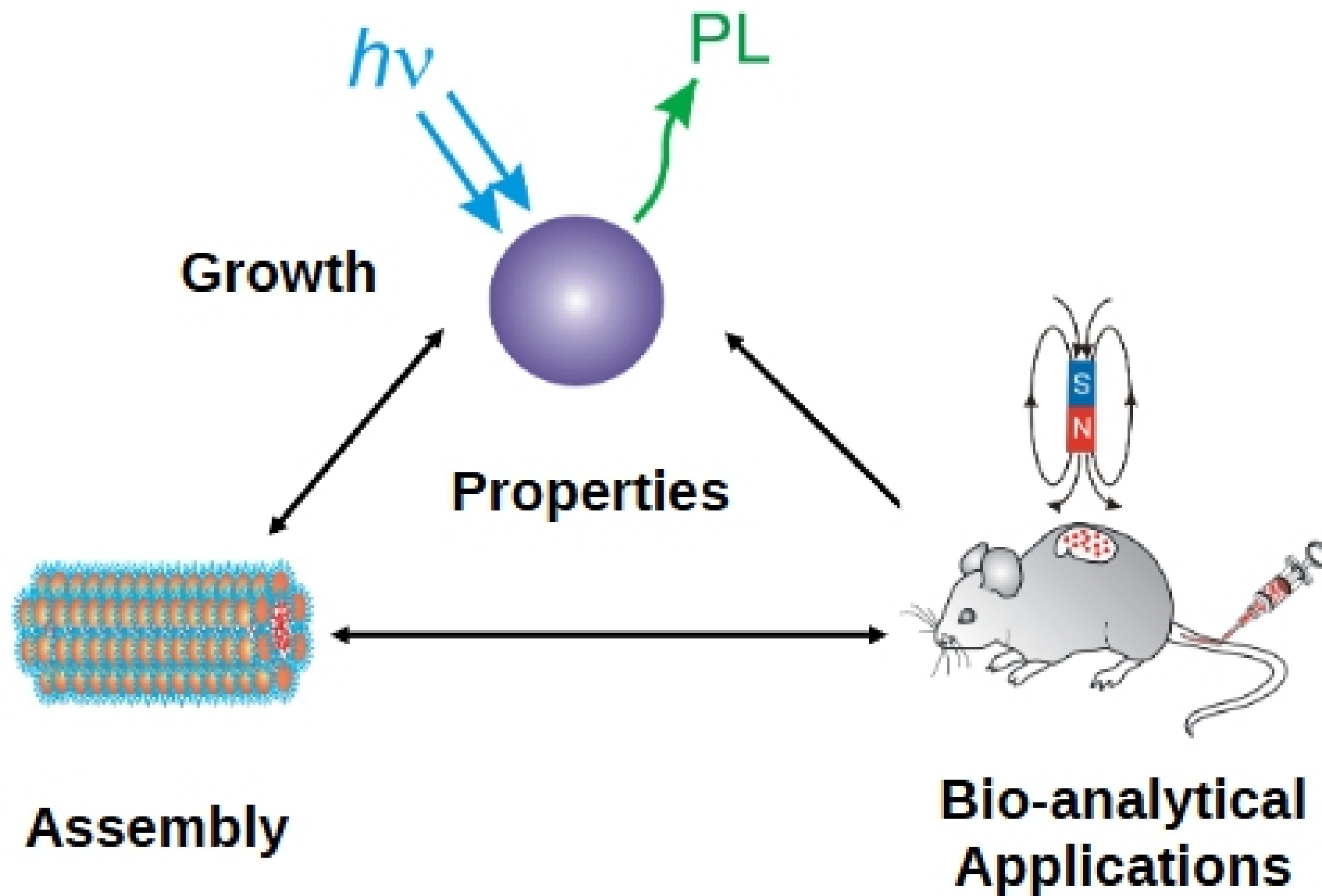
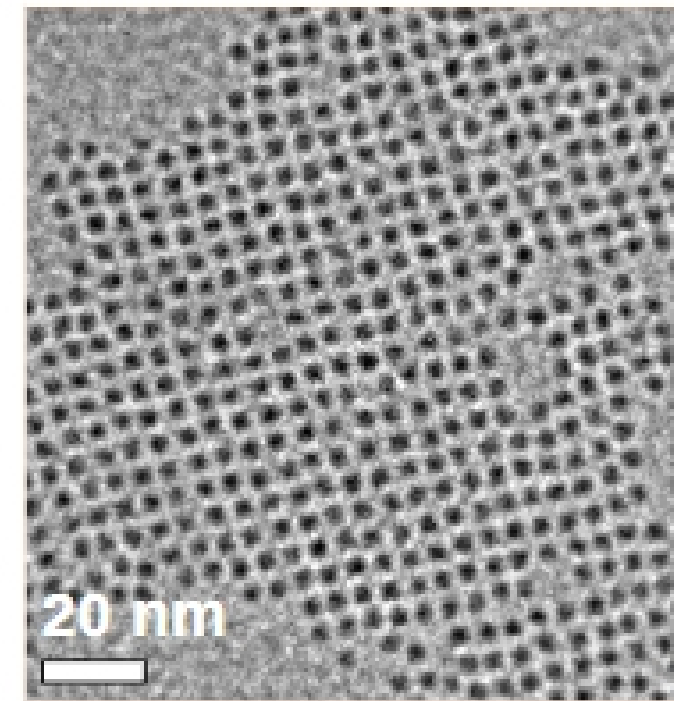


Charles Cao

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CHM 6154 (Fall, 2013)

Chemical Separations

Instructor: Charles Cao (cao@chem.ufl.edu), 226 Leigh Hall.

Lectures: M, W, F, 7th Period (1:55 pm to 2:45 pm), 104 Leigh Hall

Office hours: M, W, F, - 8th Period (3:00pm to 3:50 pm), or by appointment

Website: <http://www.chem.ufl.edu/~cao/CHM6154/index.html>

Requirement: Strong background in calculus and thermodynamics

Textbook: Unified Separation Science by J. Calvin Giddings
(John Wiley & Sons, INC)

Reference: *The Essence of Chromatography* by Colin Poole (Elsevier)

Themes:

1. Introduction: Fundamentals of Distribution Equilibrium
2. Gas Chromatography
3. Liquid Chromatography
4. Other Analytical Separations

Homework: Problems will be assigned throughout the semester as an aid in comprehending the course material. They will not be graded. Answers to the assigned problems will be discussed in the class.

Quiz and Exams: Fourth quizzes will be given throughout the semester as an aid to review the course material periodically. Two exams will be included in the course. The midterm exam covers the first and second part of the themes, and it will be a 2-h exam during October. The final one is a comprehensive exam, but it will emphasize the last two parts of the themes. **Note that students are invited to submit one or more suggested questions for the midterm and final exam.**

Group study: Reach-oriented study on a specific topic related to separation. The topic will be given by the instructor. One group is composed of two students. The group study includes (1) a thorough review of the current state of art on the research work related to the chosen topic and (2) a new and novel solution from the student group. The results from the group study will be shown as group presentation: 20-min talk. Presentation data: Dec. 1.

Research Proposal: The topic of the proposal is on a separation technique. This topic can be related to the work from group study, but each student must submit a unique proposal. The proposal should present a novel idea that can be evaluated experimentally. The length of the proposal is about 1800 words. **The final due date: December 4, and no score will be given for a late submission.**