

## 2015 年南京大学“生命化学”国际暑期学校通知

为提升化学类人才培养水平，增进各校化学专业师生的交流学习，南京大学化学化工学院将于 2015 年 7 月 6-17 日举办 2015 年南京大学“生命化学”国际暑期学校。本次暑期学校将主要围绕生命化学及相关领域的前沿进行全英文教学。暑期学校包括 Bio-organic chemistry mechanisms、Bioanalytical chemistry、Introduction to Chemical Biology、Informatics for Life Science 四门课程。

1. 本次暑期学校拟对外招收 60-80 名学员。学员主要为各校对化学与生命科学交叉学科有浓厚兴趣的拔尖计划二、三年级的本科生。
2. 暑期学校共 4 门课程，每门课程计 1 学分，共计 4 学分。按照所完成的课程数，经考核合格发给结业证书。每人至少完成 2 个学分的学习。
3. 每所学校可选派 2-3 名化学专业本科生参加。请填写《2015 南京大学“生命化学”国际暑期学校回执》以确认贵校参加人员名单。并于 2015 年 6 月 20 日之前发邮件至 [njuchemsqxx@163.com](mailto:njuchemsqxx@163.com)。
4. 注册费：包含资料费、活动费等，每人 800 元。  
路费、住宿费用自理。校内或学校周边宾馆根据条件每人每天 100 元左右不等（根据报到先后安排）。我校会提供临时校园卡，可在食堂就餐。

### 联系方式：

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南京大学化学化工学院

2015 年 6 月 9 日

## 附 1: 日程安排

日期	具体安排
7月6日全天	报到, 入住
7月7日-16日	课程、讲座、课外活动
7月17日	课程结束, 返程

## 附 2: 课程简介

### **Bio-organic chemistry mechanisms (undergraduates who have completed organic chemistry)**

***Professor Brian Coppola      University of Michigan***

Students will collaborate on a set of daily homework and in-class problems and present their solutions to the class in order to discover and explain the general principles of fundamental organic mechanisms ( $S_N/E$ , addition reactions, acylations, etc.) as they apply to biologically important molecules, including an introduction to enzymatic organic mechanisms. A final exam will be given.

### **Bioanalytical chemistry**

***Professor Melissa Reynolds      Colorado State University***

This course will provide students with a background in bioanalytical chemistry that is sufficient to understand the major types of measurement methods that are used and the most significant problems associated with the field. The course will combine fundamental principles of sensing with practical aspects of making biological measurements. An additional goal is provide an introduction to some of the current research areas in bioanalytical chemistry from both a fundamental and applied research perspective. As such, the course will have multiple components including discussion, lectures, activities, problem-solving, and presentations.

### **Introduction to Chemical Biology (undergraduates who have completed organic chemistry & biology)**

***Professor Jean-Paul Desaulniers      University of Ontario Institute of Technology***

Chemical Biology encompasses chemical research that expands our understanding of biology, and biological research that expands our understanding of chemistry. In this course, I will emphasize the design and employment of molecules to understand and manipulate biological systems and processes at the molecular level. The course will explore micro and macromolecular structures with a focus on mechanistic organic chemistry. Examples will include peptide synthesis and glycobiology, synthetic nucleic acids, chemical strategies and tools to monitor biological systems, and research into stem cell biology. The course will consist of scientific literature readings, periodic

assignments and an exam based on literature and lecture content, as well as group discussions and exercises. A textbook is not required, although retention of prerequisite course textbooks is recommended.

### **Informatics for Life Science**

***Dr. Qiong Yuan Chemical Abstracts Service***

This course identifies the skills and knowledge chemistry undergraduates should develop to successfully navigate the scientific and chemical literature in preparing for graduate work or employment as a chemist. The content will include: the expected skills and recommended resources for finding background information, articles and other chemical literature, patents, and chemical substances, reactions, and syntheses; expected skills and recommended resources for finding properties, spectra, crystallographic data, and safety information. The Analysis and Predictive Modeling will also be provided, which includes: cluster and diversity analysis; quantitative structure-activity relationships (QSAR) and predictive models; practical predictive modeling; 3D visualization, alignment, docking and scoring; 3D methods - pharmacophore modeling; optimization algorithms; data mining of chemical & biological information.