Promoting Concept Driven Teaching Strategies in BMB through Concept Assessments

Supported by an educational grant from NSF
Tuesday, April 24, 9:55 am - 12:10 pm
Convention Center, Room 1A
Chair: J. Ellis Bell, Univ. of Richmond
Speakers: Mike Klymkowsky, Univ. of Colorado Boulder, Kathy Frame, National Association of Biology Teachers, Cheryl Bailey, Univ. of Nebraska Lincoln

Schedule:

9.55am: Welcome and overview of the session.          Ellis Bell

10.00am: Teaching and learning evolutionary principles, Socratically.  Mike Klymkowsky

10.45am: Developing concept-based assessments
for biochemistry and molecular biology  Kathy Frame

11.30am: Using a concept inventory to gauge student understanding in a large class.  Cheryl Bailey

12.00Noon: Discussion moderated by Ellis Bell

The Biochemistry and Molecular Biology (BMB) Concept Inventory project (funded by an RCN-UBE Grant from NSF) is designed to bring together a large network of both undergraduate and graduate faculty and researchers from diverse communities, institutions and backgrounds to develop a central, web-based Concept Inventory (a rich resource of validated assessment tools and approaches) specifically designed for biochemistry and molecular biology educators at colleges and universities. This central resource, the BMB Concept Inventory, will be a convergence of assessment tools based on the foundational concepts, discipline specific knowledge and essential skills necessary to prepare students to take on the challenges of molecular life science research in the 21st century.

In this symposium, participants will hear a current status overview of the project and a talk on one of the foundational principles of the discipline, evolution and innovative ways to bring conceptual understanding of the process to students. This will be followed by a session where participants will be exposed to the process of developing assessments for foundational concepts. The workshop will include the role of identifying key concepts, setting well-fined goals and objectives, and assessment design challenges. The final presentation will illustrate the use of concept inventories in a large classroom setting.
The formal presentations will be followed by a brief discussion and opportunities for further discussion and networking.