

UNDERGRADUATE RESEARCH OPPORTUNITIES
DEPARTMENT OF CHEMISTRY
ACADEMIC YEAR 2006–2007

PROFESSOR	RESEARCH AREAS	MINIMUM COMMITMENT (SEMESTERS)	PREREQUISITES
ASHBY (15-26 VE) ashby@email.unc.edu	Polymer design and synthesis, polymer composites, biomaterial synthesis.	2	Personal interview (962-3663)
AUSTELL (234 VE) taustell@email.unc.edu	Web page composition for Chemistry Resource website.	1	Personal interview. Web page portfolio (962-9429)
BAER (A004 Kenan) baer@unc.edu	Photoionization studies with organic and organometallic molecules: heats of formation of free radicals, ions, and molecules.	2	Personal interview (962-1580)
BROOKHART (A404 Kenan) mbrookhart@unc.edu	Synthetic and mechanistic organometallic chemistry; catalysis, polymer chemistry.	2	Chem 262 or 262H, 550L & personal interview (962-0362)
CRIMMINS (C644 Kenan) crimmins@email.unc.edu	Organic synthesis. New synthetic methods. Total synthesis of biologically active natural products.	2	Chem 261, 262, 560L & personal interview (966-5177)
DESIMONE (300 VE) desimone@unc.edu	Kinetics and equilibria of step growth polymerization. Micellar and microemulsion phases in supercritical carbon dioxide.	2 (3 preferred)	Organic lab (962-2166)
ERIE (B830 Kenan) derie@email.unc.edu	Probing the structure and function of <i>E. coli</i> RNA polymerase and its regulatory proteins. Scanning force microscopy of protein DNA complexes. (1 or 2 students)	3	Personal interview (962-6370)
FORBES (17-28 VE) mdef@unc.edu	Photochemistry, photoionization, and “spin” chemistry. Time-resolved EPR spectroscopy of novel biradicals.	2	Personal interview (962-1696)
GAGNE (B929 Kenan) mgagne@email.unc.edu	Catalysis of organic reactions using inorganic metal complexes.	3	Personal interview (962-6341)
GLISH (C348 Kenan) glish@unc.edu	Development of methods for biochemical analysis using mass spectrometry. Reaction mechanisms of gas phase organic and organometallic ions.	2	Personal interview (962-2303)
JOHNSON, C. (C144 Kenan) charles_johnson@unc.edu	Dynamic NMR microscopy.	3	Chem 481, 482 or permission (966-5229)

JOHNSON, J. (C548 Kenan) Jeff_Johnson@unc.edu	Organic synthesis, asymmetric catalysis, new reaction methodology.	2	Personal interview (843-4936)
JORGENSEN (C240 Kenan) jj@unc.edu	Chemical separations.	2	Personal interview (966-5071)
LIN (A506 Kenan) wlin@unc.edu	Materials, supramolecular, catalytic, and medicinal inorganic chemistry.	2	Personal interview (962-6320)
LORD (603 Brinkhous-Bullitt) susan.lord@pathology.unc.edu	Biochemical studies of existing variant fibrinogens; construction of new cDNAs for synthesis of variant fibrinogens.	2	Personal interview (966-2617)
MURRAY (C342 Kenan) rwm@email.unc.edu	Research on nanoparticles: HPLC, fluorescence, electrochemistry, synthesis.	2	Personal interview (962-6296)
PAPANIKOLAS (18-1F VE) john_papnikolas@unc.edu	Ultrafast dynamics of complex system.	2	Personal interview (962-1619)
PAPOIAN (18-1G Venable) gpapoian@email.unc.edu	Theoretical physical and biophysical chemistry, enzymatic catalysis, signal transduction.		Personal interview (962-8037)
PEDERSEN (A207D Kenan) lee_pedersen@unc.edu	Dynamics of macromolecules, quantum chemistry.	2	Prerequisite computer prog.; Chem 481, 482 or equivalent (Phys 128) (962-1578)
PIELAK (C742 Kenan) gary_pielak@unc.edu	Probing structure-function-stability relationships in medically-important proteins with molecular biology and biophysics (NMR, CD, centrifugation, calorimetry, etc.).	3	Personal interview (966-3671)
RAMSEY (251 Chapman Hall) jmramsey@email.unc.edu	Microfabricated chemical instrumentation, microfluidics, nanofluidics.		Personal interview (962-7492)
REDINBO (C748 Kenan) redinbo@unc.edu	Structure, biochemistry and biology of medically important proteins and protein-DNA complexes.	3	Personal interview (843-8910)
RUBINSTEIN (18-1K VE) mr@unc.edu	Theoretical polymer chemistry and physics.	2	Personal interview (962-3544)
SCHAUER (A606 Kenan) schauer@unc.edu	Materials chemistry, Synthetic inorganic/organometallic chemistry.	2	Chem251, Chem550 preferred; personal interview (962-0808)
SCHOENFISCH (17-29 VE) schoenfi@email.unc.edu	Characterization of protein adsorption related to biomaterials and the application of nitric oxide release to <i>in vitro</i> sensor design.	3	Personal interview (843-8714)
SHEYKO (18-1C VE) sergei@email.unc.edu	Physical properties of single polymer molecules and thin polymer film.	2	Personal interview (843-5270)

TEMPLETON (C448 Kenan) joetemp@unc.edu	Synthetic organometallic chemistry.	2	Chem 251, 550L (966-4575)
THOMPSON (A700 Kenan) nlt@unc.edu	Fluorescence microscopy; cell surface immunochemistry.	3	Personal interview (962-0328)
THORP (A400 Kenan) holden@unc.edu	Synthesis and biochemistry of molecules that interact with DNA, RNA and	3	Personal interview (962-0276)
WATERS (A500 Kenan) mlwaters@email.unc.edu	Investigation of noncovalent interactions in organic and bio-organic systems.	2	Chem 262 or 262H, 550L & personal interview (843-8205)
WEEKS (C848 Kenan) weeks@unc.edu	Function/structure of RNA and RNA-protein complexes.	3	Personal interview (962-7486)
WIGHTMAN (A308 Kenan) rmw@unc.edu	Electrochemical detection of neurotransmitters.	3	Personal interview (962-1472)
WOLFENDEN (Biochem) water@med.unc.edu	Mechanisms by which enzymes stabilize transition states in substrate transformation, and evaluation of enzyme rate enhancements.	2	Personal interview (966-1203)
YOU (C642 Ke) wyou@email.unc.edu	Organic and Polymer Synthesis, Organic/Inorganic Hybrid Solar Cells, Molecular Electronics, Organic Spintronics, Chemistry and Catalysis with Carbon Nanotubes		Personal interview (962-6197)
YOUSAF (C444 Kenan) mnyousaf@email.unc.edu	Surface chemistry, proteomics, cell adhesion/migration, cell cycle regulation.		Personal interview (966-5074)