Chemical Engineering
Spring 2023 Seminar Series

Biological Circuit Integration and Synthetic Memory – Bottom-Up Design of Intelligent Chassis Cells

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66-110
3:00-4:00pm
2:45pm Reception

The number of components used to construct biological circuits is rapidly increasing – imparting a significant and unsustainable metabolic burden on chassis cells. Accordingly, there is a need to engineer new biological circuits that utilize fewer cellular resources. The Wilson Lab at Georgia Tech has developed a new biological circuit design platform technology called Transcriptional Programming that enables the compression of synthetic circuits (i.e., biological circuit integration), facilitating a reduction in the utilization of chassis cell resources in addition to simplifying circuit design. Transcriptional Programming can be regarded as a complete biological programming language (or edifice). To complement this decision-making technology the Wilson Lab has concurrently developed a synthetic biological memory system, and together this set of platform technologies has enabled the design and build of intelligent chassis cells for myriad applications.

http://cheme.mit.edu/seminar-series/