



Haibo Huang

Haibo Huang is the recipient of the 2023 New Holland Young Researcher award for his contributions to developing and applying engineering technologies to valorize agricultural and food wastes for supporting societal sustainability.

Huang is an associate professor in the Department of Food Science and Technology and an affiliate professor in the Department of Biological Systems Engineering at Virginia Tech. He has made significant contributions to developing bioprocessing technologies to convert agricultural and food wastes into food ingredients, animal feed, and green chemicals for improving societal sustainability.

Huang's research group has developed a chemical-enzymatic fractionation process to recover proteins and dietary fibers from brewer's spent grain, a major byproduct in the brewing industry. The process can recover over 80% of protein from brewer's spent grain with a high purity as food and animal feed ingredients. Huang has also done substantial work in developing bioprocessing technologies to convert agricultural and food waste into renewable biofuels, biochemicals, and energy storage materials. By collaborating with battery scientists, Huang's group creatively uses agricultural biomass as feedstock to fabricate hard carbons as an anode for sodium-ion batteries. This research has revealed that agricultural biomass offers a rich chemical space to design hard carbon for sodium-

ion batteries and unveiled the roles of major components of agricultural biomass in influencing the electrochemical properties of hard carbon.

A 13-year member of ASABE, Huang has served on a number of committees including the processing systems publications committee and the processing systems food and organic waste management and utilization committee. Huang is also an active member of the Association of Overseas Chinese Agricultural, Biological, and Food Engineers (AOCABFE). He maintains membership in the Institute of Food Technologists and the American Society of Chemistry.

Over the past seven years at Virginia Tech, Huang has contributed to over 22 million dollars of research funding as a PI and co-PI from different funding agencies, including USDA, DOE, and NSF. Huang is author or coauthor of more than 115 peer-reviewed articles, conference presentations, book chapters, and other publications. He also holds two US patents. Throughout his career, Huang has received a number of awards. Most recently, he received the Celebrating Innovation award from Virginia Tech and the Young Career award from the AOCABFE. He also received an ASABE Superior Paper award and a team award from the college of agricultural and life science at Virginia Tech.