

The American Chemical Society Cellulose and Renewable Materials Division Announces 2016 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 2016 Anselme Payen Award winner is Dr. Kevin Edgar, Professor at the Sustainable Biomaterials Department and adjunct Professor at the Chemistry Department of Virginia Tech (VT). Dr. Edgar will receive the award at the Division Awards Banquet following a symposium in his honor at the 2017 American Chemical Society Spring National Meeting in San Francisco, California, U.S.A.

Dr. Edgar's research interests include the design, synthesis, and structure-property evaluation of novel polysaccharide derivatives for demanding applications with particular focus on development of novel drug delivery systems. His group first successfully applied olefin cross-metathesis chemistry to polysaccharides, demonstrating new "click-like" chemistry for synthesis of functionally diverse polysaccharide derivatives under mild conditions. They discovered regioselective deacylation of polysaccharide esters by tetrabutylammonium (TBA) fluoride and TBA hydroxide created new routes to regioselectively substituted cellulose and amylose esters (e.g. 6-monoesters and 6-A-2,3-B triesters) without any need for protection or de-protection. In collaboration with Lynne Taylor's group at Purdue, Edgar designed and synthesized a family of cellulose-based polymers (cellulose ω -carboxyalkanoates) that enhance drug aqueous solubility through supersaturation from amorphous solid dispersions. His discovery of Ti-catalyzed acylation of cellulose in dimethyl acetamide provided a direct route to partially substituted cellulose esters (including long-chain esters) without the need for cellulose dissolution or a back-hydrolysis step.

Dr. Edgar received his B.S. in Chemistry from Bucknell University and his Ph.D. in Organic Chemistry from Duke University. He has directed the VT Bio-based Materials Center, been Associate Director for Research of the VT Macromolecules Innovation Institute (MII), and is an Executive Committee member of the Virginia Tech Center for Drug Discovery. Prior to his academic career, Dr. Edgar had a long career in research and research management at Eastman Chemical Company. He has served as Associate Editor of Carbohydrate Polymers (since 2012) and Cellulose (since 2011). Dr. Edgar has over 85 publications, and 19 patents to his name; he has edited two ACS Symposium Series books and three journal special issues.

Dr. Edgar was named an ACS Fellow in its inaugural class of 2009, and an ACS CELL Division Fellow in 2010. He has served in several CELL Division leadership positions such as Division Chair, Councilor and Program Chair. Under his leadership as Division Chair, the CELL Division won the Chemluminary Award as Outstanding Division in 2003 and led the Division to its name and scope change which significantly contributed to the reversal of the Division's long-term

membership decline. Dr. Edgar has held several elected positions in ACS including Chair of ACS Divisional Activities Committee, member of the ACS Nominations and Elections Committee, Chair of the ACS Northeast Tennessee Section and Councilor of ACS Northeast Tennessee Section. Besides holding leadership positions in the CELL Division, Dr. Edgar is also a member of the ACS Carbohydrate Division, the American Association for the Advancement of Science, and the American Association of Pharmaceutical Scientists. He co-founded the Gordon Conference on Polysaccharide Chemistry.