The American Chemical Society Cellulose and Renewable Materials Division Announces 2017 Anselme Payen Award Winner

Since 1962, the American Chemical Society (ACS) Cellulose and Renewable Materials (CELL) Division has honored outstanding professional contributions to the chemical science and technology of cellulose and renewable materials with the prestigious Anselme Payen Award. The 2017 Anselme Payen Award winner is Dr. Junji Sugiyama, Professor at Professor in the Research Institute for Sustainable Humanosphere (RISH) at Kyoto University. Dr. Sugiyama will be presented with the award at the ACS Division Cellulose and Renewable Materials Awards Banquet following a symposium in his honor during the 2018 ACS Spring National Meeting in New Orleans, Louisiana, U.S.A.

Dr. Sugiyama's research interests include structure, biogenesis, biochemistry, and biophysics of cellulose microfibrils, in particular the use of the state-of-art techniques of electron microscopy and crystallography. He was the first to visualizecellulose crystal lattices by high-resolution electron microscopy, under the supervision of Prof. Harada and Dr. Fujiyoshi. The images clearly eliminated previous current concepts of "chain folding" and the "universal elementary fibril", which had been intensely discussed in meetings at that time. He began interested in crystallography of native celluloses that have continued to date when he joined Prof. Okano, and Dr. Chanzy. One of his most important discoveries is the seminal definition of the two lattices of cellulose Iα(alpha) and Iβ(beta). Later, Sugiyama and his group developed a way to determine the molecular directionality of a cellulose microfibril, successfully and unambiguously demonstrating how the addition of monomerS occurs during THE biosynthesis of cellulose microfibrils. The technique was extended to explore the reaction patterns of degrading enzymes of cellulose and other related polysaccharides, in collaboration with world-wide biochemists such as Dr. Henrissat, Prof Samejima, and Prof. Watanabe.

Dr. Sugiyama received his B.S. in Agriculture from Kyoto University and his Ph.D. in Agriculture from the University of Tokyo. He was first appointed to the Department of Forest Products, Faculty of Agriculture in the University of Tokyo, he continued his research at the Wood Research Institute, and now at RISH in Kyoto University. He has served on the editorial board of Cellulose (since 1994). Dr. Sugiyama has co-authored over 200 publications, and 15 patents; he has co-authored several textbooks in the field of wood science and technology.

Dr. Sugiyama has held several elected positions in domestic societies including vice-President and President of the Japan Wood Research Society. “Social implementation of wood science and technology” is the word addressed at the 60th anniversary of JWRS ceremony. Besides holding leadership positions in the domestic society, Dr. Sugiyama was recommended to a member of International Academy of Wood Science after 2008. More recently, apart from the above cellulose related activities, he intensively works for Xylarium, as a curator of wood collections, including the development of computer vision technology in wood anatomy and wood identification.