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Education

University of Wisconsin-Madison, Madison, Wisconsin, USA 09/2011-12/2015
Ph.D. Mechanical Engineering

South China University of Technology, Guangzhou, Guangdong, China 09/2006-06/2011
Ph.D. Polymer Processing Engineering

Zhengzhou University, Zhengzhou, China 09/2001-06/2005
B.S. Polymer Material and Engineering

Experience

Xi'an Jiao Tong University, Xi'an, Shaanxi, China 09/2020-present
Professor of Mechanical Engineering

Northwestern Unviersity, Evanston, Illinois, USA 01/2017-08/2020
Postdoctoral Fellow in Materials Science and Electrical Engineeirng

Honors and award

National Science Foundation Semiconductor Fabrication Training Grant 2016
Northwestern Postdoc Fellowship 2016~2020
Best Student Poster Award, Society of Plastic Engineers, Annual Technical Conference 2014
Best Paper Award, Society of Plastic Engineers, Annual Technical Conference, Injection Molding 2014
Best Paper Award, International Conference on Frontiers of Design and Manufacture 2020

Featured publications

[1] **Jun Peng,** Jeffrey Snyder, A figure of merit for flexibility, **Science,** 366 (2019), 690-691

[2] **Jun Peng**, Stephen Kang, Jeffrey Snyder, Optimization principles and the figure of merit for triboelectric generators, **Science Advances**, 3 (2017), eaap8576

[3] **Jun Peng,** Ian Witting, Nicholas Geisendorfer, Mingyi Wang, Ming-Chiang Chang, Adam Jakus, Ramille Shah, Jeffrey Snyder, Matthew Grayson, 3D-extruded composite thermoelectric threads for flexible energy harvesting, **Nature communications,** accepted, https://doi.org/10.1038/s41467-019-13461-2

Publications

- **List of US Patents (Total 3)**

[1] Lih-Sheng Turng, **Jun Peng**, Method of fabricating an injection molded component, US 8691126 B2, Apr 8, **2014**

[2] Lih-Sheng Turng, **Jun Peng**, Cellulose composite-structured triboelectric generator and method, US 2018/0013358 A1, Jun 11, **2018**

[3] Matthew Grayson, **Jun Peng**, Flexible Thermoelectric Fabrics for Thermal Management, 62/640193, March 8, **2018** (filled)

- **List of Peer Review Papers (Total 29)**

[4] **Jun Peng,** Jeffrey Snyder, A figure of merit for flexibility, **Science,** 366 (**2019**), 690-691

[5] **Jun Peng*,** Ian Witting, Nicholas Geisendorfer, Mingyi Wang, Ming-Chiang Chang, Adam Jakus, Ramille Shah, Jeffrey Snyder, Matthew Grayson*, 3D-extruded composite thermoelectric threads for flexible energy harvesting, **Nature communications,** accepted, https://doi.org/10.1038/s41467-019-13461-2

[6] Mingyi Wang, Ramya Gurunathan, Kazuki Imasato, Nicholas Geisendorfer, Adam Jakus, **Jun Peng***, Ramille Shah, Matthew Grayson*, Jeffrey Snyder*, A percolation model for piezoresistivity in conductor–polymer composites, **Advanced Theory and Simulations**, 2 (2019), 201800125

[7] **Jun Peng**, Stephen Kang, Jeffrey Snyder, Optimization principles and the figure of merit for triboelectric generators, **Science Advances**, 3 (**2017**), eaap8576

[8] **Jun Peng**, Huilong Zhang, Qifeng Zheng, Craig Clemons, Ronald Sabo, Shaoqing Gong, Lih-Sheng Turng, A composite generator film impregnated with cellulose nanocrystals for enhanced triboelectric performance, **Nanoscale**, 9 (**2017**), 1428-1433

[9] **Jun Peng**, Philip Walsh, Ronald Sabo, Lih-Sheng Turng, Craig Clemons, Water-Assisted Compounding of Cellulose Nanocrystals into Polyamide 6 for Use as a Nucleating Agent for Microcellular Foaming, **Polymer**, 84 (**2016**), 158-166

[10] **Jun Peng**, Thomas Ellingham, Ron Sabo, Lih-Sheng Turng, Craig M. Clemons, Oriented Polyvinyl Alcohol Films Using Short Cellulose Nanofibrils as a Reinforcement, **Journal of Applied Polymer Science**, 132 (**2015**), app.42283

[11] **Jun Peng,** Xiaofei Sun, Haoyang Mi, Xin Jing, Xiang-Fang Peng, Lih-Sheng Turng, Novel Foaming Method to Fabricate Microcellular Injection Molded Polycarbonate Parts Using Sodium Chloride and Active Carbon as Nucleating Agents, **Polymer Engineering and Science**, 55(**2015)**, 1634-1642

[12] **Jun Peng**, Thomas Ellingham, Ron Sabo, Lih-Sheng Turng, Craig M. Clemons, Short Cellulose Nanofibrils as Reinforcement in Polyvinyl Alcohol Fiber, **Cellulose**, 21(**201**4), 4287-4298

[13] **Jun Peng,** Chunmei Zhang, Haoyang Mi, Xiang-Fang Peng, and Lih-Sheng Turng, Study of Solid and Microcellular Injection-Molded Poly (butylenes adipate-co-terephthalate)/poly(vinyl alcohol) Biodegradable Parts, **Industrial & Engineering Chemical Research**, 53(**2014**), 8493-8500.

[14] **Jun Peng**, Lih-Sheng Turng, Xiang-Fang Peng. A New Microcellular Injection Molding Process for Polycarbonate (PC) Using Water as the Blowing Agent. **Polymer Engineering and Science**. 52(**2012**), 1464-1473

[15] **Jun Peng**, Yottha Srithep, Lih-Sheng Turng, Xiang-Fang Peng. Comparisons of Microcellular

Polylactic Acid Parts Injection Molded with Supercritical Nitrogen and Expandable Thermoplastic Microspheres: Surface Roughness and Tensile Properties, and Morphology, **Journal of Cellular Plastics**, 48 (**2012**), 433-444

[16] **Jun Peng**, Emily Yu, Xiao-Fei Sun, Lih-Sheng Turng, Xiang-Fang Peng. Study of Microcellular Injection Molding with Expandable Thermoplastic Microspheres. Invited paper for **International Polymer Processing**, 26 (**2011**) 3, 249 – 255

[17] **Jun Peng**, Ke Li, Zhixiang Cui, Lih-Sheng Turng, Xiang-Fang Peng, Comparisons of Microcellular PHBV/PBAT Parts Injection Molded with Supercritical Nitrogen and Expandable Thermoplastic Microspheres: Surface Roughness, Tensile Properties, and Morphology, **Cellular Polymers**, 29(**2010**), 327-341

[18] Yottha Srithep, Alireza Javadi, Srikanth Pilla, Craig Clemons, **Jun Peng**, Shaoqing Gong, Lih-Sheng Turng, Processing and Characterization of Recycled Poly(ethylene terephthalate) (PET) Blends with Chain Extenders (CE), Thermoplastic Elastomer (TPE), and/or Poly(butylenes adipate-co-terephthalate) (PBAT), **Polymer Engineering and Science**. 51(**2011**), 1-10.

[19] Ke li, **Jun Peng**, Lih-Sheng Turng, Huangxiong Huang, Dynamic Rheological Behavior and Morphology of Polylactide(PLA)/Poly(butylenes adipate-co-terephthalate)(PBAT) Blends with Various Composition Ratios, **Advances in Polymer Technology**, 30(**2011**), 150-157.

[20] Jian Wang, **Jun Peng**, Weimin Yang, Filling-to-packing Switchover Mode Based on Cavity Temperature for Injection Molding. **Polymer-Plastics Technology and Engineering**. 50(**2011**), 1273-1280

[21] J. Lee, Lih-Sheng Turng, **Jun Peng**, E. Dougherty, P. Gorton, The Effect of Polymer Additives on Surface Quality of Microcellular Injection Molded Parts. **International Polymer Processing**, XXVI (**2011**), 429-436.

[22] Yottha Srithep, Thomas Ellingham, **Jun Peng**, Ronald Sabo, Craig Clemons, Lih-Sheng Turng, and Srikanth Pilla, Melt Compounding of Poly(3-hydroxybutyrate-co-3-hydroxyvalerate)/Nanofibrillated Cellulose Nanocomposites, **Polymer Degradation and Stability**, 98(**2013**), 1439-1449

[23] Hao-Yang Mi, Xin Jin, **Jun Peng**, Lih-Sheng Turng, Xiang-Fang Peng, Influence and Prediction of Processing Parameters on the Properties of Microcellular Injection Molded Thermoplastic Polyurethane(TPU) Based on an Orthogonal Array Test, **Journal of Cellular Plastics**, 49 (**2013**), 439-458

[24] Cui Zhixiang, Peng Yiyan, Li Ke, **Peng Jun**, Zhao Haibin, Lih-Sheng Turng, Changyu Shen, The Degradation Rate of Polyanhydride (poly(sebacicacid), diacetoxy terminated, PSADT), **Journal of Wuhan University of Technology-Materials Science Edition**, 28 (**2013**), 793-797

[25] Zhang, C., Yi Dan, **Peng, Jun**, Turng, L.-S. Sabo, R., and Clemons, C. M., "Thermal and Mechanical Properties of Natural Rubber Composites Reinforced with Cellulose Nanocrystals from Southern Pine, **Advances in Polymer Technology**, 33 (**2014**), 214428

[26] Hao-Yang Mi, Xin Jing, **Jun Peng**, Max R Salick, Xiang-Fang Peng, Lih-Sheng Turng, Poly(ε-caprolactone) (PCL)/cellulose nano-crystal (CNC) nanocomposites and foams, **Cellulose**, 21 (**2014**), 2727-2741

[27] Jing, X., Mi, H. Y., **Peng, J.**, Peng, X. F., and Turng, L. S., "Electrospun Aligned Poly(propylene

carbonate) Microfibers with Chitosan Nanofibers as Tissue Engineering Scaffolds," **Carbohydrate Polymers**, 117 (**2015**), 941-949

[28] Sun, X., Kharbas, H., **Peng, J.**, and Turng, L.-S., "A Novel Method of Producing Lightweight Microcellular Injection Molded Parts with Improved Ductility and Toughness," **Polymer**, 56 (**2015**), 102-110

[29] Sun, X., Kharbas, H., **Peng, J.**, and Turng, L.-S., "Fabrication of Super Ductile Polymeric Blends Using Microcellular Injection Molding," **Manufacturing Letters**, 2, n2 (**2014**), 64-68.

- **List of Conference Proceedings and Presentations (Total 11)**

[1] 3D-Printed Flexible Thermoelectric Threads, MRS 2018 Spring

[2] Optimization principles and the figure of merit for triboelectric generators, APS 2018 March meeting

[3] Theoretical Study and Quantification of Triboelectric Performance, MRS 2017 Spring

[4] Vapor-Foamed Injection Molding of Polycarbonate Using Sodium Chloride and Active Carbon as Nucleating Agents, 72th Annual Technical Conference of the Society of Plastics Engineers, 2014

[5] Short Cellulose Nanofibril/Polyvinyl Alcohol Nanocomposite Fibers, 72th Annual Technical Conference of the Society of Plastics Engineers, 2014

[6] Fabrication and Characterization of Polyvinyl Alcohol (PVA)/NanoFibrillated Cellulose (NFC) Filament, 71th Annual Technical Conference of the Society of Plastics Engineers, 2013

[7] Improving Surface Quality of Foamed Polycarbonated (PC) Parts Using Water as the Physical Blowing Agent, 70th Annual Technical Conference of the Society of Plastics Engineers, 2012

[8] Effect of Expandable Thermoplastic Micropheres on Microcelular Injection Molded Polylactic Acid (PLA): Microstructure, Surface Roughness, and Tensile Properties, 69th Annual Technical Conference of the Society of Plastics Engineers, 2011

[9] Characterizing Co-continuous Morphology Development in Immiscible Polylactic Acid/Polyvinyl Alcohol Biodegradable Blends, 68th Annual Technical Conference of the Society of Plastics Engineers, 2010

[10] Solid and microcellular Injection Molded Polylactic Acid/Polyvinyl Alcohol (PLA/PVA) Biodegradable Blends: Morphology and Property Characterization. Society of Plastics Engineers - Global Plastics Environmental Conference, 2010

[11] Study of Injection Molding with Expandable Thermoplastic Microspheres. Polymer Processing Society 26th Annual Meeting, 2010