Towards orthogonal metabolism for the biomanufacturing of small organic molecules

Wednesday, Jan. 12 | Biodesign Auditorium | 2-3 p.m.

Metabolic engineering has endeavored to engineer microbial cells by manipulating the canonical architecture of metabolism. This has inevitably created interdependency with native metabolism leading to problematic crosstalk between product-forming and growth-sustaining functions that compete for the same carbon and energy carriers. Ramon Gonzalez and his team have been addressing these shortcomings beginning with the engineering of an iterative pathway for the efficient synthesis of longer-chain alcohols and carboxylic acids. More specifically, they have recently created new-to-nature pathways for the synthesis of isoprenoids and polyketides.

In this talk, Gonzales will discuss new challenges and opportunities in the development of orthogonal metabolic platforms to efficiently biomanufacture small organic molecules for chemical and pharmaceutical applications.

Ramon Gonzalez, Ph.D.
Professor and Florida 21st Century World Class Scholar, Department of Chemical, Biological, and Materials Engineering University of South Florida, Tampa

Ramon Gonzalez leads the laboratory for Metabolic Engineering and Biomanufacturing at USF in Tampa. He is also the Editor-in-Chief of the Journal of Industrial Microbiology and Biotechnology (JIMB). Gonzalez is the lead inventor in 25 patents/patent applications, co-founded Glycos Biotechnologies Inc. and Creo Ingredients Inc., and has advised major companies in the field of industrial biotechnology. Gonzalez obtained a Ph.D. in Chemical Engineering from the University of Chile, an M.S. in Biochemical Engineering from the Pontifical Catholic University of Valparaiso (Chile), and a B.S. in Chemical Engineering from the Central University “Marta Abreu” of Las Villas (Cuba).

This event is free, open to the public and seating is on a first-come, first-served basis