Indiana Roll-to-Roll Nanomanufacturing Center

Team:
• Ali Shakouri, Director of Birck Nanotechnology Center
• Jan Allebach, Babak Ziaie and Dimitri Peroulis (ECE); Arvind Raman, George Chiu and Tim Fisher (ME); Kinam Park (BME); Alex Wei (Chemistry); Rodo Pinal (Pharmacy); Gary Cheng (IE); Bryan Boudouris (ChemE); Alina Alexeenko (AAE); Teresa Carvajal (ABE); Joe Kokini and Yuan Yao (Food Science); Jeff Youngblood (MSE)

Vision & Impact:
• Within three years: Develop novel nanomanufacturing R&D platform combining high speed large-area organic electronic manufacturing, flexible displays, and variable data printing together with pharmaceutical formulations and ag products to make SMART films.
• Within five years: Develop a Nanomanufacturing Pilot Factory in Indiana
• Near term Impact: Smart packages with RFID and sensors, anti-counterfeiting drug formulations.
• Long term: Personalized medicine with precise, controlled release of medication. Fast monitoring of animal diseases. Food packages with dynamic expiration date minimizing waste & food poisoning.

Customer Base:
• Start ups: BGI, Bearing Analytics, Anfiro; Bio/Pharma: Lilly, IMA Life, Roche, Zimmer; Ag/Food: Dow Agrosciences, Monsanto; Electronics: Landauer, Google, Samsung, Intel; Printing: HP, Océ/Canon; Non-woven films: Kimberly-Clarke, P&G, 3M