



Ashim K. Datta, professor, Department of Biological and Environmental Engineering, College of Agriculture and Life Sciences, Cornell University, is being honored for his formative contributions to food physics and to biological engineering education.

At Cornell University, Datta teaches students fundamental engineering concepts and problem-solving skills, using transport processes as a vehicle. Datta also leads a research group that has developed mechanistic understandings of process, quality, and safety for complex food processes under various heating modes with a goal of improving food safety and quality.

Datta has made significant impacts on the understanding and construction of a universal multiphysics framework for understanding and optimizing food processes. This framework is particularly useful in building computer models that facilitate comprehensive understanding of complex food processes and the use of “what-if” scenarios to achieve optimization and design sensitivity. His group has developed some of the first comprehensive, multiphysics models of microwave heating in an oven by including electromagnetics, heat transfer, and moisture transfer.

Datta has also made significant contributions in establishing a standardized biological engineering education, sharing instructor support materials for a heat and mass transfer course. Datta also pioneered the introduction of hi-fidelity modeling and simulation to undergraduates in a novel multifaceted, active learning-enabled course for which the student project reports have been downloaded over half a million times.

A 40-year member of ASABE, Datta has made significant contributions on a number of committees including the ASABE Food Processing, Physiochemical Properties of Biological Products, and University Outreach committees and he is an associate editor in the Processing Systems publications committee. Datta served as the volunteer coordinator during the 2019 ASABE Annual International Meeting, an enormous feat of coordinating the hundreds of volunteer students working during the meeting. Datta also maintains memberships with the American Institute of Chemical Engineers and the Society of Food Engineering.

Datta has authored or coauthored 135 peer-reviewed articles and two textbooks. He was inducted as a fellow of the Institute of Food Technologists in 2013 and received an International Association of Engineering and Food Lifetime Achievement Award in 2019. Datta has received a number of teaching awards, including the American Society of Engineering Education Excellence in Teaching Materials and Methods Award of the Biological and Agricultural Engineering Division in 2019 and a regional award of the USDA Food and Agricultural Sciences Excellence in College and University Awards Program, and Datta was named the Stephen H. Weiss Presidential Fellow at Cornell in 2014.

