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Dr. Young-Gi Kim is currently Assistant Professor at the Department of Chemistry at Delaware State University. As PI of Energy and Organic Electronics Lab, Dr. Kim is working in the area of Advanced Materials, Energy Storage and Conversion, Optics, Bio and Nano Tech, and Prototyping and Engineering Protocol advancements. Over 30 years, Dr. Kim has developed advanced organic and polymer materials that were used for the application areas of bio, nano, electronic, optoelectric and energy, covering the design, synthesis, characterization, and application. The advanced organic and polymer materials were applied for building up innovative prototypes in the areas of energy storage and conversion in academic and industry innovation roles.

Dr. Kim's 10+ year industry development experience that includes scale up and commercialization was followed by 4+ years postdoctoral fellowship research experience at the John Reynolds group at the Department of Chemistry at the University of Florida, where Dr. Kim conducted multi-step organic and polymer synthesis for developing innovative organic electronic devices and organic solar cells. Dr. Kim earned PhD in Polymer Science (Plastic Engineering option) at the Department of Chemistry at the University of Massachusetts Lowell in 2003. Major interest was given to multi-step synthesis of organic and polymer chemistry, focusing on energy conversion materials acquisition and the prototype device innovation.

The followings are some examples of the innovation in the area of innovation:

1. World best electrical and electrochemical conductive polymers: Emulsion polymerization / US ARDEC Program / Reported in international and US patent applications (2010 – 2014)
2. World best organic/polymer supercapacitors: Electrochemical polymerization / US ARDEC Program / Reported at international nanotech conference (2012)
3. World best efficient organic solar cells: Variable band gap polymers and electron-accepting organic molecules / US AFOSR Program / Reported at MRS (2007)
4. World best efficient polymer-CNT solar cells: Variable band gap polymers and CNT / US AFOSR Program / Reported at MRS (2007)
5. World first phosphorescent Pt-polymer solar cells: Organometallic and organic molecules / US AFOSR Program / Reported in Chem. Commun. (2006)
6. World first polythiophene sensitized solar cells: Conjugated polymers / US Army Natick Soldier Center Program / Reported in Nano Letters (2003)
7. Efficient polymer molecular assembly for bio-sensors: Water-soluble polymers and nano-materials / US Army Natick Soldier Center Program / Reported in Nano Letters and JMS (2002-2004)
8. Industrial innovation for developing polymers: Biodegradable polymers / Commercialization (1991-1996)

More than 40 professional articles were published in top tier journals including Nano Letters, Journal of the American Chemical Society, and Macromolecules, for which the articles were cited more than 1800 times and reported to have impact factor of 94+. In addition, 120+ technical and invitational talks were presented to relevant societies and institutions. Multiple patent applications were published regarding high energy and high power electrochemical energy storage polymer materials and devices via international and US patents offices. In 2012, Dr. Kim was invited to give an oral presentation entitled "Advances in High Power and Energy Density Supercapacitors Utilizing Metal-Like Conductive Polymer Electrode" at the 2012 Nanotech/Cleantech Conference at Santa Clara, CA. Dr. Kim was also invited to publish a manuscript entitled "Energy Storage System Utilizing p- and n-Dopable Polymer Electrode" in the Encyclopedia of Nanoscience and Nanotechnology (CRC Press, 3rd Ed.) in 2014.

Interpersonal leadership was developed working over cross-functional teams including scientists, engineers and technical associates. Dr. Kim has also proven technology leadership including new tech introduction (NTI), scale up, world top tier technology development. In particular, Dr. Kim has performed interdisciplinary work with associates at multiple industry, academic and government institutes.

Recently, Dr. Kim is continuing the professional development as an invited professor at international research and academic institutions, a proposal reviewer, a consultant for business and a journal reviewer.