Getting to know: Ramani Narayan

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Focus on faculty -- Ramani Narayan

Ramani Narayan is a University Distinguished Professor in the Department of Chemical Engineering and Materials Science at the Michigan State University College of Engineering.

He is an internationally acclaimed thought leader and expert in bioplastics – focusing on the manufacture of biobased and compostable plastics. His research encompasses design and manufacture of biofiber composites for auto and industrial applications. He is involved with measurements and reporting of biobased carbon and environmental footprint using LCA tools.

He is a fellow of the U.S. National Academy of Inventors and the American Society for Testing Materials (ASTM).

He serves as the scientific chair of the Biodegradable Products Institute, North America. He served on the board of ASTM International and was founding chair of the committee on Environmentally Degradable Plastics and Biobased Products. He is the USA technical expert to ISO (International Standards Organization) TC 61 on Plastics; convener of SC 14 WG (working group) 3 on biobased plastics; convener of working group 7 of ISO TC 120 SC 4 on Packaging and the Environment.

Narayan is an advisor to the U.S. Department of Agriculture (USDA) BioPreferred Program on Standards and serves on the ASTM Technical Advisory Committee on USDA programs for labeling of biobased products. He has testified before the U.S. Congress on biobased plastics and is technical advisor to the WWF BioPlastic Feedstock Alliance.

He received the ASTM Award of Merit, the highest award given by the society to an individual member and was the first recipient of the William N. Findley Award from ASTM for significant contributions to the application of new technologies. His other honors include the James Hammer Memorial Lifetime Achievement Award, State of Michigan – Governor’s University Award for Commercialization Excellence, and Michigan Green Chemistry Governor’s award. His awards from MSU include a University Distinguished Faculty Award and a Withrow Distinguished Scholar Award.
He received the Fulbright Distinguished Lectureship Chair in Science & Technology Management & Commercialization (University of Lisbon in Portugal).

He has more than 200 refereed publications, 30 issued patents, and graduated 20 PhDs and 25 master’s degree students.

His key technologies are:

- Polylactide technology development and engineering scale-up studies for Cargill Inc -- 150,000 ton operating production facility. Polylactide under the tradename Ingeo™ is the world’s foremost 100% biobased and biodegradable-compostable material and marketed by NatureWorks LLC (www.natureworksllc.com)
- Founding member of EcoSynthetix Inc.; (www.ecosynthetix.com) to develop a portfolio of environmentally responsive biobased materials. The company went public in 2011 and raised $100 million on the Canadian Stock Exchange (TSE:ECO).
- Three U.S. Patents on biodegradable starch-biopolyesters licensed to Ingredion [www.ingredion.com; NYSE: INGR], $5.7 billion global ingredient solutions provider.
- Biofoam sheets for cushion packaging and insulation material marketed under the trade name GreenCell Foam by KTM Industries (https://www.greencellfoam.com).

He received an MS degree in organic chemistry (1969) and a PhD in polymer science and engineering (1975) from Bombay University in India.

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