



Thursday, February 15, 2018, 12:30 pm
Seaver Science Library, Room 150

SSC Auditorium next to the library

Professor David Vocadlo

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Chemical Biology Tools to Perceive and Perturb Carbohydrates and Carbohydrate Processing Enzymes in Living Systems

Abstract:

The carbohydrate structures found in every kingdom of life are emerging as a frontier area of molecular biology. I will discuss our work on the creation of new chemical biology tools for studying these structures and the enzymes that process them within cells and in animal models, with a particular view to understanding and combating neurodegenerative diseases. Topics will be selected from; (i) synthesis and deployment of dark-to-light fluorescence-quenched substrates that permit quantitative imaging of disease-related glycoside hydrolase activities in live cells by high content imaging, (ii) the design and creation of potent and selective inhibitors of carbohydrate processing enzymes active in cells and in vivo, (iii) using these chemical biology tools to gain insight into the functions of these enzymes in cell and organismal physiology and pathophysiology.

Hosted by Professor Matthew Pratt

The scientific community is invited