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INDUSTRIAL EXPERIENCE

Deputy Director, March 2007 – Present

Chemical Engineering Division, Material and Chemical Research Laboratories, ITRI

Senior Researcher, July 2004 – Present

Researcher, September 1996 – June 2004

Industrial Technology Research Institute, Hsinchu, Taiwan

- Biodegradable polymers & Biocomposites
- Biomass derived chemicals and materials
- Aerogel materials for insulation
- Organic-Inorganic hybrid materials

EDUCATION

Doctor of Science in Applied Chemistry, December, 1987

The University of Texas at Arlington

BOOK CHAPTER

“Synthesis of HMF in Ionic Liquid – Biomass derived product”, *Ionic Liquids in the Biorefinery Concept*, R. Bogel-Lukasik ed. September 2015.

“2,5-Furandicarboxylic Acid Synthesis and Use”, *Chemicals and Fuels from Bio-Based Building Blocks*, Volume 1, Chapter 8, Fabrizio Cavani, Stefania Albonetti, Francesco Basile, and Alessandro Gandini ed. Wiley-VCH Verlag GmbH & Co. April 2016.

“Biological Routes to Itaconic and Succinic Acids” *Biomaterials*, Rafael Luque and Chun Ping Xu ed. Chapter 7, De Gruyter, 2016.

INVITED TALKS

1. “Market and Applications of Coated Glass and Plastics in Taiwan”, International Conference on Coatings on Glass, ICCG 2000, Netherland.
2. “Functional Hybrid Polymers”, Degussa Meet Science, 25 April, 2006, Beijing, China.
3. “Crystallinity and Dimensional Stability of Biaxial Oriented Poly(lactic Acid) Films”, The 2nd International Conference on Bio-Based Polymers ICBP 11-13 November 2009, Penang, Malaysia.
4. “Crystallinity and Barrier Property of Biaxial Oriented Polylactic Acid Films”, The 2nd International Conference on Natural Polymers, Bio-Polymers ICNP September 24-26, 2010, Kottayam, India.

5. "Fabrication and Crystallization of Polylactic Acid Films", 17 October, **2011**, Tsinghua University, Beijing, China.
6. "Natural Plasticizer for the Fabrication of Extrusion-Casting Polylactic Acid Films" The 3rd International Conference on Bio-Based Polymers ICBP 18-21 October **2011**, Beijing, China.
7. "Scale-Up Production of HMF and Derivatives", Biorefinery for Food, Fuels and Materials 15-17 June, **2015**, Montpellier SupAgro, France.
8. "Biomass Derived Materials & Applications", Asian Congress on Biotechnology 15-19 November, **2015**, Kuala Lumpur, Malaysia.
9. "Biomass Derived PEF – A PET Specialty, Alternative or Replacement?" PolyNat International Industry Forum 2-3 June **2016**, Grenoble, France.
10. "Development of bio-resourced chemicals in ITRI - Metabolic engineering of E. coli", Biotechnology International Congress 20-23 September, **2016**, Bangkok, Thailand.

31 PATENTS

1. Jang, G. W.; Pu, Y. C.; Yang, Y. J.; Wong, C. M.; Chang, C. F. "Gradient composite material and method of manufacturing the same" TW I434760
2. Jang, G. W.; Lin, Y. H.; Tsai, I. C.; Tien, P.; Sheen, Y. C. "Functionalized Sol-Gel Material, Sol-Gel Film Derived Thereof, and Method for Preparing the Same" EP1616841 (GB, DE, FR)
3. Cheng, H. Y.; Jang, G. W.; Yang, Y. J.; Lee, S. C. "Plasticizer, a biodegradable material comprising the plasticizer and application thereof" US 8,623,944

48 PUBLICATIONS

1. Lin, J. L.; Jang, G. W. "Nanotechnology: Opportunities for Taiwan's Industry", NanoToday, Cover Story, December, **2004**, 36.
2. Ho, C. H.; Jang, G. W.; Lee, Y. D. "Crystallization of Poly(L-lactide-dimethyl siloxane-L-lactide) Triblock Copolymers and Its Effect on Morphology of Microphase Separation", Polymer, **2010**, 51, 1639-1647.
3. Tsai, C. C.; Wu, R. J.; Cheng, H. Y.; Li, S. C.; Siao, Y. Y.; Kong, D. C.; Jang, G. W. "Crystallinity and Dimensional Stability of Biaxial Oriented Poly(lactic Acid) Films", Polymer Degradation and Stability, **2010**, 95, 1292-1298.
4. Cheng, H. Y.; Yang, Y. J.; Li, S. C.; Hang, J. Y.; Jang, G. W. "Modification and Extrusion Coating of Polylactic Acid Films", J. Applied Polymer Science, **2015**, to be published.