**November 2015 Yale Center for Molecular Discovery Nanocourse**

**Overview**

The Yale Center for Molecular Discovery (YCMD) is happy to announce the continuation of its Nanocourse in Molecular Design and Screening. The course will be held on **Thursday**, ***November 5 from 9:30 AM until 2:30 PM at Yale West Campus Molecular Innovation Center***.

The goal of this course is to provide an overview of strategies for assay design, optimization and screening of small molecules and/or siRNA libraries. High throughput and high content screening approaches as well as optimizing compounds for improved properties and bioactivity will be discussed. The format will emphasize discussion of best practices based on actual projects. Three small groups (up to 10 people each) will be formed, and each group will participate in all three breakout sessions to maximize discussion.

The Nanocourse is available to all YALE or UCONN students, staff and faculty. Attendance will be ***limited to 30 people*** and an application form can be found below. If the number of applicants greatly exceeds the limit, additional dates may be scheduled. Lunch will be provided.

The deadline for applications (see following page) is Friday, ***October 23rd at 5 PM***to jackie.mcgrath@yale.edu

**Agenda:**

**9:15 AM – 9:30 AM Coffee and Tea at West Campus MIC-101 conference room**

**9:30 AM – 10:10 AM Introduction to YCMD and Project Strategy**

(Sheila Umlaufand Janie Merkel)

 Schedule and Logistics

YCMD Mission and Approach

Instructor Introductions

Group Introductions

Drug Discovery Process

Basic Statistical Concepts of Screening Data Analysis

**10:20 AM – 11:10 AM Breakout Session I**

**11:20 AM – 12:10 PM Breakout Session II**

**12:20 PM – 1:00 PM Lunch at West Campus MIC-101 conference room**

**1:10 PM – 2:00 PM Breakout Session III**

**2:00 PM** - **2:30 PM Tour of Center (optional)**

**Breakout Sessions**

 **Biochemical Screening** (Pete Gareiss and Janie Merkel)

 Assay Development

 Assay Types and Detection

 Data Analysis and Next Steps

**Cell-Based Screening** (Laura Abriola and Yulia Surovtseva)

 Target-based vs. Phenotypic screening

Assay Design

Assay Technologies Including Image-Based Assays

 High Content Screening vs. Plate-Based Readers

Examples of YCMD Cell-based screens

**Chemical Lead Finding and Optimization** (Mark Plummer)

 Selecting better hits and leads

 Virtual screening and hit expansion

 Optimizing for bioactivity and bioavailability

**2015 November Nanocourse Application**

Please return by email to Jackie McGrath at jackie.mcgrath@yale.edu

**Applicant Information:**

***Name: Title:***

***Department: Laboratory:***

***Telephone number: Email:***

Top of Form

**Goals for Attendance:**

Bottom of Form

***What are your goals for attending?***

***What information would you like to obtain?***

***How does this relate to your work?***

***What else might help make this a worthwhile use of your time?***