

# M. Reza Nofar, Ph.D.

# Curriculum Vitae

Assistant Professor  
Istanbul Technical University,  
Faculty of Chemical & Metallurgical Engineering,  
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Citizenship Status: Canadian

## EMPLOYMENT

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### 2015-Present **Assistant Professor**

- Faculty of Chemical & Metallurgical Engineering, Metallurgical & Materials Engineering Department, Istanbul Technical University, Istanbul, Turkey
- Polymer Science and Technology Program, Istanbul Technical University, Istanbul, Turkey

## EDUCATION & TRAINING

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### 2014-2015 **Postdoctoral Fellow**

Department of Chemical Engineering, McGill University, Montreal, Canada

Project: Multifunctional blend nanocomposites, rheological and morphological properties

Advisors: Professor Musa Kamal (McGill), Professor Pierre Carreau (Polytechnique), and Professor Marie-Claude Heuzey (Polytechnique),

### 2013-2014 **Postdoctoral Fellow**

Department of Chemical Engineering, Polytechnique Montreal, Montreal, Canada

Project: Rheological properties of multiphase biopolymer systems with controlled morphology

Supervisor: Professor Pierre Carreau (Polytechnique), Professor Marie-Claude Heuzey (Polytechnique), Professor Musa Kamal (McGill)

### 2009-2013 **Ph.D. in Mechanical Engineering**

Department of Mechanical and Industrial Engineering, University of Toronto, Toronto, Canada

Thesis: Expanded Polylactide (PLA) bead foaming: Analysis of crystallization kinetics and development of a novel technology

Supervisor: Professor Chul B. Park

### 2008-2009 **Research Engineer, Canada National Research Council (CNRC)**

CNRC, Industrial Materials Institute (IMI), Montreal (Boucherville), Canada

Projects: Manufacturing, development, and characterization of biocomposites system

Supervisors: Dr. Minh-Tan Ton-That and Dr. Maryam Sepehr

### 2006-2008 **M.Sc. in Mechanical Engineering**

Mechanical and Industrial Engineering Department, Concordia University, Montreal, Canada

Thesis: Monitoring the failure of epoxy /glass fibers polymer composites using carbon nanotube network of sensors while cyclic fatigue loading and static loads

Advisors: Professor Suong Van Hoa and Professor Martin D. Pugh

### 2001-2005 **B.Sc. in Materials Science and Engineering**

Materials Science and Engineering Department, Sharif University of Technology, Tehran, Iran  
 Thesis: Fabrication and characterization of MgF<sub>2</sub> infrared transparent ceramics by hot pressing Method  
 Advisor: Professor Hamid Reza Madaah Hosseini

## FELLOWSHIPS, AWARDS and HONORS

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2015	FQRNT- Fonds Québécois de la Recherche sur la Nature et les Technologies, Postdoctoral Scholarship (\$ 70,000) – (Ranked # 1 by the evaluation committee members)
2013-2015	Postdoctoral scholarship, Institutional (\$ 35,000/year)
2013	Graduate student travel grant (Departmental, \$ 750)
2013	Winner of poster competition- 15 <sup>th</sup> Annual Industry-University, Society of Plastic Engineers (SPE) Ontario Night
2012-2013	University of Toronto Fellowship (\$ 14,000)
2012-2013	QEII-GSST- Queen Elizabeth II Graduate Scholarship in Science and Technology (\$ 15,000)
2012	Winner of poster competition- 14 <sup>th</sup> Annual Industry-University, Society of Plastic Engineers (SPE) Ontario Night
2009	NSERC- Alexander Graham Bell Canada Graduate Scholarship (CGS) (\$ 105,000)
2009	FQRNT- Fonds Québécois de la Recherche sur la Nature et les Technologies, (\$ 75,000) (declined)
2011	Graduate student travel grant (Institutional, \$ 850)
2011	<i>Best Paper Award</i> , SPE, ANTEC 2011 Conference
2011	<i>Nominated for Best Paper Award</i> (for another article), SPE, ANTEC 2011 Conference
2010	Winner of HQP poster competition, 1 <sup>st</sup> place - NSERC Network for Innovative Plastic Materials and Manufacturing Processes (NIPMMP)
2008	Graduate student travel grant (Institutional, \$ 1,000)
2006-2008	Concordia University Fellowship (\$ 15,000/year)
2006-2008	International Tuition Fee Remission Award-Concordia University (\$ 7,000/year)
2007	Campaign for a New Millennium Graduate Scholarship (\$ 1,300)
2007	James W. Burns Graduate Award (\$ 1,000)
2001	Ranked 857 <sup>th</sup> out of around 500,000 students in Iran national university entrance examination in mathematics & physics field

## RESEARCH EXPERIENCE

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2015-Present **Istanbul Technical University - Assistant Professor**

Faculty of Chemical & Metallurgical Engineering, Metallurgical & Materials Engineering Department, Istanbul Technical University, Istanbul, Turkey

Institute of Science, Polymer Science and Technology Program, Istanbul Technical University, Istanbul, Turkey

- The areas that interest me for my research stem from my goal of developing novel material systems, multifunctional structures, and new manufacturing technologies in the field of polymer science and engineering. More specifically I am interested in:

Advanced Manufacturing:

- Development of Innovative Biopolymeric systems, Multiphase Polymer Blends and Composites, Multifunctional Polymer Nanocomposites and Polymeric Nanostructures, Nano/Microcellular and Nano/Microfibrillated Polymeric systems

Materials Characterization:

- Crystallization Kinetics Analysis, Rheological and Interfacial Properties, Foaming Behaviors, Morphology and Structure Analysis, Physical and Mechanical Properties, Thermal and Electrical Properties

➤ According to the end-use applications I am interested in:

- Manufacturing and development of advanced biopolymeric systems including multiphase blend and nanocomposite systems for a wide range of environmental-friendly commodity applications (i.e., construction, packaging, cushioning, thermal and sound insulation) and biomedical purposes (i.e., biosensors, scaffolds, tissue engineering).
- Manufacturing and development of a new class of lightweight multifunctional polymeric nanostructures and nanocomposites that have applications in packaging, construction, automotive, aerospace, electrical devices, energy conversion/storage, electromagnetic pollution control, and structural health monitoring.

2014-2015

**McGill University - Postdoctoral Research Associate**

Research Center for High Performance Polymer and Composite Systems (CREPEC), Department of Chemical Engineering, McGill University, Montreal, Canada (joint research projects with Ecole Polytechnique de Montreal)

*Advisors:* Professor Musa Kamal (McGill) and Professor Pierre Carreau (Polytechnique)

- Sponsored by FQRNT- Fonds Québécois de la Recherche sur la Nature et les Technologies, NSERC Network for Innovative Plastic Materials and Manufacturing Processes (NIPMMP), and CREPEC
- Development of multifunctional conductive polymer/graphene nanocomposites for electronic and biomedical applications

2013-2014

**Ecole Polytechnique de Montreal - Postdoctoral Research Associate**

Research Center for High Performance Polymer and Composite Systems (CREPEC), Department of Chemical Engineering, Ecole Polytechnique de Montreal, Montreal, Canada

*Advisors:* Professor Pierre Carreau and Professor Marie-Claude Heuzey

- Sponsored by NSERC Network for Innovative Plastic Materials and Manufacturing Processes (NIPMMP) and CREPEC
- Investigating the rheological properties and morphological stability of PLA/ poly[(butylene adipate)-co-terephthalate] (PBAT) and PLA/ poly[(butylene succinate)-co-adipate] (PBSA) blend systems under various shear flows
- Stabilizing the PLA/PBAT blend morphology under shear flows through the use of nanoparticles such as nano-cellulose crystals (NCC) and nanoclay and via controlling the nanoparticles localization
- Investigating the dependency of PLA/PBAT blend's properties and morphological stability on processing method (i.e., blend preparation) and PLA molecular weight as the matrix

2009-2013

**University of Toronto - Research Assistant, doctoral level**

Microcellular Plastics Manufacturing Laboratory (MPML), Department of Mechanical and Industrial Engineering, University of Toronto, Toronto, Canada

- Sponsored by NSERC-CGS, NSERC Network for Innovative Plastic Materials and Manufacturing Processes (NIPMMP), Auto 21, Consortium for Cellular and Micro-Cellular Plastics (CCMCP)

- Development of a novel technology to manufacture expanded PLA bead foams with double crystal melting peak structure through an autoclave-based process, to be replaced with the currently being used petroleum based expanded polystyrene (EPS) bead foams. As the main part of my PhD thesis, this technology was filed as a patent and the exclusive license was taken by Synbra Technology, Netherlands, with an agreement of paying a royalty of the net selling price of the product for 15 years.
- Analysis of crystallization kinetics of PLA and PLA nano/microcomposites in the presence of dissolved gas
- Analysis of rheological properties of PLA and PLA nano/microcomposites
- Development of extruded microcellular PLA nano/microcomposites foams through tailoring the effects of nano-/micro-sized additives and the corresponding induced crystallization
- Investigation of crystallization effects on the foam injection-molded PLA and PLA nanocomposites
- Development of double-crystal melting peak technology for bead foam manufacturing of PLA, polypropylene (PP), polyethylene terephthalate (PET), polyether-ether-ketone (PEEK), and thermoplastic polyurethane (TPU)
- Optimization of steam chest molding processing parameters for manufacturing expanded PP (EPP) final bead foam products with enhanced dimension stability and surface quality
- Development of extrusion foaming of low-melt-strength linear PP/clay nanocomposites by tailoring the melt properties of the polymer/gas mixture
- Development of nanocellular PLA foams through bead foaming technology for super-insulation applications
- Development of electrically conductive PP/carbon nanotubes composites through foaming, with reduced electrical percolation, increased dielectric permittivity, and decreased dielectric loss
- Analysis of the crystallization kinetics of TPU and TPU compounds for foaming purposes
- In-situ visualization of polymer's crystallization during extrusion process

2008-2009

**CNRC - Research Engineer**

Canada National Research Council (CNRC), Industrial Materials Institute (IMI), Boucherville

- Analysis of thermal and mechanical properties of the compression molded PP/natural flax fiber composites and PP/triticale Composites
- Processing of thermoplastic starch (TPS)/natural flax shive fiber composites through twin screw extruder and analysis of their mechanical behavior at various temperature and humidity conditions

2006-2008

**Concordia University - Research Assistant, master's level**

Concordia Center for Composites (CONCOM), Mechanical and Industrial Engineering Department, Concordia University, Montreal, Canada

- Development of a novel failure monitoring system using conductive carbon nanotube network of sensors as a crack detector in glass fiber/epoxy composites while cyclic fatigue loading and static loads
- Manufacturing carbon/nylon commingled braided polymer composite by bladder molding method and characterized its thermal and mechanical features

2003-2005

**Sharif University of Technology - Research Assistant, Bachelor's level**

The Center of Excellence for Advanced Engineering Materials, Sharif University of Technology, Tehran, Iran

- Development of a high wear resistant Al/Al<sub>3</sub>Ti metal matrix composite by in situ hot press of Al and TiO<sub>2</sub> powders
- Manufacturing Al/Al<sub>3</sub>Ti metal matrix composite by in-situ press and sinter powder metallurgy route using Al and Ti powders and characterized its micro-structural features and mechanical properties
- Manufacturing hot pressed MgF<sub>2</sub> infrared transparent ceramics and characterized their micro-structural features and infrared transparency

## TEACHING EXPERIENCE

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### **Istanbul Technical University:** (Assistant Professor)

- 2015-Present Metallurgical and Materials Engineering Department, Istanbul Technical University
- Engineering Polymers (MET 439E): 4<sup>th</sup> year undergraduate level course
  - Fund. of Composites Materials (MET 442E): 4<sup>th</sup> year undergraduate level course
  - Composite Materials (MET 414E) - 4<sup>th</sup> year undergraduate level course
  - Bioengineering Laboratory I (BEN 324): 3<sup>rd</sup> year undergraduate level course: Bioengineering dual degree program
  - Seminar (MAM 596): Graduate level
  - Seminar (MBM 596): Graduate level
- 2015-Present Polymer Science and Technology Program, Istanbul Technical University
- Polymer Blends and Composites (PST 618) - PhD level course
- 2015-Present Department of Management Engineering, Istanbul Technical University
- Materials Science (MAL 201E): undergraduate level course

### **Concordia University: Instructor**

- 2013-2015 *Part-Time Faculty Member*, Mechanical Engineering Department, Concordia University
- Materials Science
  - Teaching to a class of 96 second year undergraduate students

### **University of Toronto: Instructor**

- 2011-2013 Department of Mechanical and Industrial Engineering, University of Toronto
- An Introduction to Polymers and Composites
  - A non-credit summer course (voluntarily offered) for undergraduate summer students, lectured to a class of 10-15

### **Teaching Assistant**

- 2009-2013 Mechanical and Industrial Engineering Department, University of Toronto
- Thermodynamics
  - Running thermodynamics laboratory for the sessions of around 100 students
  - Evaluating the laboratory reports, lecture quizzes, and exams
  - Design and Computer Aided Engineering
  - Supervising the midterm and final term-projects
  - Evaluating the term-project presentations and reports
- 2009-2013 Department of Materials Science and Engineering, University of Toronto

- Introduction to Polymer Engineering
  - Conducting weekly tutorials, solving course-related questions, designing questions biweekly assignments, marking assignments and midterm exams
- An Introduction to Materials Science
  - Conducting weekly tutorials, solving materials science questions, designing questions for quizzes, marking quizzes and midterm/final exams

2006-2008

Mechanical and Industrial Engineering Department, Concordia University

- Materials Science
  - Conducting weekly tutorials in classes of 40-50 students, solving materials science questions, designing questions for quizzes/assignments, marking quizzes/assignments
  - Running laboratory and evaluating laboratory reports
- Properties and Failure of Materials
  - Conducting weekly tutorials in classes of 40-50 students, solving materials science questions, designing questions for quizzes/assignments, marking quizzes/assignments
  - Running laboratory and evaluating laboratory reports
  - Laboratory coordinator and training the other laboratory teaching Assistants
- Mechanics of Materials
  - Running laboratory and evaluating laboratory reports

## PUBLICATIONS

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### Books

- 1) **Nofar, M.**, Park, C.B., “*Poly lactide Foams: Fundamentals, Manufacturing and Applications*”, Elsevier, *in press*
- 2) **Nofar, M.**, Park, C.B., “*Poly (lactic acid): Innovations in Processes, Technologies, and Products*”, CRC Press Taylor and Francis, *in preparation*

### Book Chapters

- 1) **Nofar, M.**, Park, C.B., “Chapter 5 - Heterogeneous Cell Nucleation Mechanisms in Poly lactide Foaming”, in: *Biofoams: Science and Applications of Bio-Based Cellular and Porous Materials*, Iannace, S., and Park, C.B., Editors, CRC Press Taylor and Francis Group, pp. 153-177, October 2015 (ISBN-13: 978-1-4665-6180-9).
- 2) **Nofar, M.**, Tabatabaei, A, Park, C.B., “Chapter 6 - Innovative PLA Bead Foam Technology”, in: *Polymeric Foams: Innovations in Processes, Technologies, and Products*, Lee, S.T., Editor, CRC Press Taylor and Francis Group, pp. 147-191, October 2016 (ISBN-13: 978-1-4987-3887-3).
- 3) **Nofar, M.**, “Poly lactide-based multiphase biopolymeric systems”, Chapter in: *Poly (lactic acid): Innovations in Processes, Technologies, and Products*, **Nofar, M.**, Park, C.B., Editor, CRC Press Taylor and Francis, *in preparation*
- 4) **Nofar, M.**, Park, C.B., “Poly lactide/gas mixture behavior, foaming mechanisms and technologies”, Chapter in: *Poly (lactic acid): Innovations in Processes, Technologies, and Products*, **Nofar, M.**, Park, C.B., Editor, CRC Press Taylor and Francis, *in preparation*

### Patents

- 1) **Nofar, M.**, Park, C.B., “A method for the preparation of PLA bead foams”, Int. Appl. No.: PCT/NL2013/050231, **WO 2014158014 A1 (US 20160039990 A1)**, Publication Date: October 2014

**Articles Published in Refereed Journals**

- 1) **Nofar, M.**, Tabatabaei A., Sojoudi, H., Park, C.B., Carreau, P.J., Heuzey, M-C., Kamal, M.R., "Mechanical and bead foaming behavior of PLA-PBAT and PLA-PBSA blends with different morphologies", *European Polymer Journal* (Impact Factor: 3.5), 2017, 90, 231-244
- 2) Ramezani Kakroodi, A., Kazemi, Y., **Nofar, M.**, Park, C.B., "Tailoring poly (lactic acid) for packaging applications via the production of fully bio-based in situ microfibrillar composite films", *Chemical Engineering Journal* (Impact Factor: 5.4), 2017, 308, 772-782
- 3) **Nofar, M.**, Heuzey, M-C., Carreau, P.J., Kamal, M.R., "Effects of Nanoclay and its Localization on the Morphology Stabilization of PLA/PBAT Blends under Shear Flow", *Polymer* (Impact Factor: 3.8), 2016, 98, 353–364
- 4) **Nofar, M.**, Heuzey, M-C., Carreau, P.J., Kamal, M.R., Randall, J., "Coalescence in PLA-PBAT blends under shear flow: effects of blend preparation and PLA molecular weight", *Journal of Rheology* (Impact Factor: 3.3), 2016, 60 (4), 637-648
- 5) **Nofar, M.**, "Effects of nano-/micro-sized additives and the corresponding induced crystallinity on the extrusion foaming behavior of PLA using supercritical CO<sub>2</sub>", *Materials & Design* (Impact Factor: 4.0), 2016, 101, 24-34.
- 6) Ngo, T.-D., **Nofar, M.**, Ton-That, M.-T., Hu, W., "Flax and Its Thermoplastic Biocomposites", *Journal of Composite Materials* (Impact Factor: 1.3), 2016, 50 (22), 3043-3051.
- 7) **Nofar, M.**, Ameli, A., Park, C.B., "A Novel Technology to Manufacture Biodegradable Polylactide Bead Foam Products", *Materials & Design* (Impact Factor: 4.0), 2015, 83, 413-421.
- 8) **Nofar, M.**, Ameli, A., Park, C.B., "Development of Polylactide Bead Foams with Double Crystal Melting Peaks", *Polymer* (Impact Factor: 3.8), 2015, 69, 83-94.
- 9) **Nofar, M.**, Maani, A., Sojoudi, H., Heuzey, M-C., Carreau, P.J., "Interfacial and Rheological Properties of PLA/PBAT and PLA/PBSA blends and their Morphological Stability under Shear Flow", *Journal of Rheology* (Impact Factor: 3.3), 2015, 59 (2), 317-333
- 10) Ameli, A., **Nofar, M.**, Jahani, D., Park, C.B., "Development of High Void Fraction Polylactide Composite Foams Using Injection Molding: Crystallization and Foaming Behaviors", *Chemical Engineering Journal* (Impact Factor: 5.4), 2015, 262, 78-87
- 11) Ameli, A., **Nofar, M.**, Wang, S., Park, C.B., "Lightweight Polypropylene/Stainless-Steel Fiber Composite Foams with Low Percolation for Efficient Electromagnetic Interference Shielding", *ACS Applied Materials & Interfaces* (Impact Factor: 7.1), 2014, 6, 11091–11100
- 12) Keshtkar, M., **Nofar, M.**, Park, C.B., Carreau, P.J., "Extruded PLA/Clay Nanocomposite Foams Blown with Supercritical CO<sub>2</sub>" *Polymer* (Impact Factor: 3.8), 2014, 55 (16), 4077-4090
- 13) **Nofar, M.**, Ameli, A., Park, C.B., "The Thermal Behavior of Polylactide with Different D-lactide Content in the Presence of Dissolved CO<sub>2</sub>", *Macromolecular Materials & Engineering* (Impact Factor: 2.8), 2014, 299 (10), 1232–1239
- 14) **Nofar, M.**, Park, C.B., "Poly(lactic acid) Foaming", *Progress in Polymer Science* (Impact Factor: 33.9), 2014, 39 (10), 1721-1741
- 15) Ameli, A., **Nofar, M.**, Park, C.B., Pötschke, P., Rizvi, G., "Polypropylene/carbon nanotube nano/microcellular structures with high dielectric permittivity, low dielectric loss, and low percolation threshold", *Carbon* (Impact Factor: 6.2), 2014, 71, 206-217
- 16) Hossieny, N., Barzegari, M.R., **Nofar, M.**, Mahmood, S.H., Park, C.B., "Crystallization of Hard Segment Domains with the Presence of Butane for Microcellular Thermoplastic Polyurethane Foams ", *Polymer* (Impact Factor: 3.8), 2014, 55 (2), 651-662
- 17) Tabatabaei, A., Barzegari, M.R., **Nofar, M.**, Park, C.B., "In-Situ Visualization of Polypropylene Crystallization during Extrusion", *Polymer Testing* (Impact Factor: 2.4), 2014, 33, 57-63
- 18) Ameli, A., Jahani, D., **Nofar, M.**, Park, C.B., "Development of High Void Fraction Polylactide Composite Foams using Injection Molding: Mechanical and Thermal Insulation Properties", *Composite Science and Technology* (Impact Factor: 4.5), 2014, 90, 88-95

- 19) **Nofar, M.**, Tabatabaei A., Ameli, A., Park, C.B., "Comparison of Melting and Crystallization Behaviors of Polylactide under High-Pressure CO<sub>2</sub>, N<sub>2</sub>, and He", ***Polymer (Impact Factor: 3.8)***, 2013, 54 (23), 6471-6478
- 20) **Nofar, M.**, Tabatabaei, A., Park, C.B., "Effect of Nano-/Micro-Sized Additives on the Crystallization Behaviors of PLA and PLA/CO<sub>2</sub> Mixtures" ***Polymer (Impact Factor: 3.8)***, 2013, 54 (9), 2382–2391
- 21) **Nofar, M.**, Guo, Y., Park, C.B., "Double Crystal Melting Peak Generation for Expanded Polypropylene Bead Foam Manufacturing", ***Industrial & Engineering Chemistry Research (Impact Factor: 2.6)***, 2013, 52 (6), 2297–2303
- 22) Ameli, A., Jahani, D., **Nofar, M.**, Jung, P.U. Park, C.B., " Processing and Characterization of Solid and Foamed Injection-Molded Polylactide with Talc", ***Journal of Cellular Plastics (Impact Factor: 2.0)***, 2013, 49 (4), 351-374
- 23) **Nofar, M.**, Zhu, W., Park, C.B., "Effect of Dissolved CO<sub>2</sub> on the Crystallization Behavior of Linear and Branched PLA", ***Polymer (Impact Factor: 3.8)***, 2012, 53 (15), 3341–3353
- 24) **Nofar, M.**, Majithiya, K., Kuboki, T., Park, C.B., "The Foamability of Low-Melt-Strength Linear polypropylene with Nanoclay and Coupling Agent", ***Journal of Cellular Plastics (Impact Factor: 2.0)***, 2012, 48, 271–287
- 25) **Nofar, M.**, Zhu, W., Park, C.B., Randall, J., "Crystallization Kinetics of Linear and Long-Chain-Branched Polylactide", ***Industrial & Engineering Chemistry Research (Impact Factor: 2.6)***, 2011, 50 (24), 13789–13798
- 26) **Nofar, M.**, Hoa, S.V., Pugh, M.D., "Failure Detection and Monitoring in Polymer Matrix Composites Subjected to Static and Dynamic Loads Using Carbon Nanotube Networks", ***Composites Science and Technology (Impact Factor: 4.5)***, 2009, 69 (10), 1599-1606
- 27) **Nofar, M.**, Madaah Hosseini, H.R., Kolagar N., "Fabrication of High Wear Resistance Al/Al<sub>3</sub>Ti Metal Matrix Composite by in Situ Hot Press Method", ***Materials & Design (Impact Factor: 4.0)***, 2009, 30 (2), 280-286
- 28) Abbasi Chiane, V., Madaah Hosseini, H.R., **Nofar, M.**, "Micro Structural Features and Mechanical Properties of Al-Al<sub>3</sub>Ti Composite Fabricated by in-Situ Powder Metallurgy Route", ***Journal of Alloys and Compounds (Impact Factor: 3.0)***, 2009, 473 (1&2), 127-132
- 29) **Nofar, M.**, Madaah Hosseini, H.R., Shivayee, H.A., "The Dependency of Optical Properties on Density for Hot Pressed MgF<sub>2</sub>", ***Infrared Physics & Technology (Impact Factor: 1.6)***, 2008, 51 (6), 546-549

#### Articles submitted/in preparation to refereed journals

- 30) **Nofar, M.**, Sacligil, D., "Poly (lactic acid) Blends", ***Progress in Polymer Science (Impact Factor: 33.9)***, in preparation
- 31) Oguz, H., **Nofar, M.**, Ovali, D., "Development of PLA/PBAT and PLA /PBSA bioblends: Effects of processing type and PLA crystallinity on morphology and thermomechanical properties", ***Journal of Polymer Science Part B: Polymer Physics (Impact Factor: 3.3)***, in preparation
- 32) Ciftici, U., Oguz, H., Yargici, C., **Nofar, M.**, "Morphological, thermal and mechanical properties of ternary blends of PLA-PBAT-PBSA and PLA-PBAT-nanoclay", ***ACS Applied Materials & Interfaces (Impact Factor: 7.1)***, in preparation
- 33) Yargici, C., Oguz, H., **Nofar, M.**, Ramezani, A., Park, C.B., Carreau, P.J., Heuzey, M-C., Kamal, M.R., "morphological, thermal and mechanical properties of PLA/PBAT/Nanoclay blend nanocomposites-effects of processing on clay's localization", ***ACS Applied Materials & Interfaces (Impact Factor: 7.1)***, in preparation
- 34) Yargici, C., Oguz, H., **Nofar, M.**, Ramezani, A., Park, C.B., Carreau, P.J., Heuzey, M-C., Kamal, M.R., "Rheological and foaming properties of PLA/PBAT/Nanoclay blend nanocomposites- effects of processing on clay's localization", ***ACS Applied Materials & Interfaces (Impact Factor: 7.1)***, in preparation
- 35) Demirtas, E., Ozkan, H., **Nofar, M.**, "Continuous foam extrusion of high impact polystyrene: Processing parameters effect and materials modifications", ***Industrial & Engineering Chemistry Research (Impact Factor: 2.6)***, in preparation

- 36) Bal, U., Nobet., E., **Nofar, M.**, "In-situ fibrillar polymer-polymer composites", *Polymer Reviews (Impact Factor: 6.2)*, in preparation
- 37) Bal, U., **Nofar, M.**, "Innovative self-reinforced polylactide micro/nanofibrillated composites", *Biomacromolecules (Impact Factor: 5.6)*, in preparation
- 38) Nasri, A., Ciftci, U., Laki, M., **Nofar, M.**, "Multifunctional Conductive Polylactide Nanocomposites", *Progress in Polymer Science (Impact Factor: 33.9)*, in preparation
- 39) **Nofar, M.**, Park, C.B., "Polymer-Gas Mixture Behaviors", *Progress in Polymer Science (Impact Factor: 33.9)*, in preparation

#### **Articles published in refereed conference proceedings and presented**

- 1) Demirtas, E., Ozkan, H., **Nofar, M.**, "Continuous Foam Extrusion of Polystyrene (PS) Blends and Composites", Foams2013, Bayreuth, Germany, October 11–12, 2017
- 2) Demirtas, E., Ozkan, H., **Nofar, M.**, "Continuous foam extrusion of high impact polystyrene (HIPS): Effect of processing parameters and blowing agent type and content", Polymer Processing Society 2017, Europe Africa Conference, Dresden, Germany, June 26-29, 2017
- 3) Oguz, H., Dogan, C., Kara, D., Ozen, Z.T., Ovali, D., **Nofar, M.**, "Development of PLA/PBAT and PLA /PBSA bioblends: Effects of processing type and PLA crystallinity on morphology and thermomechanical properties", Polymer Processing Society 2017, Europe Africa Conference, Dresden, Germany, June 26-29, 2017
- 4) **Nofar, M.**, Tabatabaei, A., Park, C.B., Carreau, P.J., Heuzey, M-C., Kamal, M.R., " Wide-Range of Microcellular Bead Foams from Different PLA-Based Drop/Sea Blend Morphologies", Society of Plastics Engineers (SPE), Annual Technical Conference (ANTEC), Technical Papers, Anaheim, CA, May 08-10, 2017.
- 5) **Nofar, M.**, "Extending polylactide applications by overcoming its drawbacks", International Conference on Sustainable Bioplastics, Alicante, Spain, November 10-11, 2016
- 6) **Nofar, M.**, "Role of nanoclay on development of innovative polymeric systems", The 5<sup>th</sup> Mediterranean Clay Meeting, İzmir-Çeşme, Turkey, September 25-29, 2016
- 7) **Nofar, M.**, Carreau, P., Heuzey, M-C., Kamal, M.R., "Development of PLA-Based Multiphase Bioblends with Improved Properties", 10<sup>th</sup> World Biomaterials Congress, Montreal, Quebec, Canada, May 17-22, 2016
- 8) **Nofar, M.**, Park, C.B., "Manufacturing of High-Performance Nano/Microcellular Expanded PLA Bead Foams", ASME 2015 International Mechanical Engineering Congress & Exposition (IMECE 2015), Houston, Texas, USA, November 13-19, 2015
- 9) **Nofar, M.**, Park, C.B., "Manufacturing of High-Performance Expanded PLA Bead Foams", Polymer Foam 2015, International industry conference on polymer foam applications, manufacturing and performance, Cologne, Germany, November 2-4, 2015
- 10) **Nofar, M.**, Park, C.B., "Development of PLA foam products through three different foam processing routes", 5<sup>th</sup> Biofoams, Sorrento, Italy, October 13-16, 2015
- 11) **(Keynote) Nofar, M.**, Heuzey, M-C., Carreau, P.J., Kamal, M.R., Randall, J., "Effects of Nanoclay on Stabilizing the PLA/PBAT Blends' Morphology under Shear Flow", The Polymer Processing Society Conference 2015, Graz, Austria, September 21-25, 2015
- 12) Ameli, A., **Nofar, M.**, Saniei, M., Wang, S., Park, C.B., "Foam injection molding of polypropylene/stainless steel fiber composites for efficient EMI shielding", 31<sup>st</sup> International Conference of the Polymer Processing Society, Jeju Island, Korea, June 7-11, 2015
- 13) **(Keynote) Nofar, M.**, Heuzey, M-C., Carreau, P.J., Kamal, M.R., Randall, J., "Rheological and Morphological Properties of PLA-PBAT Blends - Effects of Nanoclay Localization", 31<sup>st</sup> International Conference of the Polymer Processing Society, Jeju Island, Korea, June 7-11, 2015
- 14) **Nofar, M.**, Heuzey, M-C., Carreau, P.J., Kamal, M.R., "Droplet Coalescence of PLA/PBAT Blends under Shear Flow: Effects of Blend Preparation Method and PLA Matrix Molecular Weight", 10<sup>th</sup> Annual European Rheology Conference, Nantes, France, April 14-17, 2015

- 15) **Nofar, M.**, Maani, A., Heuzey, M-C., Carreau, P.J., "Morphological Stability of PLA/PBAT and PLA/PBSA Blends under Shear Flow", The Society of Rheology 86<sup>th</sup> Annual Meeting, Philadelphia, Pennsylvania, USA, October 5-9, 2014
- 16) **Nofar, M.**, and Park, C.B., "Nanocellular and Microcellular Expanded PLA Bead Foams", FOAMS 2014, Iselin, NJ, USA, September 10-11, 2014.
- 17) **(Keynote) Nofar, M.**, Ameli, A., Park, C.B., "Expanded PLA Bead Foaming- A New Technology", 30<sup>th</sup> International Conference of the Polymer Processing Society, Cleveland, Ohio, USA, June 8-12, 2014
- 18) Ameli, A., **Nofar, M.**, Hossieny, N., Park, C.B., "Electrical and dielectric properties of foam injection-molded polypropylene/multiwalled carbon nanotube composites", 30<sup>th</sup> International Conference of the Polymer Processing Society, Cleveland, Ohio, USA, June 8-12, 2014
- 19) **(Keynote) Nofar, M.**, Park, C.B., "Polylactide Foam processing Technologies", 13<sup>th</sup> International Symposium on Bioplastics, Biocomposites & Biorefining, Guelph, Ontario, Canada, May 19-24, 2014
- 20) Ameli, A., Jahani D., **Nofar, M.**, Park, C.B., Pötschke, P., "Lightweight polypropylene-carbon nanotube foams with low filler content, high permittivity and low dielectric loss for charge storage applications", SPE, ANTEC, Technical Papers, Las Vegas, Nevada, USA, April 28-30, 2014
- 21) **Nofar, M.**, Park, C.B., "Development of Expanded PLA Bead Foams: A Promising Substitute for Expanded PS and PP Products", SPE, ANTEC, Technical Papers, Las Vegas, Nevada, USA, April 28-30, 2014
- 22) **(Plenary) Nofar, M.**, Ameli, A., Park, C.B. "Manufacturing of Low-Density Expanded PLA Foams with Superior Intra-Bead Sintering Behaviors", Ningbo Forum of Materials Science, Ningbo, China, November 13-15, 2013
- 23) Ameli, A., Hossieny, N., **Nofar, M.**, Park, C.B., Pötschke, P. "Nanocellular foams of polypropylene-multiwalled carbon nanotube composites", Foams2013, Seattle, Washington, USA, September 11-12, 2013
- 24) **Nofar, M.** and Park, C.B., "Crystallization Kinetics of Different Polylactide Materials in Presence of Dissolved CO<sub>2</sub>", 4<sup>th</sup> Biofoams, Toronto, Canada, August 27-29, 2013
- 25) Ameli, A., **Nofar, M.**, Jahani D., Park, C.B., "Foaming and crystallization behaviors of highly expanded Injection-Molded Polylactide Composite Foams", 4<sup>th</sup> Biofoams, Toronto, Canada, August 27-29, 2013
- 26) **Nofar, M.**, Ameli, A., Park, C.B., "The Crystallization Effect on the Properties of Expanded Polylactide Bead Foams", 4<sup>th</sup> Biofoams, Toronto, Canada, August 27-29, 2013
- 27) Hossieny, N., **Nofar, M.**, Shaayegan, V., and Park, C.B., "Effects of Glycerol Monostearate on TPUs Crystallization and its Foaming Behavior", 29<sup>th</sup> International Conference of the Polymer Processing Society, Nuremberg, Germany, July 15-20, 2013
- 28) **Nofar, M.**, Ameli, A., Park, C.B., "Crystallization and Melting Behavior of PLA in Contact with Pressurized CO<sub>2</sub>, N<sub>2</sub>, and helium", 29<sup>th</sup> International Conference of the Polymer Processing Society, Nuremberg, Germany, July 15-19, 2013
- 29) Tabatabaei, A, Barzegari, M.R., **Nofar, M.**, and Park, C.B., "Effects of Crystallinity on the Foaming Behaviors of Extruded Polypropylene Blown with CO<sub>2</sub>", 15<sup>th</sup> Annual Conference of Blowing Agents & Foaming Processes, Mainz, Germany, May 14-15, 2013
- 30) **Nofar, M.**, Barzegari, M.R., Tabatabaei, A., and Park, C.B., "PLA Extrusion Foaming Behavior: Effects of Varying Isothermal Melt Crystallization Kinetics", SPE, ANTEC, Technical Papers, Cincinnati, Ohio, USA, April 22-24, 2013
- 31) Tabatabaei, A, Barzegari, M.R., **Nofar, M.**, and Park, C.B., "Visualization of Polypropylene Crystallization in Extrusion Foam Process", SPE, ANTEC, Technical Papers, Cincinnati, Ohio, USA, April 22-24, 2013
- 32) **(Keynote) Nofar, M.**, and Park, C.B., "The Dependency of PLA's Crystallization Kinetics on Dissolved CO<sub>2</sub> Pressure", 28<sup>th</sup> International Conference of Polymer Processing Society, Pattaya, Thailand, Dec. 11-15, 2012

- 33) Tabatabaei, A, Barzegari, M.R., Keshtkar, M., **Nofar, M.**, and Park, C.B., "Visualization of PLA Crystallization in Extrusion Process and its Effect on Foaming Behavior of PLA", PPS Americas Conference 2012, Niagara Falls, Ontario, Canada, May 21-24, 2012
- 34) **Nofar, M.**, and Park, C.B., "Effect of Gas Pressure on Crystal Melting Behavior of Polylactide", PPS Americas Conference 2012, Niagara Falls, Ontario, Canada, May 21-24, 2012
- 35) Hossieny, N., **Nofar, M.**, Barzegari, M.R., and Park, C.B., "Foaming Behavior of Melt Compounded Thermoplastic Polyurethane in Presence of Butane", SPE, ANTEC, Technical Papers, Orlando, FL, USA, April 2-4, 2012
- 36) Wang, H., Zhang, S.L., **Nofar, M.**, Barzegari, M.R., Park, C.B., and Jiang, Z.H., "Development of Beads Foaming Technology for High Performance PEEK, I. Thermal Analysis", SPE, ANTEC, Technical Papers, Orlando, FL, USA, April 2-4, 2012
- 37) **Nofar, M.**, Barzegari, M.R., Tabatabaei, A., Keshtkar, M., and Park, C.B., "Effect of Various Additives (Talc, Nanoclay, and Nanosilica) on Extrusion Foaming of PLA through Crystallization", SPE, ANTEC, Technical Papers, Orlando, FL, USA, April 2-4, 2012
- 38) **Nofar, M.**, and Park, C.B., "Feasibility of Double Crystal Melting Peak Generation in PLA for Expanded PLA Bead Foams", SPE, ANTEC, Technical Papers, Orlando, FL, USA, April 2-4, 2012
- 39) **Nofar, M.**, Zhu, W., Park, C.B., and Randall, J. "Effect of D-Lactide Content on Thermal Behavior of Polylactide in Presence of CO<sub>2</sub> Dissolved Gas", SPE, ANTEC, Technical Papers, Orlando, FL, USA, April 2-4, 2012
- 40) **Nofar, M.**, Barzegari, M.R., Tabatabaei A., Keshtkar, M., and Park C.B., "Effect of Inorganic Filler Type on the Rheological Properties of Linear Polylactide", Polymer Processing Society 2011 Asia/Australia Conference, Kish Island, Iran, November 15-17, 2011
- 41) Hossieny, N., **Nofar, M.**, and Park, C.B., "Effect of Hard Segment Distribution on the Foaming Behavior of Thermoplastic Polyurethane", Polymer Processing Society 2011 Asia/Australia Conference, Kish Island, Iran, November 15-17, 2011
- 42) **Nofar, M.**, Zhu, W., Park, C.B., and Randall, J., "Effect of Dissolved CO<sub>2</sub> on the Crystallization Behavior of PLA with Various D-contents", Polymer Processing Society 2011 Asia/Australia Conference, Kish Island, Iran, November 15-17, 2011
- 43) Barzegari, M.R., **Nofar, M.**, and Park, C.B., "Double Melting Endotherms of Polyethylene Terephthalate (PET) for Expanded Bead Foams", FOAMS 2011, Iselin, New Jersey, USA, September 14-15, 2011
- 44) Keshtkar, M., **Nofar, M.**, Park, C.B., and Carreau, P., "Foaming Behavior of PLA/Nanoclay Nanocomposites in Continuous Extrusion", 3<sup>rd</sup> Biofoams, Capri, Italy, September 21-24, 2011
- 45) **Nofar, M.**, Zhu, W., Park, C.B., and Randall, J., "Effect of Dissolved CO<sub>2</sub> on Nonisothermal Crystallization Behavior of PLA with Various Branching Degrees & Talc", 3<sup>rd</sup> Biofoams, Capri, Italy, September 21-24, 2011
- 46) **Nofar, M.**, Park, C.B., Tabatabaei, A., and Randall, J., "The Effect of Various Fillers on the Crystallization Behavior of PLA with the Presence of Dissolved CO<sub>2</sub>", 3<sup>rd</sup> Biofoams, Capri, Italy, September 21-24, 2011
- 47) Hossieny, N., **Nofar, M.**, and Park, C.B., "Investigating the Mechanical Properties of Expanded Polypropylene Bead Products", SPE, ANTEC, Technical Papers, Paper # PENG-11-2010-0416, Boston, MA, USA, May 1-4, 2011
- 48) **Nofar, M.**, Guo, Y., and Park, C.B., "Simulation of EPP Bead Manufacturing in Batch Foaming Process through High Pressure Differential Scanning Calorimeter (HPDSC)", SPE, ANTEC, Technical Papers, Paper # PENG-11-2010-0347, Boston, MA, USA, May 1-4, 2011
- 49) **Nofar, M.**, Majithiya, K., Kuboki, T., Bonnet, T., and Park, C.B., "Investigating the Foamability of Low Melt Strength Homopolymer Linear PP and Coupling Agent by Using Nanoclay", SPE, ANTEC, Technical Papers, Paper # PENG-11-2010-0361, Boston, MA, USA, May 1-4, 2011
- 50) **Nofar, M.**, Zhu, W., Park, C.B., and Randall, J. "The Dependency of Polylactide Crystallization Behavior on The Chain Branching and Nano-Clay Contents", SPE, ANTEC, Technical Papers, Paper # PENG-11-2010-0380, Boston, MA, USA, May 1-4, 2011

- 51) **(Best Paper Award)** Zhu, W., **Nofar, M.**, Zhai, W., Park, C.B., and Randall, J. "The Effect of Chain Branching on the Crystallinity Behavior of Polylactide with the Presence of Dissolved CO<sub>2</sub>", SPE, ANTEC, Technical Papers, Paper # PENG-11-2010-0380, Boston, MA, USA, May 1-4, 2011
- 52) **Nofar, M.**, Park, C.B. "Dependency of LPP Foaming Behavior on Foam Composition and Processing Parameters", SPE, ANTEC, Technical Papers, Paper #604, Orlando, FL, USA, May 16-20, 2010
- 53) Ngo, T.-D., **Nofar, M.**, Ton-That, M.-T., Sepehr, M., Hu, W., Denault, J., "Green Laminate Composites Based on Polypropylene (PP) and Flax Fiber", SPE, ANTEC, Technical Papers, Orlando, FL, USA, May 16-20, 2010
- 54) **Nofar, M.**, Hoa, S.V., and Pugh, M.D., "Self Sensing Glass/Epoxy Composites Using Carbon Nanotube", 17<sup>th</sup> International Conference on Composite Materials, Edinburgh, UK, July 27-31, 2009
- 55) **Nofar, M.**, Hoa, S.V., and Pugh, M.D., "Carbon Nanotube Networks as a Strain Indicator and Failure Predictor in Polymer Matrix Composites Subjecting to Static and Dynamic Loads", ASC Conference, Memphis, TN, USA, Sep 9-11, 2008
- 56) **Nofar, M.**, Madaah Hosseini, H.R., Shivayee, H.A., "The Effect of Hot Pressing Parameters on the Microstructure and Infrared Transparency of MgF<sub>2</sub> Ceramics", Tehran International Congress on Manufacturing Engineering (TICME), Tehran, Iran, Dec. 12-15, 2005

### **Industrial Reports and Presentations**

- 1) **Nofar, M.**, Heuzey, M-C., Carreau, P., and Kamal, M.R. "Droplet Coalescence of PLA/PBAT Blends under Shear Flow: Effects of Blend Preparation Method and PLA Matrix Molecular Weight", NSERC Network for Innovative Plastic Materials and Manufacturing Processes (NIPMMP) HQP Scientific Network Conference, École Polytechnique de Montréal, Montreal, Canada, May 2015
- 2) **Nofar, M.**, Heuzey, M-C., and Carreau, P., "Morphological Stability of PLA/PBAT & PLA/PBSA Blends under Shear Flow", NSERC Network for Innovative Plastic Materials and Manufacturing Processes (NIPMMP) HQP Scientific Network Conference, University of Toronto, Toronto, Canada, June 2014
- 3) **Nofar, M.**, "Expanded PLA Bead foaming: Crystallization Kinetics Analysis and Novel Technology Development", Presented at Consortium for Cellular and Microcellular Plastics (CCMCP), October 2013
- 4) **Nofar, M.**, and Park, C.B., "Extruded PLA Foams: Effects of Nano-/Micro-Sized Additives and Crystallization", NSERC Network for Innovative Plastic Materials and Manufacturing Processes (NIPMMP) HQP Scientific Network Conference, McGill University, Montreal, Canada, June 2013
- 5) **Nofar, M.**, "A Novel Technology to Manufacture Expanded PLA Bead Foams", Presented at Consortium for Cellular and Microcellular Plastics (CCMCP), May 2013
- 6) **Nofar, M.**, "Foaming Behavior of Polylactide with Double Crystal-Melting Peak Structure for Bead Foaming Technology", Presented at Consortium for Cellular and Microcellular Plastics (CCMCP), November 2012
- 7) **Nofar, M.**, "Foaming Behavior of Polylactide with Double Crystal-Melting Peak Structure for Bead Foaming Technology", Presented at Consortium for Cellular and Microcellular Plastics (CCMCP), November 2012
- 8) **Nofar, M.**, "Crystallization and Melting Behavior of Polylactide in Contact with Pressurized CO<sub>2</sub>, N<sub>2</sub>, and Helium", Presented at Consortium for Cellular and Microcellular Plastics (CCMCP), November 2012
- 9) **Nofar, M.**, "Foaming Behavior of PLA/Clay Nanocomposites in Continuous Extrusion Foaming", NSERC Network for Innovative Plastic Materials and Manufacturing Processes (NIPMMP) HQP Scientific Network Conference, University of Toronto, Toronto, Canada, June 2012
- 10) Park, C.B., **Nofar, M.**, Barzegari, M.R., Hossieny, N., "Bead Foaming Technology for Low-Density Foam Products with 3D Geometry", PI Progress Report, NSERC Network for Innovative Plastic Materials and Manufacturing Processes (NIPMMP) HQP Scientific Network Conference, University of Toronto, Toronto, Canada, June 2012
- 11) **Nofar, M.**, and Park, C.B., "Manufacturing of Bio-based/Bio-degradable Expanded Polylactide Bead Foams", 3<sup>rd</sup> annual MIE research symposium, University of Toronto, June 2012

- 12) **Nofar, M.**, “Effect of micro-/nano-sized additives (Talc, Nanoclay, and Nanosilica) on Extrusion Foaming of PLA through Crystallization”, Presented at Consortium for Cellular and Microcellular Plastics (CCMCP), April 2012
- 13) Park, C.B., **Nofar, M.**, Barzegari, M.R., Hossieny, N., Optimization of Bead Foaming Technology: Formation of Balanced Two Crystal Peaks, Polymer Foams, Industrial Workshop, Bayreuth, Germany, September 2011
- 14) **Nofar, M.**, “Three Novel Applications of Foaming Technology for Polypropylene”, NSERC Network for Innovative Plastic Materials and Manufacturing Processes (NIPMMP) HQP Scientific Network Conference, University of Toronto, Toronto, Canada, June 2011
- 15) **Nofar, M.**, “Effect of Chain-Branching on Crystallization Behavior of PLA with the Presence of Dissolved CO<sub>2</sub>”, Presented at Consortium for Cellular and Microcellular Plastics (CCMCP), April 2011
- 16) **Nofar, M.**, “The Dependency of Polylactide Crystallization Behavior on the Chain Branching and Nano-Clay Contents”, Presented at Consortium for Cellular and Microcellular Plastics (CCMCP), November 2010
- 17) **Nofar, M.**, “Crystallization Kinetics of Linear and Long-Chain-Branched Polylactide”, Presented at Consortium for Cellular and Microcellular Plastics (CCMCP), November 2010
- 18) **Nofar, M.**, “EPP Foams Manufacturing Process & their properties Made by Steam Chest Molding”, Presented at Consortium for Cellular and Microcellular Plastics (CCMCP), May 2010
- 19) **Nofar, M.**, “Microcellular LPP/Nano-clay Foam”, Presented at Consortium for Cellular and Microcellular Plastics (CCMCP), November 2009
- 20) **Nofar, M.**, “Foaming of linear PP with Nanoclay”, Presented at Consortium for Cellular and Microcellular Plastics (CCMCP), June 2009

## **LEADERSHIP ACTIVITIES and COMMUNITY INVOLVEMENT**

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### **Participation as External Reviewer**

2009-Present **Journal reviewing** (38 articles)

- ACS Sustainable Chemistry & Engineering (1 paper)
- Advances in Polymer Technology (1 paper)
- European Polymer Journal (1 paper)
- eXPRESS Polymer Letters (2 paper)
- Industrial & Engineering Chemistry Research (2 paper)
- International Polymer Processing (1 paper)
- Journal of Cellular Plastics (3 papers)
- Journal of Composites Part A: Applied Science and Manufacturing (1 papers)
- Journal of Physical Chemistry (1 paper)
- Journal of Polymers and the Environment (2 paper)
- Journal of Polymer Engineering (2 paper)
- Journal of Polymer Research (1 paper)
- Journal of Supercritical Fluids (4 paper)
- Journal of the Mechanical Behavior of Biomedical Materials (1 paper)
- Macromolecular Materials and Engineering (3 papers)
- Materials and Design (4 papers)
- Materials Characterization (1 paper)
- Polymer (8 paper)
- Polymer International (1 paper)

2015-Present **Books/Book Chapters/Conference papers for proceeding**

- FOAMS@ 2015: 13<sup>th</sup> International Conference on Advances in Foam Materials & Technology, Kyoto, Japan, September 10-11, 2015 (**10 papers**)

### **Participation in Scientific Outreach**

- 2013 Organizing Committee Member of the 85<sup>th</sup> Annual Meeting of the Society of Rheology, 2013, Montreal, Canada (as a volunteer)
- 2013 Organizing Committee Member of the grand opening ceremony of the Centre for Industrial Application of Microcellular Plastics (CIAMP), Mississauga, Canada
- 2013 Exhibitor of an industrial-scale tandem extrusion line at the grand opening ceremony of the Centre for Industrial Application of Microcellular Plastics (CIAMP), Mississauga, Canada
- 2012 Organizing Committee Member of Polymer Processing Society (PPS) Americas Conference 2012, Niagara Falls, Canada
- 2010, 2013 Organizing Committee Member of NSERC Network for Innovative Plastic Materials and Manufacturing Processes (NIPMMP), Toronto, Canada (Annual Meeting)
- 2011-2013 HQP Member of Auto 21, Canada
- 2010-2013 HQP Member of NSERC Network for Innovative Plastic Materials and Manufacturing Processes (NIPMMP), Canada
- 2008 Organizing Committee Member of 64<sup>th</sup> American Helicopter Society (AHS) international annual Forum, Montreal, Canada
- 2009-2013 Organizing Team Member of Consortium for Cellular and Micro-Cellular Plastics (CCMCP), (Biannual Meeting)
- 2009-2013 Coordinator of thermal analysis equipments (TGA, DSC, and high-pressure DSC) at Microcellular Plastics Manufacturing Laboratory (MPML), University of Toronto

### **Participation on Committees**

- 2013-Present Member of the Society of Rheology (SOR)
- 2011-Present Member of Polymer Processing Society (PPS)
- 2009-Present Member of Society of Plastics Engineers (SPE)
- 2013-2015 Member of Center for Applied Research on Polymers and Composites (CREPEC)
- 2009-2013 Member of Consortium for Cellular and Micro-Cellular Plastics (CCMCP)
- 2007-2009 Member of American Helicopter Society (AHS)
- 2006-2009 Member of Center for Applied Research on Polymers and Composites (CREPEC)
- 2001-2006 Member of Iranian Metallurgical Engineering Society (IMES)

### **Participation in Social Activities**

- 2013-2015 Organizing committee member of Savalan Cultural Group in Montreal presenting Azerbaijani Cultural Activities (as a volunteer)
- 2009-2013 Organized social activities in Microcellular Plastics Manufacturing Lab. (MPML), Toronto
- 2009 Coordinator of Iranian new-year ceremony at Concordia University; hosting almost 1000 guests
- 2007-2008 Performed music at McGill and Concordia Universities in Iranian events, Montreal
- 2003-2005 Organizing social activities for ethnical Azerbaijani students at Sharif University of Technology
- 2003-2005 Charter member of tourism institute at Sharif University of Technology
- 2002-2005 Active members of music and mountain climbing groups at Sharif University of Technology
- 2002 Member of organizing committee, commemoration ceremony of Sahand, an Azerbaijani poet, at Sharif University of Technology

## RESEARCH PROPOSALS

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- 2017 **Principle Investigator:** TUBITAK 1003 - Scientific and Technological Research Projects Funding Program, Project Number 359169; Microcellular Biopolymeric Blend and Nanocomposite Systems for Automotive Applications, under evaluation - (2,500,000.00 TL)
- 2017 **Principle Investigator:** TUBITAK 3501 - Scientific and Technological Research Projects Funding Program, Project Number 350504; High-performance in-situ nano/microfibrillar composites via an innovative processing technology, under evaluation (225,000.00 TL)
- 2016 **Principle Investigator:** TUBITAK 1001 - Scientific and Technological Research Projects Funding Program, Project Number 313262; Nanomodified supertough biopolymeric blends, under evaluation (360,000.00 TL)
- 2016 **Co-Principle Investigator:** TUBITAK 2553 – Joint Research Project between Scientific and Technological Research Projects Funding Program (TUBITAK) and Pakistan Science Foundation (PSF), Project Number 290584; Synthesis of Boron nitride nanosheets and development of their nanocomposite adhesives, coatings and paints for electronic packaging and functional applications, under evaluation (360,000.00 TL)
- 2016 **Principle Investigator:** Istanbul Technical University Scientific Research Projects Process Automation (BAPSO), Quick Support Projects, Development of microcellular expanded thermoplastic polyurethane bead foams: Dependency of the foam structure on TPU's molecular weight and configuration, Approved (20,000.00 TL)
- 2016 **Principle Investigator:** Collaboration between Istanbul Technical University and Huntsman (Belgium), Two-year project
- 2015 **Principle Investigator:** Istanbul Technical University Scientific Research Projects Process Automation (BAPSO), Development of PLA-based blend nanocomposites with controlled morphology using clay nanoparticles, Approved (32,000.00 TL)
- 2011-2013 The list of proposals during PhD; Assisted the PI in the drafting, managing research funds, and preparing reports of the following proposals:
- Annual Progress Report of NSERC Strategic Project Grant, “Development of bead foaming technology for polyester nanocomposites”, June 2013
  - Network Researcher Interim Status Report of Auto21, “Light Weight Microcellular Foams of Recyclable Plastics and Their Composites for Automotive Applications”, April 2013
  - Proposal for Strategic Network Enhancement Initiative (SNEI) Funding, NSERC Business Intelligence Network, November 2012
  - Principal Investigator (PI) Progress Report of NSERC Network for Innovative Plastic Materials and Manufacturing Processes (NIPMMP), September 2012
  - Annual Progress Report of NSERC Network for Innovative Plastic Materials and Manufacturing Processes (NIPMMP), September 2012
  - Progress Report of Strategic Network Grant Mid-term, September 2012
  - Annual Progress Report of NSERC Network for Innovative Plastic Materials and Manufacturing Processes (NIPMMP), September 2011
  - Progress Report of NRC-NSERC-BDC Nanotechnology Initiative, “Polyester nanocomposites for greener transportation, construction and packaging applications”, October 2011

- Proposal for NSERC Strategic Project Grants, “Development of bead foaming technology for polyester nanocomposites”, February 2011

## Company Projects and Collaborations

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- 2017-present Meca-Plas (automotive part manufacturer), Turkey
- 2016-present Far-Plas (automotive part manufacturer), Turkey
- 2016-present B-Plas (automotive part manufacturer), Turkey
- 2016-present Huntsman (Polyurethane European headquarters), Belgium
- 2015-present Arcelik (white goods manufacturer: KOC holding), Turkey
- 2011-2012 Synbra Technology, Netherlands,

## SUPERVISED STUDENTS

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### ISTANBUL TECHNICAL UNIVERSITY

#### ➤ *PhD Thesis Projects*

- 2015-2019 Multifunctional conductive polymer nanocomposite nanostructures  
- Amirhossein Nasri
- 2016-2020 Multifunctional co-continuous bio-blend nanocomposite systems  
- Ceren Yargici

#### ➤ *Master Thesis Projects*

- 2017-2019 TPU bead foaming and HS dependency  
- Bige Bati
- 2017-2019 Self-reinforced polymeric composites  
- Elif Ozperk
- 2017-2019 TPU bead foams with superior insulation/barrier properties  
- Emine Busra Kucuk
- 2017-2019 High-performance fibrillated composites  
- Ipek Aksoy
- 2016-2018 Technology development for fibrillated composites  
- Elif Nobet
- 2016-2018 High-performance fibrillated composites  
- Umitcan Bal
- 2016-2018 Sheet foam manufacturing of high impact polystyrene  
- Emre DEMİRTAŞ
- 2015-2017 Ternary PLA-based biopolymeric blends and nanocomposite systems  
- Ümit Çiftçi
- 2015-2017 New generation of PP composites for automotive applications  
- Elif Ozgen
- 2015-2017 Development of PBT-PET blend systems with controlled morphology and enhanced properties  
- Hazal Oğuz

#### ➤ *Undergraduate Graduation Thesis Projects*

- 2016-2017 Increasing Toughness of PLA by In-Situ Fibrillation of PET  
- Beril Saadet Yenigül  
- Burak Tekcan

- Gizem Uğurtay
- Osman Çağlar Baysalli
- 2016-2017 In-Situ Fibrillation of PA in PLA
  - Mertcan Apaydın
  - Tufan Gümüslü
  - Samet Ocak
  - Burak Özman
- 2016-2017 Blend manufacturing with various compositions of PLA PBAT PBSA
  - Kemal Babayev
  - Metehan Sazak
- 2015-2016 Development of light-weight cost-effective high impact polystyrene foam products
  - Emre DEMİRTAŞ
  - Bayçu ONGUNYURT
  - Tuncay ÇAKMAK
  - Berçem Naz KAYGUSUZ
- 2015-2016 Manufacturing of biobased-biodegradable PLA blend systems and their characterization
  - Çisem DOĞAN
  - Deniz KARA
  - Zeynep Tutku ÖZEN
- 2015-2016 TPU modification: Enhancement of wear and tear resistance
  - Gokce Vural
  - Ümitcan Bal
  - Muhammed Ay

## **ECOLE POLYTECHNIQUE DE MONTREAL**

### ➤ *Undergraduate Internship project*

- 2015 Rheological properties of PLA/TPU blends and fibrillated structures
  - Valentin Artaud- from France, École Nationale Supérieure des Industries Chimiques

## **UNIVERSITY OF TORONTO:**

### ➤ *Last Year Undergraduate Capstone Projects*

- 2011-2012 Pilot-Scale Extrusion Sheet Foaming of Polylactide for Biomedical Applications
  - Joo Hyoung Lee
  - Eunse Chang
  - Seong Soo Bae

### ➤ *Undergraduate Summer projects*

- 2013 Extrusion foaming of Polylactide-based nanocomposites and their morphology analysis
  - Chongda Wang
  - Errol Coutinho
  - Krisnabavan Yogarajah
- 2012 Lab-scale manufacturing of PLA bead foams using double crystal melting peak technology
  - Leyla Beriker
  - Jikeon Yoo
- 2011 Preparation of PLA, TPU, PET micro/nanocomposites using nanoclay, nanosilica and talc particles via mini-compounder and their crystallization analysis
  - Edward Choi
  - Erickson Taruc
  - Louie Miranda

- Bryan Gellner

➤ *Master Students Internship Project*

2010           Foaming behaviors of low-melt-strength polypropylene-nanoclay nanocomposites  
- Thomas Bonnet - from France, Ecole Montpellier

## TECHNICAL SKILLS

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Manufacturing and materials processing:

- Biopolymers, composites, polymer nanocomposites, polymer blends, advanced functional nanocomposites, polymer foams:

E.g., single screw extrusion (with tandem line for foaming), twin screw extrusion, injection, molding, compression molding, autoclave bead foaming, steam chest molding, brabender internal mixer, bladder molding, vacuum assisted resin transfer molding (VARTM), polymer composite hand lay-up, calendaring mixing (three role mill), and ultrasonic mixing

- Metal alloys, metal matrix composites:

E.g., powder metallurgy, hot press, press and sinter, rolling, and forming

Materials characterization:

- Mechanical properties, crystallization kinetics, rheological properties, morphology and structure analysis, thermal and electrical properties, foam analysis, fatigue and fracture

## INDUSTRIAL EXPERIENCE

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2005-2006    **Service Engineer**, Shenavar Saze Pooyesh (SSP) Company, Tehran, Iran  
Exclusive agent of LIEBHERR WERK NENZING and BAUDOUIN SHIP ENGINE in Iran

- Trained for installation, operation, and maintenance of Offshore Cranes, Deck Cranes, Crawler Cranes, (Austria, Nenzing), May 2006 (three weeks)
- Trained for installation and maintenance of BAUDOUIN SHIP ENGINES, (France, Marseille), May 2006 (one week)
- Maintenance services and inspections for crawler cranes HS series.
- Installed crawler crane HS 895 HD Litronic on site, Iran.
- Installed and run ship engine on site, Iran

2005           **Summer Internship**, Mangan Crane Manufacturing Co., Tehran, Iran

- Non destructive test (NDT) and welding section

2002           **Summer Internship**, Iran Tractor Manufacturing Co., Tabriz, Iran

- Iran Tractor Foundry Company, casting gray/ductile cast iron parts for automotive/tractor

## LANGUAGE SKILLS

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English: Fluent (Professional)

Azerbaijani Turkish /Turkey Turkish: Fluent

Persian: Fluent

French: Intermediate

Arabic: Basic

**Publications and Citations on Google Scholar:**

<https://scholar.google.ca/citations?user=LxNEcP8AAAAJ&hl=en&oi=ao>