

## Plastics Engineering Doctoral Thesis List

11/13/08

### 1989

**PL-1\*** **Li-Kuo Sun**, "The Effect of Plasticizer Structure on Plasticizer Solvency, Permanence and Efficiency" (Advisor: S.P. McCarthy).

### 1990

**PL-1\*** •**David A. Cinquegrana**, "Knowledge-Based Injection Mold Design Automation" (Advisor: S.P. McCarthy).

**PL-2\*** •**John J. DeLuca**, "Development of Turbine Containments for Aircraft" (Advisor: ).

**PL-3\*** **Amar Khelifi**, "Compatibilization of Polyethylene Terephthalate and High Density Polyethylene" (Advisor: F.S. Lai).

**PL-4\*** **Young Roak Kim**, "Behavior of Fiber Reinforcements and Resin Flow During the Injection-Pultrusion Process" (Advisor: S.P. McCarthy).

### 1991

**PL-1\*** •**Jong-Liang Wu**, "Cavity Pressure-Based Expert System for Injection Molding - A Coupled Numerical and Rule-Based Approach" (Advisor: S.J. Chen).

**PL-1\*** **Ling C. Yang**, "Solidification of Polymer Melt Flowing in a Round Tube" (Advisor: S.J. Chen).

**PL-2\*** **Toshikazu Katoh**, "Processing of Liquid Crystalline Polymer and Engineering Plastics Blends" (Advisor: N.R. Schott).

**PL-3\*** **Han-Hsiu Tseng**, "Software Design and Experimental Verification of Polymer Flow Through a Pipe Extrusion Die" (Advisor: F.S. Lai).

### 1992

**PL-1\*** **Chongkue Yoon**, "Fiber Degradation During Reciprocating-Screw Plastication" (Advisor: R.E. Nunn).

**PL-2\*** **David C. Raia**, "Design of a Professional High-Powered Loudspeaker and Its System Integration" (Advisor: N.R. Schott).

**PL-3\*** **Sang Wook Park**, "A Study of the Processing Effect on the Morphology of Biodegradable Blends of Polystyrene and Hydroxypropylcellulose" (Advisor: S.P. McCarthy).

**PL-4\*** **Gaurang V. Shah**, "Toughened Composites for Personal Safety" (Advisors: R.E. Nunn/N.R. Schott).

**PL-5\*** **Ho-Seon Jin**, " $\gamma$  Radiation-Induced Changes in the Chemical and Physical Structure of Poly (Ethylene Terephthalate)" (Advisor: A.M. Crugnola).

**PL-6\*** **Hsiao-Fu Shen**, "Melt Viscosity and Extrusion of Polycarbonate/Polyolefin Blends" (Advisor: J.C. Huang).

**PL-7\*** **Bong Gyoo Cho**, "Fiber-Reinforced Nylon-6 Composites by the Reaction Injection Pultrusion Process" (Advisor: S.P. McCarthy).

### 1992 (cont.)

**PL-8\*** **Ashish K. Mithal**, "An Investigation into Separation of Commingled Plastics Waste Mixtures by a Selective Tacking Technique for Recycling" (Advisor: A. Tayebi).

**PL-9\*** **Gerardo Rocha-Galicia**, "Biodegradable Polymers for Medical Devices: Blends of Poly (Glycol Acid) with Other Bioabsorbable Polymers" (Advisor: S.P. McCarthy).

### 1993

**PL-1\*** **Jo Ann Ratto**, "A Phase Behavior Investigation of Composite Membrane Systems: Ionomer/Liquid Crystals, Polysaccharide/Polyamides" (Advisor: R. Blumstein).

**PL-2\*** **Abdelhafid Talhi**, "Parameters Affecting Bead Size in Suspension Polymerization of Styrene" (Advisor: F.J. Bonner).

### 1994

**PL-1\*** **Xiujun Wang**, "An Investigation of Biodegradable Polymeric Blends: Starch and Poly(Vinyl Alcohol) (PVOH), Poly (Lactic Acid) (PLA) and Poly (Vinyl Alcohol-Co-Vinyl Acetate) (VAVA) and Poly (Glycolic Acid) (PGA) and PVOH" (Advisor: S.P. McCarthy).

**PL-2\*** **Nayan J. Ashar**, "Processing of LCP Blends and Their Potential Applications in Electronic Packaging" (Advisor: N.R. Schott).

**PL-3\*** **Himanshu R. Sheth**, "Mathematical Modelling of Injection Molding Process Using CAE and Experimental Design Techniques" (Advisor: R.E. Nunn).

### 1995

**PL-1\*** **Garrett S. Thurston**, "Identification of the Unstable Portion of the Boiling Heat Transfer Curve for Cyclohexane Using Closed Loop Temperature Control" (Advisor: R.G. Stacer).

**PL-2\*** **Fu-Juin Wei**, "Positive Temperature Coefficient Effect of Carbon Black/ Metallic Oxide Filled High Density Polyethylene" (Advisor: N.R. Schott).

**PL-3\*** **Sassan Tarahomi**, "Design and Evaluation of Removable, Threaded and Friction Engaged Injection Molded Plastic Closures" (Advisor: N.R. Schott).

**PL-4\*** **Jenchyou Hwang**, "Effects of Addition of Colorants on Shrinkage of Injection Molded Parts" (Advisor: F.S. Lai).

**PL-5\*** **Chau Chen**, "Design of a Manifold and Investigation of Flow Behavior in a Flat Slit Die via Computer Simulation and an Orthogonal Array Method" (Advisor: F.S. Lai).

**PL-6\*** **Anne-Marie Baker**, "Rheology of Thin Films in the Presence of Micro-Imaged Elements" (Advisor: R.G. Stacer).

**PL-7\*** **Burkhard K. Schwillinski**, "Object-Oriented Programming in the Simulation of Polymer Flows" (Advisors: S.P. McCarthy/F.S. Lai).

### 1996

**PL-1\*** **Sanjiv M. Bhatt**, "A Novel Pressure-Volume-Temperature Apparatus for Polymer Melts and Solids" (Advisor: S.P. McCarthy).

### 1996 (cont.)

- PL-2\*** **Carol M.F. Barry**, "Structure-Property Relationships in Electrorheological Fluids" (Advisor: R.G. Stacer).
- PL-3\*** **Sooyoung Cha**, "Optimization and Prediction of Shrinkage of Thin-Wall Injection Molded Parts by CAE and Artificial Neural Networks" (Advisor: F.S. Lai).
- PL-4\*** **Chin-Long Wu**, "Carbon Black Filled Polypropylene (PP) Ethylene Vinyl Acetate Copolymers (EVA) and Their Blends" (Advisor: J.C. Huang).
- PL-5\*** **S. Thomas Lee**, "The Characterization of Polysulfone/Polyether Amide Blends" (Advisor: R.D. Deanin).
- PL-6\*** **Katsuhiko Kimura**, "Polymer Blends of Polyesters and Ethylene Vinyl Alcohol Copolymers" (Advisor: S.P. McCarthy).
- PL-7\*** **Dennis M. Burke**, "Time-Temperature Superposition of the Melt Viscosities of Polypropylene and Polystyrene" (Advisor: S.B. Driscoll).
- PL-8\*** **Paul E. Koch**, "The Development of a Newsprint/High Density Polyethylene Composite for Plastic Lumber" (Advisor: N.R. Schott).

### 1997

- PL-1\*** **Somsak Woramongconchai**, "Recycle of Mixed Automotive Plastics: A Model Study" (Advisor: R.D. Deanin).
- PL-2\*** **Te-Yeu Su**, "Effects of Contaminants on Spinnability of Recycled Plastic Beverage Bottles and Recycled Fiber Properties" (Advisor: A. Tayebi).
- PL-3\*** **Kye-Hwan Lee**, "A Study of Fingering Phenomena in the Gas-Assisted Injection Molding Process: The Effects of Processing Variables and the Fluidity Ratio" (Advisors: F.S. Lai/N.R. Schott).

### 1998

- PL-1\*** **Hsiu-Te Chang**, "A Novel Approach to Impregnating Fiberglass without Solvent by Reverse Roll Coating" (Advisor: F.S. Lai).
- PL-2\*** **•Patraporn Tantakom**, "Processing Strategies for Thin Wall Injection Molding" (Advisor: N.R. Schott).
- PL-3\*** **Susheel R. Deshmukh**, "Quantitative Relationships Between the Parameters of Thermal Degradation of Polyvinyl Chloride and the Loss of Properties" (Advisor: F.S. Lai).

### 1999

- PL-1\*** **Kunya Danprasert**, "Synthesis and Characterization of New Amphiphilic Polyesters Based on Poly(Ethylene Glycol)" (Advisor: A. Watterson).
- PL-2\*** **Anne O'Brien-Soucy**, "The Development of the Weld Line Strength in Injection Molded Poly(Methyl Methacrylate)" (Advisor: R.G. Stacer).

### 2000

- PL-1\*** **•Helen S. Liu**, "Development of Novel Applications of Crosslinked Elastomer Scrap" (Advisor: R.G. Stacer).

## 2000 (cont.)

**PL-2\*** **Suk-Young Shin**, "Process Dynamics of Sequential Valve Gate Injection Molding (Processing Strategy and Process Control)" (Advisor: S.P. McCarthy).

**PL-3\*** **Heeseok Im**, "The Rheological and Mechanical Properties of Biodegradable Poly (Lactic Acid)/Poly (Butylene Succinate-Co-Adipate) Blends" (Advisor: S.P. McCarthy).

## 2001

**PL-1\*** **Lawrence J. Trainer**, "A Study of the Expansion of Thermoplastic Microballoons in an Extruded Syntactic Foam" (Advisor: N.R. Schott).

**PL-2\*** **Frances A. Eagle**, "1<sup>st</sup> and 2<sup>nd</sup> Stage Commercialization Guidelines An Indicator Test for the Commercialization of a Traditionally Manufactured Product" (Advisor: S.P. McCarthy).

**PL-3\*** **Dong-Chan Lee**, "Understanding Assemblies of Polydiacetylenes" (Advisor: D. Sandman).

**PL-4\*** **Nukul Euaphantasate**, "An Investigation of Poly(Lactid Acid) and PEO-PPO-PEO Block Copolymer Blends as Biomaterials" (Advisor: S.P. McCarthy).

**PL-5\*** **Robert E. Farrell**, "Process Analysis for Control of Injection Molding" (Advisor: R.E. Nunn).

## 2002

**PL-1\*** **Jun-Seok Lee**, "Investigation of Internal Water Cooling on Gas Bubble Behavior in the Gas-Assisted Injection Molding Process" (Advisor: F.S. Lai).

**PL-2\*** **Changshu Linus Kuo**, "Synthesis and Characterization of Polybutadiene-Polyaniline Core-Shell Microparticles" (Advisor: S.P. McCarthy).

**PL-3\*** **Magda Castillo**, "A Hot Runner Manifold as a Pressure-Volume-Temperature Apparatus" (Advisor: N.R. Schott).

**PL-4\*** **Nattakarn Hongsrphan**, "A Test Method to Evaluate the Viscoelastic Properties of Pressure Sensitive Adhesives Using a Texture Analyzer" (Advisor: C.M. Barry).

## 2003

**PL-1\*** **Young-Gi Kim**, "Studies of Electro-Optical Properties of Conjugated Polymers and Novel Metal Complexes for Nanocrystalline TiO<sub>2</sub> Photovoltaic Cells and Sensors (Advisors: J. Kumar).

## 2004

**PL-1\*** **Chanin Kulsetthanchalee**, "Asymmetric Polymeric Flow in a Naturally-Balanced Runner System", (Advisor: C.M. Barry).

## 2005

**PL-1\*** **Zhenghong Tao**, "Failure Studies on Rubber and Rubber Composites" (Advisor: R.G. Stacer).

**PL-2\*** **Ming Wei**, "Phase Morphology Control in Electrospun Nanofibers from the Electrospinning of Polymer Blends" (Advisor: J.L. Mead).

**PL-3\*** **Sung-Hwan Yoon**, “Investigation of Novel Tooling for Nano-Scale Replication by Injection Molding” (Advisor: C.M. Barry).

**PL-4\*** **Dong-Hee Kang**, “Environmental Aspects of Rubber” (Advisor: J.L. Mead).

**PL-5\*** **Bhavit S. Ghumman**, “A Study of the Factors Effecting Layer Thickness Uniformity and Layer Breakup in Microlayered Coextruded Films”, (Advisor: C.M. Barry).

**PL-6\*** **Chinnawat Srirojpinyo**, “Interfacial Effects in the Replication of Molded Polymer Nanofeatures” (Advisor: C.M. Barry).

## **2006**

**PL-1\*** **Langang Niu**, “Biosynthesis and Characterization of Liquid-Crystalline Polyesters” (Advisor: J. Kumar).

**PL-2\*** **Poonsub Threepopnatkul**, “Effect of Carbon Black Type on Electrospun Butyl Rubber Nonwoven Mats”, (Advisor: J.L. Mead).

**PL-3\*** **Dongsik Kim**, “Investigation of Melt Process for Preparation of Alumina Nanocomposites” (Advisors: J.L. Mead and C.M. Barry).

**PL-4\*** **Woo-Hyuk Jung**, “Feasibility Study of a Continuous Recycling Process for Cellular Phones and Factors Influencing Surface Relief Grating” (Advisor: S. McCarthy).

## **2007**

**PL-1\*** **Jinkoo Lee**, “Improving the Toughness of Poly(Lactic Acid) (PLA) Through Co-Continuous, Immiscible, Biodegradable Blends with PHA” (Advisor: S.P. McCarthy).

**PL-2\*** **Weera Paramasawat**, “Anionic Effect in Hot Surface Combustions” (Advisor: F.S. Lai).

**PL-3\*** **Stephen Johnston**, “Instrumentation, Analysis, and On-Line Simulation for Improved Process Control of Injection Molding” (Advisor: D.O. Kazmer).

**PL-4\*** **Pablo Fabian Rios**, “Modeling, Investigation and Formulation of Hydrophobic Coatings for Potential Self-Cleaning Applications” (Advisor: S.P. McCarthy).

**PL-5\*** **Charles A. Wilson**, “The Manufacture of a Synthetic Lightweight Aggregate Using High Carbon Fly Ash and Mixed Waste Plastics” (Advisor: R.A. Malloy).

## **2008**

**PL-1\*** **Wenguang Ma**, “Polymer Blends of Polylactic Acid (PLA) and Polybutylene Succinate-Adipate” (Advisor: S.P. McCarthy).

**PL-2\*** **Yanir Shaked**, “Enhanced Processability of Poly-Hydroxy-Alkanoates by Thermal-Stabilization and Nucleation” (Advisor: S.P. McCarthy).