Dr. Atanu Biswas:

For 40 years, Dr. Biswas has made significant contributions to fields ranging from polymer/analytical/medicinal chemistry to food research, and bioenergy. Dr. Biswas’s research is guided by broad knowledge and expertise of synthetic, organic, polymer, physical, and analytical chemistry as well as intimate familiarity with both agricultural and petrochemical feedstocks and commercial products derived therefrom. He is internationally recognized for pioneering polymer synthesis and modifications and contributions to development of bio-based plastics, coatings, films, hydrogels, absorbents, and bio-lubricants derived from agricultural feedstocks such as polysaccharides, vegetable oil, protein, edible beans, cotton, agricultural byproducts. His accomplishments include developing new products, processes, and methodologies that are of commercial significance.

His achievements span both private (Hercules Incorporated, Wilmington, DE, USA) and government (USDA/ARS) sectors. During 14 years at Hercules 4 of his discoveries were patented and commercialized. He discovered a new class of hydrocarbon resins to produce tackifiers for pressure sensitive adhesives, which generated millions of dollars of revenue for the company.

 At USDA, by applying new chemistry to biopolymers, Dr. Biswas developed novel green processes to convert polysaccharides (starch, cellulose, and other sugars), soybean oil and agricultural byproducts into industrially important, bio-based products such as cellulose acetate or biodegradable plastics or lubricants. The conversion processes required the novel applications of organic chemistry (e.g., acid-catalyzed acylation, pericyclic reactions, click reaction, alkali cellulose reactions), and green polymer processes (e.g., use of microwave, enzymes and other catalysts, benign solvents, or no solvent, for reactions). In addition to chemical and polymer reactions, he applied his knowledge of polymer chemistry to produce bio composites involving important commercial polymers like polyethylene, PLA, together with nut shells, edible beans, cotton gin trash, and cottonseed hulls. Moreover, he utilized the polymer blending concept and made a wide array of biopolymer blends. Since joining USDA-ARS (2002), in the past 20 years, he has authored/coauthored over 150 peer-reviewed journal publications.

In 2020 Dr. Biswas received Fulbright US Scholar award, 2020-21 to lead research in Brazil. In 2014, he received the Science Without Border award (2014-17) by the government of Brazil, affording funds for post-doc fellows, travel, and related research funds for biopolymer research. Collaborations were built with leading Brazilian agricultural research institutes and included 6 trips & a total of 10 months stay in Brazil. In 2018, he was the opening keynote speaker for the Brazilian Soybean Growers Association conference, an event held every third year and attended by more than 1200 growers, processors, marketers, and research scientists. More recently (2019), the Organization for Economic Cooperation and Development (OECD) awarded Dr. Biswas a fellowship (4 months) in Spain to lead and collaborate on Bio-Packaging for Food. In April 2019 he received the Chemist of the Year Award by the American Chemical Society (Heartland Section, Central Illinois). In 2020 he received the USDA ARS Innovation award. In 2022 Dr. Biswas received/was granted the 1890 Faculty Research Sabbatical Program. In 2023 again he received Fulbright US Scholar award, 2023-24 to lead research in Brazil. The Brazill research will continue throughout 2024 and possibly longer.

In 1994 Dr. Biswas established an Indian Music record company Biswas Records at a time when the Indian music CD industry was at its infancy. From 1994 to 2005 Biswas Records produced about 225 Bengali and North Indian classical CD titles by eminent performers. In the history of Bengali (one of Indian languages) music nobody, has been so effective in spreading Bengali music outside India. See the links below for Indian Music and Biswas Records.

<https://www.youtube.com/@biswasrecords6492/videos>

<https://biswas.com>