

Introduction to Research



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Preface

Chemistry C500 (Introduction to Research) is a course for new graduate students in chemistry. It begins in the first semester and continues through the second semester. The purpose is to give an early acquaintance with all of the members of the faculty in chemistry and to encourage an early start in a modest research problem during the student's first year of work. The experience of this department indicates that a student can generally obtain a graduate degree in a shorter time and the faculty members have a broader and fairer basis for evaluating a student's prospects if s/he begins some laboratory work in his/her first year.

The research problem started during the first year does not represent a permanent commitment on the part of either the student or the faculty member. Indeed, it does not even represent a commitment to a choice of a major field. Thus, a student may experiment with a choice of major and minor fields and still retain the privilege of closing out his/her laboratory work at the end of the first year and starting anew with another faculty member if s/he so desires. The written reports of the first year's laboratory work, carried out under the course number C500, will be evaluated by the faculty Graduate Committee and appropriate recommendations are made by this committee.

C500 begins with a short series of orientation lectures by the professor in charge, and the student has an opportunity to become acquainted with all of the faculty members and their research interests through lecture and/or written outlines. This provides the basis for individual conferences of the students with faculty members in the area of greatest interest to them, and an opportunity to select a problem and a research advisor.

In general, the problems undertaken in C500 are of limited objective and the work is carried out in close association with the supervising faculty member or one of his/her advanced graduate students or postdoctoral research associates. Whatever results have been achieved during the latter part of the first semester and the whole of the second semester are written up carefully, whether the original objectives have been fully realized or not. The reports are evaluated on the basis of the quality of the work actually done, and the diligence and skill shown, and the care used in reporting the results.

This forty-third volume, bound in three parts, contains the reports submitted in April, 2005, by the students enrolled in C500 for the academic year of 2004-2005. The degree of effort, the quality of the work, and the diligence and skill of each of the authors is reflected in their work.

Martin Stone
Professor of Chemistry and
Director of Graduate Studies

Part III

24. **Miao, Yinglong** – VirusX: Simulation of Viral Conformational Changes 483
25. **Opsitnick, Elizabeth** – Synthesis of C₅-C₁₈ *ansa*-Chain Intermediate Toward the Total Synthesis of Kendomycin..... 514
26. **Qu, Kun** – Nonlinear Dynamics of Transcription Regulatory Networks – Application to E.coli 531
27. **Rawlinson, Nathan D.** – Mapping the Light Intensity Transmitted through Nanoscale Apertures 565
28. **Regan, Jamie** – Structure, Spectroscopy and DNA Binding of Bichromophoric Mixed Ligand Ruthenium Metalloenediynes Complexes 579
29. **Sharon, Laura A.** – Determination of *Caulobacter Crescentus* Stalk Function through Hyphenated Proteomics Techniques 589
30. **Singh, Anand** – Synthesis of cyclic Ethers *via* Lewis Acid Mediated Oxepane Formation..... 605
31. **Sumner, Isiah C.** – Wavepacket Ab Initio Dynamics: Generalizations to Higher Dimensions 622
32. **Wallace, Scott R.** – Great Expectations: Harnessing the Power of Tetrathiafulvalene 634
33. **Walsh, Martin** – Formation of Contiguous Stereotriads as Intermediates in the Stereocontrolled synthesis of Medium-Ring Diterpenes 653