

Laverde, German V., "Analysis of the Mechanical Properties of Biodegradable Films made from Blends of Polylactic Acid (PLA) and Polybutylene Succinate Adipate Random Copolymer by Blown Film Extrusion", 1997

Lewitus, Dan, "PLA/Nanoclay Cast Film Composites Using Various Polymer-Clay Concentrates", 2004

Lomasney, Kerry A., "A Study of Fabrication and Characterization of PSF Ultrafiltration Membranes with PEO-PSF Block Copolymer Additives", 1995

Li, Qin, "Properties Evaluation of PHB Nanocomposite Using Melts Blending Approach", 2004

Lipchitz, John "Investigation of the Degradation and Mechanical Properties of Bioabsorbable Polyesters and Their Blends", 1999

Lisuardi, Andi, "Reactive Processing of Biodegradable Polymers", 1991

Lou, Shin Hwa, "Dynamic Mechanical Properties of Polymers",

Loh, Chi-San, "Plastic Packaging Barrier Properties",

Ma, Wenguang, "An investigation of Poly(lactic acid) (PLA) and Maleic (MAH) Anhydride Graft Copolymer (PLA-g-MAH) and Its Blends with Polyethylene Glycol (PEG), M.S., 1999

Mahadevaiah, Yogish, "Effect of an Acid and Solvents on the Weld Properties of 'Kinetic' Welded and Ultrasonically Welded Parts", 2000

Mahajan, Vaibhav, "Optimization of Disintegration Behavior of Biodegradable Poly(Hydroxy Butanoic Acid) Copolymer Mulch Films in Soil Environment", 2010

Maheshwari, Ankur, "A Study in the Effect of Powder Injection Molding Process Parameters on the Shrinkage and Tensile Properties of Stainless Steel Samples and Conductivity of the Graphite Samples", 2001

Manherz, Karen, "Epiphreal and Fibroblast Growth on Biodegradable Polymers", 1998

McCarthy, Shawn M., "The Development of Thermojet Rapid Tooling, A New Rapid Tooling Technology", 2002

McLaughlin, Richard M, Jr, "A Structural Analysis and Design of Aces Stereolithography Inserts for Rapid Tooling of Prototype Injection Molds", 1996

Meckley, Jonathan A., "Rapid Preproduction Prototype Tooling Using Knowledge Based CAE Technology With a Method For Rapid Commercialization", 1998

Movva, Anand, "Injection Molding Filling Verification of PC and PBT",

Naik, Vatsal, "Kinetics and Thermal Characteristics of BMC", M.S Thesis, 1992

Nikoludis, Vassilos, "Co-relation of Artificial and Natural Weatherability of Ethane co-Polymer with Carbon Monoxide",

O'Brien-Angelo, Peggy, "Correlation of Optical Surfaces Through the Use of Designed Experiments, 1995.

Oak, Shrikant, "Injection Mold filling Verification of PC and PBT",

Parekh, Hetal, "Development of a Transparent Flame Retardant Thermoplastics Elastomer", 2003.

Parikh, Munjal, "Effect of Crystalline Morphology of Poly(b -Hydroxybutane Hydroxy Valerate) on Rate of Biodegradation", 1991

Patel, Bhavik, "Properties Evaluation of PHB Nanocomposites Using Melts Blending Approach", 2003

Patel, Hemantkumar, "Evaluation of Slip Additives for Polyhydroxybutyrate Copolymer (PHB) Films", 2008

Patel, Sandip, "Analysis of Adhesive Properties of Different Engineering Thermoplastics to Elastomers by A Two-Shot Injection Molding Process, MS, 1999

Patel, Tushar, "Elastic Effects in Viscosity Measurements", 1991

Patel, Udit, "Influence of Injection Molding Machine Variables on Plastication, Load Sensitivity and Transfer Position", 2000

Patel, Vikas, "Metallocene Catalyzed Polymer for Fresh-Cut Produce Packaging", 1998

Parikh, Kuleem, "Recycling of Scrap from Co-Extruded Sheet",

Park, Hongshik, "Gamma Radiation Effects on the Injection-Molded Poly-e-Caprolactone", 1991

Peniston, Shawn J., "An Investigation of Alternate Sterilization Techniques to Ethylene Oxide for Poly(L-Lactic Acid)", 2004

Piepiora, Dean R., "Interfacing 3D CAD with Injection Molding Analysis Software to Verify Plastic Part Design", 1995

Porcaro, Peter, "Environmental Audit of Disposing Plastic Materials and Products", 1991

Puglia, Paula, "Closed Loop Analysis of Cooling Simulations in Injection Molding", 1991

Raghupathy, Sushil, "Hermetic Seal Testing and Weld Strength Determination of Plastics Assembled by Kinetic Welding", 2002

Ramasamudram, Ravi Kumar Nanjundaiah, "Effect of Coupling Agent in HDPE Blow Molded Products", 2000

Rego Jr., Richard. P, "Insert Injection Molding of Velcro Brand Hook Components", 1990

Reddy, Hari, "Integrated CAE Environment", 1991

Reddy, Rahul, "Effects of low energy electron beam on low-density polyethylene and polypropylene", 2010

Russell, Stacey Lee, "An In-Vitro Study of the elastic Property Loss of Poly(L-Lactic Acid), PLLA Filaments Undergoing Hydrolysis in Tissue Engineering Applications", Co-Advisor, 2004

Saurkar, Sandeep, "Rapid Tooling: a Study of Cooling Techniques for Mold Inserts Used in the Direct AIM (ACES Injection Molding) Process ", 1998

Schoenberg, Andrew J, "Blend Characterization of Poly (B-Hydroxybutyrate-co-B-Hydroxyvalerate and Poly(E-Caprolactone)", 1992

Shah, Dhaval, "Rheological Characterization Studies of PHB Based Bioplastic and its Nanocomposites", 2008

Shah, Ketan, "Thermal Conductivity of Polymer Melts", 1990

Shah, Dhaval, "Rheological Characterization of PHB Based Bioplastic and Its Nanocomposites", 2008

Shah, Nilesh. M, "Shrinkage and Filling of UHMWPE", 1992

Shah, Saiyam Kumarpal, "Evaluation of Kinetic Welding Possibility with Different Boss and Pin Geometries and Determining Weld Strength, 2003

Shah, Sunit, "Effect of Calcium Carbonate on Permeability and Mechanical Properties of LLDPE Films", 1987

Shetty, Malar Rohith, "Design and Study of an Extrusion-Compression Processing Method Capable of Molding Long-Glass-Fiber-Reinforced Polypropylene, 2001

Shulka, Jimit, "Compatibilization of Blends of PHB Co-polymers and Polyvinyl Alcohol", 2010

Sheth, Mihir, "Processing and Characterization of Biodegradable Polymers", 1994

Sinha, Arjun, "Sorption in Biodegradable Materials", 1993

Song, Xu, "Polypropylene Glycol and Poly (Propylene Glycol-Ethylene Glycol) Copolymer as Biodegradable Plasticizers For Polylactic Acid ", 1997

Sonntag, James, "A study of degradation effects on mechanical interlocks using over-molded biodegradable polymers", 2006

Sood, Nitin, "Biodegradable Blends of Poly (Lactic Acid) (PLA)/Polyhydroxybutrate (PHB) Copolymer and Its Effects on Rheological, Thermal and Mechanical Properties", 2010

Srinivasa, Shanthakumar R., "A Microeconomic Analysis of the Plastics Industry in the United States of America and the State of Massachusetts", 1996

Suh, K. Glen, "Short and Long Glass Fiber Composites: Orientation and Moldfilling Simulation ", 1994

Therriault, Donald, "Effect of Polymer Chemistry and Microstructure on the Permeability of Plastics", April 1987

Tanna, Sanjeev, "Polymer Blends of Bacterial Polyester with Corn Starch and Polyvinyl Alcohol", 1992

Tulsiani, Pawan K., "Multilayer Co-Extrusion of Biodegradable Thermoplastics to Study the Effect of Interfacial Slip at Polymer Walls", 2003

Vijayashankar, Deepashri, "Crystallization Behavior, Mechanical Properties and Rheological Studies of PHB and Cellulose Acetate Butyrate Blends", 2012

Wagle, Arvind, "Instrumented Disc for Injection Molding", 1991

Yang, Gang, "Rheological Studies of Thermoplastic/Glass Composites",

Yee, King .H, "Die Attachment Adhesives and Bonding Processes", M.S Thesis, 1985