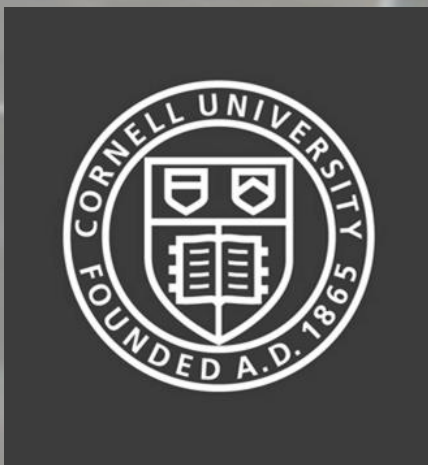


Graduate Student Handbook

Field of Biological and Environmental Engineering



**Department of
Biological and
Environmental
Engineering
Cornell University
Riley-Robb Hall
Ithaca, New York 14853**

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Contacts

Professor John March
Director of Graduate Studies (DGS)
202 Riley-Robb Hall
Phone: 607.254.5471
Fax: 607.255.4449
E-mail: jcm224@cornell.edu

Brenda Marchewka
Graduate Field Assistant (GFA)
207 Riley-Robb Hall
Phone: 607.255.2173
Fax: 607.255.4449
E-mail: bls19@cornell.edu

Foreword

The Biological and Environmental Engineering Graduate Student Handbook is prepared to assist both new and continuing graduate students, not only with their studies, but also with policies and procedures of the Department of Biological and Environmental Engineering (BEE) as well as general policies of the Graduate School at Cornell University.

This handbook should be used as a guide to the specific activities within the Field of Biological and Environmental Engineering and the Department of Biological and Environmental Engineering. Additional valuable information is available in the *Guide to Graduate Study* sent to all new graduate students and available at the Graduate School in Caldwell Hall or on-line at: <http://www.gradschool.cornell.edu/>. The *Cornell University Courses of Study* catalog is also a useful tool and is available through the Graduate School or on-line at: <http://courses.cornell.edu/>. Other publications and forms may be obtained from the BEE Student Services Office located in 207 Riley-Robb Hall or on-line at: <http://www.gradschool.cornell.edu/>.

Introduction

Overall administrative responsibility for the Biological and Environmental Engineering Graduate Field rests with the Graduate Coordinating Committee chaired by Professor John March.

Questions for this committee should be directed to Professor March, Director of Graduate Studies (DGS) for the Field. Questions about the graduate program should be directed to either Professor March, or to Brenda Marchewka, Graduate Field Assistant (GFA), 207 Riley-Robb Hall.

One of your most important decisions will be the selection of a Chairperson for your Special Committee or the person to supervise your project. For purposes of administration, the Director of Graduate Studies automatically becomes your Committee Chairperson if you do not make this decision within the first **three** weeks of your first semester of graduate study. It is therefore important to meet the graduate faculty early and to select your chairperson/project supervisor as soon as possible after your arrival on campus. The remainder of your Special Committee should be in place by the end of your first semester of study. MS and MPS require a committee of two graduate faculty. PhD requires a committee of three graduate faculty. MEng requires a project supervisor who is a graduate faculty member in your field of study.

Please become familiar with the information available to you concerning graduation requirements. **The Graduate School places the responsibility on YOU to know and meet all requirements.**

University Policies

Detailed information on Graduate School policies is available from the Graduate School located in Caldwell Hall.

Registration

A graduate student in residence in Ithaca must be registered and pay tuition for that part of the term while on campus, even if engaged in thesis writing and taking no courses.

Students must register during the summer if they are 1) receiving financial aid during the summer (such as summer loans, assistantships and fellowships, travel grants, or tuition awards); 2) wish to use campus facilities during the summer; or 3) are off campus but need to be registered for summer study. Graduate students who have been registered for a regular semester during the preceding academic year do not pay tuition for noncredit summer registration. Students approved for summer residence credit must pay the appropriate prorated Graduate School tuition rate.

Graduate Degree Programs

Four different degrees are awarded in the Graduate Field of Biological and Environmental Engineering: Doctor of Philosophy (PhD), Master of Science (MS), Master of Professional Study (MPS) and Master of Engineering (MEng). Detailed academic requirements for each degree can be found in the *Guide to Graduate Study* booklet, which is published by the Graduate School.

Special Committees

It is advisable to choose a Special Committee as soon after registration as possible. Tuition charges are based on the college that employs the Committee Chairperson, if you select a Committee Chairperson who is not employed by the Department of Biological and Environmental Engineering then you will pay the higher tuition cost for the endowed colleges.

Degree Requirements

Residence Units

One residence unit is equivalent to one academic semester of full-time graduate study completed satisfactorily. Less than satisfactory progress or less than full-time commitment to graduate study could result in reduction of credit to a fraction of a residence unit, or in an extreme case, no residence credit.

To earn an MS degree, a student must accrue a minimum of two residence units and produce and defend an acceptable thesis. To earn a PhD degree, a student must accrue a minimum of six residence units and produce and defend an acceptable thesis. Two of these residence units must be earned between the “A” exam and the “B” exam.

Scheduling of Exams

When scheduling an exam, the first step is to discuss potential dates with your committee chair and minor members. All necessary forms to complete the scheduling process are available from either the BEE Student Services Office or the Graduate School in Caldwell Hall. All forms must be completed and returned to the Graduate School seven days prior to taking the exam. Please notify the BEE Student Services Office at least seven days in advance of your scheduled exam date by providing a copy of the completed schedule form and title of your thesis presentation. Faculty **MUST** have seven days notice prior to an exam. Rooms in Riley-Robb that are available for exams are 205 and 235. Please see Brenda Marchewka to schedule a room.

Thesis

Thesis Schedule

According to the *Code of Legislation* of the graduate Faculty, the final examination for the PhD or the defense of the Master’s thesis should be scheduled only when the Special Committee and you are confident that the thesis is virtually in final format but not yet bound.

Two unbound copies of a doctoral dissertation, or two bound copies of a master’s thesis, must be submitted to the Thesis Advisor within sixty days of the exam. Any changes required by the Committee must be incorporated into the thesis before submitting it to the Graduate School.

If the thesis is not submitted within 60 days, PhD candidates will be assessed a late penalty of \$100 in addition to the \$200 Active File Fee they must pay for each semester they are not registered in the Graduate School. If unusual or unavoidable problems with the thesis cause delay in submission, you may petition to have the penalty waived. The petition must be endorsed by your Special Committee and final approval rests with the Graduate School.

Thesis Publication

If the results of your thesis are to be published, prepare all publications and manuscripts as soon after your final exam as possible.

Financial Aid and/or Assistance

Assistantships

There are two types of assistantships: graduate research assistants (GRA’s) and teaching assistants (TA’s). TA’s may be assigned to courses taught by faculty who are not involved in the student’s research project. Administrative details of assistantships are available from BEE Student Services. However, specific duties or responsibilities will be explained to you by your supervisor. Tuition for assistants is waived for the fall and spring terms only. If an assistant registers for summer school or summer research for which tuition and fees are required, the assistant is personally responsible for them. Graduate students who receive a Cornell paycheck should register during the summer to avoid having FICA and Med Tax deducted.

The Department Chairperson requires each graduate student on a departmental assistantship to submit a brief, double-spaced, type-written report covering his or her activities related to assistantship responsibilities. The reports are due mid-January for the fall semester, and mid-June for the spring semester. Submit two copies of the report to the Director of Graduate Studies who will forward one copy to the Chairperson.

University Fellowships

Cornell provides the opportunity for graduate students to apply for fellowship programs. The Fellowship Notebook listing special fellowships administered through the Graduate School can be found on-line at: <http://www.gradschool.cornell.edu/costs-and-funding/fellowships>. You are welcome to review this notebook at any time via the web.

New York State Tuition Assistance Plan (TAP)

All United States citizens who have been residents of New York State for 12 months prior to the beginning of the semester may be eligible for a TAP award. The Graduate School or the Bursar's Office provides application forms as well as answers to any questions you may have regarding these awards.

Income Tax

Representatives from federal and state governments are available during March to answer tax questions. Contact the Graduate School for specific dates. Tax forms must be filed and taxes paid by April 15th.

University Services

International Students and Scholars Office (ISSO)

The ISSO, located in B-50 Caldwell Hall can be reached at 607-255-5243 or on-line at: <http://www.isso.cornell.edu>. ISSO offers a variety of information and assistance for international students.

Health Care

All regularly registered students are eligible to use the University's health facilities. The Gannett Health Center, located at 10 Central Avenue, is next to Willard Straight Hall. Gannett offers routine office hours during the week, 8:00-5:00 during the school year and 8:00-4:30 during the summer. They also offer 24-hour telephone triage. Call 607-255-5155 or if it is an emergency, please contact campus police at 607-255-1111.

All graduate students are mandated to enroll in the Cornell University Student Health Insurance Plan (SHIP). Most graduate students will receive SHIP coverage as part of their funding packages. The university will pay the SHIP premium for all students who receive full tuition and/or a full stipend from or through Cornell.

The Student Health Insurance Plan provides excellent coverage at a reasonable cost. The plan is underwritten by Aetna Life and Administered by The Chickering Group.

Type of Coverage	Cost
Single Student	\$2,560
Spouse/Same sex partner	\$5,280
Child(ren)	\$3,702

Students registered in absentia may still be enrolled in the Student Health Insurance Plan, but may be required to pay for the insurance themselves.

BEE Policies

Right to Know Program

Cornell University has developed a program to comply with the Federal Hazard Communication Standard. The Biological and Environmental Engineering Laboratory Safety Representative is Jeff Carmichael. He is located in 108 Riley-Robb Hall or by calling 607-255-2027.

Lab Orientation Training

All graduate students should plan to attend a training session prior to beginning work in a laboratory or on a farm at Cornell. Dates (usually at the beginning of each semester), locations, and times are announced a month in advance.

Chemical Information

A basic collection of Material Safety Data Sheets (MSDS's), the legal form of chemical specific information, is available for review in 108 Riley-Robb.

Laboratory Information

Your supervisor is responsible for your orientation and training in the safe handling and use of laboratory specific technologies and chemicals.

Graduate Field

The name of our graduate field is Biological and Environmental Engineering. The degrees offered are PhD, MS, MPS, and MEng.

Concentration

Research concentration topics in our Field are the following:

- Bioenergy and Integrated Energy Systems
- Bioenvironmental Engineering
- Biological Engineering
- Bioprocess Engineering
- Ecohydrology
- Environmental Engineering
- Environmental Management (MPS only)
- Food Engineering
- Industrial Biotechnology
- Nanobiotechnology
- Sustainable Systems
- Synthetic Biology

These topics are used to denote major or minor areas of graduate research.

The MPS and MEng are professional degrees which do not require the declaration of a research concentration. However, the topics of interest to students pursuing professional degrees closely parallel the research concentrations of the faculty. The project paper required of both the MPS and MEng typically reflects the special interests of the student.

Concentration Topics of the Graduate Faculty

Graduate faculty are appointed to the Graduate Field. Faculty may be members of more than one Graduate Field. Want to know more about our faculty? Detailed research interests and links to research group homepages can be found on BEE's web page at:

<http://www.bee.cornell.edu/cals/bee/people/bee-faculty.cfm>. The following is a list of Graduate Faculty in our Field.

Beth A. Ahner, *B.S., Ph.D. (MIT)*

Research interests: biological indicators of environmental stresses, the toxicity and nutrition of trace metals, intercellular detoxification mechanisms in algae. Concentration: environmental engineering, environmental management. (220 Riley-Robb Hall, 607-255-4677, baa7@cornell.edu)

Louis D. Albright, *Emeritus, B.S.A.E., M.S., Ph.D. (Cornell)*

Research interests: greenhouses and agricultural buildings, energy management, simulation and control of aerial environments, air distribution, indoor air quality. Concentrations: energy, structures and environment, biological engineering. (425 Riley-Robb Hall, 607-255-2483, lda1@cornell.edu)

C. Lindsay Anderson, *B.Sc., M.Sc. (University of Guelph), Ph.D. (University of Western Ontario)*

My research interests are in the area of systems analysis, particularly the modeling, simulation and optimization of energy systems. Much of my research deals with the interactions between market forces and environmental issues in deregulated electricity markets. Currently I am examining ways to moderate the uncertainty associated with wind energy, so that wind farms can participate more fully in the US energy markets. I am also interested in the development of a framework for the design of effective biofuels industry in North America. (316 Riley-Robb Hall, 607-255-4533, cla28@cornell.edu)

Daniel J. Aneshansley, *B.S.E.E. (Cincinnati), M.S., Ph.D. (Cornell)*

Research interests: electronic instrumentation, sensors, and machine-vision applications in agricultural and biological engineering. Concentrations: biological engineering, food processing engineering, energy, machine systems. (318 Riley-Robb Hall, 607-255-3069, dja4@cornell.edu)

Lars Angenent, *B.S., M.S. (Netherlands), Ph.D. (Iowa State)*

Research interests: bioenergy; anaerobic digestion; microbial fuel cells; non-defined mixed culture processing. Concentrations: biological engineering, energy; environmental engineering, soil and water engineering. (226 Riley-Robb Hall, 607-255-2480, la249@cornell.edu)

Ludmilla Aristilde, *B.S. (Cornell), M.S., Ph.D. (University of California-Berkeley)*

The research efforts in my group are aimed towards understanding of the "why" and "how" of the environmental behavior of biologically-active organic molecules and contaminants with implications for ecosystem health. We are particularly interested in the fate and effects of emerging contaminants including pharmaceuticals, antibiotics, hormones, and natural toxins in soils and surface waters and in the reactivity and fate of important macromolecules including proteins, enzymes, and genetic fragments in soils. (214 Riley-Robb Hall, 607-255-6845, la31@cornell.edu)

Dwight Bowman, *B.A. (Hiram College), M.S., Ph.D. (Tulane)*

Research interests: environmental Engineering (C4119 Vet Medical Center, 607-253-3406, ddb3@cornell.edu)

Wilfried H. Brutsaert, *Eng. (University of Ghent, Belgium), M.S., Ph.D. (California, Davis)*

Research interests: hydrology, hydraulics, fluid mechanics. Concentration: soil and water engineering. (Department of Civil Engineering, 117 Hollister Hall, 607-255-3676, whb2@cornell.edu)

Robert Cooke, *Emeritus, Ph.D. (North Carolina State University)*

Research interests: biological engineering; plant-water relationships; engineering properties of biological materials; mathematical engineering analysis; microcomputers and educational software. Concentrations: biological engineering; machine systems; soil and water engineering.

Harold G. Craighead, *B.S. (University of Maryland), Ph.D. (Cornell)*

Concentrations: bioenergy and integrated energy systems; biological engineering; nanobiotechnology. (205 Clark Hall, 607-255-8707, hgc1@cornell.edu)

Ashim K. Datta, *B.Tech. (Indian Institute of Technology), M.S. (Illinois), Ph.D. (Florida)*

Research interests: heat and mass transfer in food and biological systems, electromagnetics of microwave heating, moisture transport in microwave heating, thermal fracture in rapid freezing. Concentrations: energy, biological engineering, food processing engineering. (208 Riley-Robb Hall, 607-255-2482, akd1@cornell.edu)

Kifle G. Gebremedhin, *B.S.C.E., M.S., Ph.D. (Wisconsin)*

Research interests: structural mechanics, testing and modeling of structural systems, structural materials, animal housing systems, modeling of animal-environment interactions. Concentration: structures and environment. (304 Riley-Robb Hall, 607-255-2499, kgg1@cornell.edu)

Douglas A. Haith, *B.S., M.S. (MIT), Ph.D. (Cornell)*

Research interests: environmental systems analysis, solid waste management, water resources. Concentrations: soil and water engineering, environmental engineering. (308 Riley-Robb Hall, 607-255-2802, dah13@cornell.edu)

Peter Hess, *B.A. (Cornell), M.S., Ph.D. (University of Washington)*

My research is geared towards understanding how anthropogenic and natural processes affect the chemical composition of the atmosphere. The composition of the atmosphere affects air quality and the response of the climate system to global change. I am particularly interested in the coupling between atmospheric chemistry and climate and in predicting future changes. My research primarily makes use of large three dimension computer simulations of the atmosphere and its chemistry. (228 Riley-Robb Hall, 607-255-2495, pgh25@cornell.edu)

Jean B. Hunter, *B.S. (MIT), M.S., D.Eng.Sci. (Columbia)*

Research interests: bioprocess engineering, fermentation and enzyme technology, bioseparations, food engineering. Concentrations: biological engineering, food processing engineering, environmental engineering. Director of Undergraduate Studies (207 Riley-Robb Hall, 607-255-2297, jbh5@cornell.edu)

Lynne B. Irwin, *B.S., M.S. (California, Berkeley), Ph.D. (Texas A & M)*

Research interests: highway engineering, highway materials characterization, structural evaluation of pavements, pavement management systems, technical assistance for NYS local highway departments via Cooperative Extension through the Cornell Local Roads Program. Concentration: local roads. (422 Riley-Robb Hall, 607-255-2805, lhi1@cornell.edu)

William Jewell, Emeritus, *Ph.D. (Stanford)*

Research interests: renewable energy and waste treatment; toxics bioremediation; rural environmental engineering; agricultural waste management. Concentrations: biological engineering; energy.

Dan Luo, *B.S., Ph.D. (Ohio State)*

Research interests: molecular bioengineering, nucleic acid engineering (molecular level), intracellular delivery (cell level), nanofabrication - based delivery devices (micro/nano level), computer simulation (including monte carlo and molecular dynamics). Concentration: biological engineering. (211 Riley-Robb Hall, 607-255-8193, dl79@cornell.edu)

Minglin Ma, *B.S. (Tsinghua Univ), M.S., Ph.D. (MIT)*

Research interests: biomaterials, cell packaging, micro tissues, cell therapy, immune responses to medical implants. (322 Riley-Robb Hall, 607-254-5222, mm826@cornell.edu)

John C. March, *M.S. (Georgia), Ph.D. (Maryland)*

Research interests: reconfiguring biological systems for improved performance in the areas of biomedicine and sustainability. We attempt to change bacterial or eukaryotic signal transduction to make cells that are more responsive to their environment and more efficient as technological tools. By rewiring cellular signaling circuitry, we tailor highly specific responses to a wide array of process inputs. Director of Graduate Studies (202 Riley-Robb Hall, 607-254-5471, jcm224@cornell.edu)

Jean-Yves Parlange, *Eng. Dipl. (Ecole Nationale Supérieure de l'Aéronautique, Paris), Ph.D. (Brown)*

Research interests: mathematical modeling of physical and biological systems, applications of thermodynamics, water movement in soils. Concentrations: soil and water engineering, international agriculture, environmental management. (324 Riley-Robb Hall, 607-255-2476, jp58@cornell.edu)

Richard H. Rand, *B.E. (Cooper Union), M.S., Sc.D. (Columbia)*

Research interests: biomechanics, theoretical and applied mechanics, dynamical systems. Concentration: biological engineering. (Department of Theoretical and Applied Mechanics, 207 Kimball Hall, 607-255-7145, rhr2@cornell.edu)

Gerald Rehkugler, Emeritus, *B.S., M.S. (Cornell University), Ph.D. (Iowa State)*

Research interests: energy use in the food system, machinery design integrated with biological systems. Concentrations: energy, machine systems. (324 Riley-Robb Hall, 315-857-7459, ger1@cornell.edu)

Andy L. Ruina, *Sc.B., Sc.M., Ph.D. (Brown)*

Research interests: mechanical models involving motion deformation or slip; applications have included deformation of fruit and vegetable cells and the mechanics of plowing. Concentrations: soil and water engineering, structures and environment, biological engineering. (Department of Theoretical and Applied Mechanics, 309 Kimball Hall, 607-255-5675, alr3@cornell.edu)

Norman R. Scott, Emeritus, *B.S.A.E. (Washington State), Ph.D. (Cornell)*

Research interests: sustainable development which combines energy, environmental, industrial, and agricultural knowledge and innovation. Concentrations: structures and environment, biological engineering. (324 Riley-Robb Hall, 607-255-7200, nrs5@cornell.edu)

Christine A. Shoemaker, *B.S. (California, Davis), Ph.D. (University of Southern California)*

Research interests: water resources systems, mathematical ecology. Concentrations: soil and water engineering, environmental engineering, biological engineering, environmental management. (Department of Civil Engineering, 210 Hollister Hall, 607-255-9233, cas12@cornell.edu)

Scott Steinschneider, *B.A. (Tufts), M.S. (University of Massachusetts), Ph.D. (University of Massachusetts)*

Research interests: water resources risk management, sustainable design and management of integrated water resource systems. Concentrations: sustainable systems, ecohydrology, hydroclimatology, water/energy systems. (320 Riley-Robb Hall, ss3378@cornell.edu)

Abraham D. Stroock, *B.A. (Cornell), M.S. (Universite de Paris), Ph.D. (Harvard)*

Research interests: microfluidics, environmental and biological transport phenomena, tissue engineering, plant water relations and soil physics. Concentrations: biological engineering, environmental engineering, ecohydrology, nanobiotechnology. (260 Olin Hall, 607-255-4276, ads10@cornell.edu)

Tammo S. Steenhuis, *B.S., M.S. (Netherlands), M.S., Ph.D. (Wisconsin)*

Research interests: soil and water engineering, water management, watershed hydrology, groundwater quality engineering. Concentrations: soils and water engineering, environmental engineering, international agriculture, environmental management. (206 Riley-Robb Hall, 607-255-2489, tss1@cornell.edu)

Michael B. Timmons, *B.S. (Ohio State), M.S. (Hawaii), Ph.D. (Cornell)*

Research interests: aquacultural engineering, environmental control, ventilation, animal energetics. Concentrations: environmental engineering, structures and environment, international agriculture, biological engineering, environmental management. (302 Riley-Robb Hall, 607-255-1630, mbt3@cornell.edu)

Michael F. Walter, *B.S., M.S. (Illinois), Ph.D. (Wisconsin)*

Research interests: water resources, tropical water management, small watershed hydrology, drainage. Concentrations: soil and water engineering, environmental engineering, international agriculture, environmental management. (Department Chair, 104 Riley-Robb Hall, 607-255-2270, mfw2@cornell.edu)

M. Todd Walter, *B.S., M.S. (Cornell), Ph.D. (Washington)*

Research interests: the linkages between hydrology and ecosystems and as such my research is generally interdisciplinary, collaborative, and broad in scope. Much of my research is focused on the transport and fate of nutrients, organisms, and sediments in different landscapes. My work is typically mechanistic, or physically based, and considers a wide span of spatial scales from bacteria and raindrops to watershed-wide ecohydrological processes. (232 Riley-Robb Hall, 607-255-2488, mtw5@cornell.edu)

Mingming Wu, *B.S. Nanjing University, Ph.D. (Ohio State University)*

Research interests: micro- and nano-scale biotechnology; dynamic imaging; fluid mechanics. Concentrations: biological engineering; environmental engineering. (306 Riley-Robb Hall, 607-255-9410, mw272@cornell.edu)

Minor Members

Antje J. Baeumner, *B.S., M.S. (Braunschweig, Germany), Ph.D. (Stuttgart, Germany)*

Research interests: analytical biotechnology, biosensors, micro Total Analysis Systems, integration of biological and engineering principles in microdevices, detection of pathogenic organisms, environmental pollutants, bioprocess control. Concentrations: biological engineering, environmental engineering. (ajb23@cornell.edu)

Brian Richards, *B.S., M.P.S., Ph.D. (Cornell)*

Research interests: in-soil mobility and fate of contaminants, including trace elements from land-applied wastewater sludge, nutrients, and, more recently, pesticides. My experience and training are broadly based, covering soil and water engineering, soil science, environmental engineering, environmental quality and life sciences. Research on land-applied wastewater sludge issues is a cooperative effort of a larger multidisciplinary group of researchers on campus. Areas of expertise that I bring to these groups include soil-oriented aspects of soil & water engineering, soil chemistry, environmental engineering, experimental design, analytical instrumentation and procedures, laboratory administration, and scientific/grant writing. (121 Riley-Robb Hall, 607-255-2463, bkr2@cornell.edu)

Jeffrey Werner, *B.S. (Wisconsin), M.S., Ph.D. (Minnesota)*

Research interests: bioprocess engineering, environmental engineering. (607-280-2992, werner@cornell.edu)

Advisor - Advisee Relationships

Faculty members develop a graduate education style and student-faculty relationship that they deem appropriate. Occasionally conflicts occur between a student and a faculty member, whether he or she is a committee member or not. It is hoped that these conflicts can be resolved by the student's Special Committee. If the committee is unable to resolve the conflict, the student should contact the Director of Graduate Studies (DGS), Professor John March. The DGS will discuss the problem with the student and assist in deciding the appropriate action or further referral. For example, the DGS may call a meeting of the Special Committee or refer the matter to the Department's Graduate Coordinating Committee. If the conflict cannot be resolved at the Graduate Committee level, the student may appeal to the Dean of the Graduate School, Dean of the Faculty, or University Ombudsman.

Timetable

To minimize the possibility of delaying your graduation, you are urged to develop, in consultation with your major Committee Member, a realistic proposal and timetable for your work.

Change of Status

When you complete your degree, our Graduate Field requires you to provide a bound copy of your thesis or project report for our BEE Library. You may leave the thesis or project report in the Student Services Office, Room 207 Riley-Robb.

Notify the Director of Graduate Studies of your plans for expected date of completion of your degree, leaves of absences, extended absences from campus, and other similar types of activities. Also, please leave your forwarding address, remove your materials and books from your desk area, return your Department keys, and notify the Graduate School of your plans. In the event of an emergency leave situation, the Student Services Office and/or the Director of Graduate Studies will assist in completing the necessary forms, forwarding of mail, and the like.

Biological and Environmental Engineering Seminars

Seminars

BEE 7000 - Orientation to Graduate Study

This is a one-credit seminar course in the Fall. New BEE students are required to register for this course in order to learn more about BEE research policy, programs, methodology, resources, and degree candidates' responsibilities

OTHER SEMINARS

Technical seminars are usually held during the spring term. All graduate students are encouraged to participate in a technical seminar. Topics for discussion will be announced before the beginning of the term. If a topic of general interest to more than one area of specialization is proposed, the possibility of combining seminars may be considered. Your suggestions and topics are always welcomed.

Thesis Research Seminar

You are encouraged to present a seminar on your research to the faculty and graduate students when you have completed a significant section of your research or at the end of your degree program.

Department Graduate Courses

Refer to the *Courses of Study* for a complete listing.

Cornell Computing

Cornell Information technologies (CIT) is located in the Communications and Computing Center (CCC), 607-255-8990 or helpdesk@cornell.edu. They offer a wide variety of computer hardware, operating systems, and general and specialized application programs. To make these resources readily accessible, CIT operates public computer terminal facilities and provides some free consulting services.

Each student at Cornell is given a unique Network ID consisting of their initials followed by a number. This Network ID allows students to use electronic mail and several other services in the Bear Access suite. To have your Network ID set up, you must go to the HelpDesk, first floor, Communications and Computing Center which is located next door to Caldwell Hall.

Computer Crime Legislation in New York

The Associate Dean issued the following information regarding computer crimes. The New York Senate and Assembly are considering bills that would restructure computer crimes to reflect consequential monetary damages and authorize restitution/reparation.

The Senate and Assembly are also considering Amendments to clarify the definition of "computer virus" and "computer tampering", to make it easier to convict wrong doers. Quoting from the Associate Dean, "Beware, the computer crime laws in New York are getting tougher and broader."

Standard Operating Procedures

Keys

A deposit of \$10 (to be returned when you return the key(s)) will be required. Key #55 opens all access doors to the building, the mailroom and the graduate offices. If you are required to have lab keys, your supervisor will let you know. If a key is lost, a charge to cover the replacement will be necessary. Please see Debbie Higgins (312 Riley-Robb Hall) to obtain your key(s). Unfortunately, we have experienced a number of thefts in recent years and have had to tighten security. **Please do not allow any unauthorized persons in the building after hours.**

Mailboxes

The mail room is located in 114 Riley-Robb and is open from approximately 8:00 am until 4:30 pm. Mailboxes are provided for all graduate students, faculty and staff. Please check your mailboxes regularly for messages.

Bulletin Board

A bulletin board reserved for graduate study announcements is located in the first floor hallway between Rooms 114 and 116. The bulletin board is updated regularly by the Student Services Office.

Fax

The department fax number is 607-255-4449. Incoming fax messages are allowed (discretion advised) at no cost to individuals. Please see your advisor's Administrative Assistant to send outgoing Cornell-related messages. **No** personal faxes may be sent.

Copy Center

The Copy Center (Room 116 Riley-Robb) is open from 8:00am until 4:00pm Monday through Thursday and 8:00am until 3:00pm on Friday.

Your student ID is the access code for the copier. A limit of **400 pages per year** has been placed on your access code for the Ricoh MPC2051 located in the Copy Center. Copies in excess of 400 are the personal responsibility of the student. Extensive copying of books and/or your thesis should be done elsewhere to avoid monopolizing the copiers. Copy Center Policy may be obtained from Brenda Marchewka in the Student Services Office.

Purchases

If your project director expects that you make frequent purchases, they can request that you gain access to Cornell's purchasing system, eShop. Permission as well as an account number and detailed business purpose must be obtained from your project or course director **before** making any purchases. To gain access to eShop, please have your director contact the Financial Reporting Specialist in 112 Riley-Robb Hall. For infrequent purchasers, your director should identify another lab member that can complete your orders.

Department Vehicle

You must have a valid driver's license and be registered with the Fleet Office at the Fleet Garage **before** operating any Cornell vehicle. Check with Jeff Carmichael in 108 Riley-Robb regarding this procedure. The department vehicle is to be used for BEE purposes only. Sign-out sheets are available in Alley Pelletier's office in 106 Riley-Robb.

Additionally, in order to operate departmental trucks, each graduate student must demonstrate the ability to drive a pickup truck. Please arrange a driving demonstration with Doug Caveney in B64 Riley-Robb Hall.

Fleet Garage Vehicles

Similar rules govern the use of fleet vehicles. A fleet car may be used for official purposes only and charges must be authorized from a departmental account. Account numbers must be given to the Fleet Garage at the time the vehicle is reserved. A valid driver's license must be shown before vehicles are released to drivers.

Parking

All vehicles on campus must be registered with the University Transportation Services at 116 Maple Avenue. Parking on campus is limited and expensive. Kite Hill parking, just west of Riley-Robb Hall, is popular with BEE affiliates. Check with the Transportation Services at 607-255-4600 to learn about what other options are available to you.

BEE Graduate Student Association (GSA)

The BEE Graduate Student Association (GSA) was developed to assist new students, as well as continuing students, become familiar with the policies and procedures of the Biological and Environmental Engineering Department. If you would like to know more about this group, contact one of the following people:

Fall 2015

President: Lauren Harroff, lh456

Vice President: Natalie Morse, nrb75

Treasurer: Erin Menzies, egm55

GSA Representative: Gozde Arabaci, ga264

BEERS Coordinator: Allison Truhlar, amt94

Past activities have included:

- Seminars by grad students on their research. This is an opportunity to practice giving seminars in a non-threatening situation and to help students get to know each other's work.
- Involvement with the Graduate and Professional Student Assembly (GPSA), the student government organization for grad students.
- Party / BBQ at the beginning and end of each semester.
- Movie nights
- Intramural softball, basketball, etc.
- Camping trip

Professional Organizations

Graduate students are encouraged to continue their professional development by becoming members of a professional organization with their interests.

Tidbits from Grads to Grads

The next few pages are directly from the graduate students themselves. They have given you some ideas of where to find things you may need. You will probably still need to rely on your best resource: people who have been here for awhile. So, please don't be shy, just ask!

Miscellaneous Useful Information

CU INFO

You can find lots of useful information about things happening at and around Cornell, including the weather. The web address is <http://cuinfo.cornell.edu>.

Student Center

This allows you to be able to check your registration, add/drop classes and make changes to your special committee.

Several labs have computers, so once you are established in a particular lab you will probably have one available at all hours. The lack of computers at off-hours is often an inconvenience to students, new ones in particular. Talk to your advisor if you are having difficulties with computer access.

Several excellent computer centers are available on campus, including ones in Mann Library, Warren Hall, MVR, Upson Hall, and Sibley Hall. Also, Mann Library has a laser printer with lots of fonts.

Using the Research Shop

Doug Caveney, Research Shop Manager, is another person to get to know in the department. He is an excellent teacher and has helped many grad students who have little or no experience to construct what they need.

Small tools, for the most part, can be used with little instruction. Doug requires that you get instruction before using the larger power tools. Safety is of course a primary concern. Doug recommends you “start planning projects early”, by getting in touch with staff members in plenty of time for them to help you. People are helpful but sometimes busy. Inside the shop there is a scrap box for Plexiglass as well as wood so you can construct a prototype with free material until you find what you want. Tools can also be signed out. The sign out sheet is found next to the shop door.

Secrets to eating well near Riley-Robb

- *Vet School Cafeteria* - great deli sandwiches and a good salad bar.
- *Trillium* - on-campus dining in Kennedy Hall with a great variety of food and large crowds.
- *Big Red Barn* - especially for grad students and has pretty good food.

Mail

Campus mail is a free service, provided your mailing is related to University business. Envelopes (large or small) are available in the mail room and can be mailed in the **OUT** box for campus mail.

Packages can be sent via UPS or Federal Express with an account number. You will need to weigh them yourself and fill out the correct forms, which are found in the mail room on the 1st floor. If you receive a package, you will receive a notice in your box in the mailroom.

LCD Projectors

Computer LCD projectors are available for sign out from the Copy Center.

Getting Started with your Academic Program

Finding an Advisor/Project

Some students arrive at Cornell with an advisor and project already chosen. However, others do not. If you do not, then start the process ASAP. Ask around to find out what professors are working in your areas of interest. Set up appointments to talk with some professors and evaluate the possibilities. Things to consider when selecting an advisor/project:

- Project Area
- Funding
- Expected Coursework
- Other grads on the project or in the field
- Resources (Lab)
- Professors long range plans for staying at Cornell

Don't forget to talk to other graduate students about their experiences!

Your First Semester of Courses

Many students find themselves at a loss when selecting courses for their first semester. An interesting option at Cornell is that Grad students are not required to register for courses until a few weeks into the semester. This freedom allows you to attend courses initially and then choose the best ones. Your advisor should be able to help you select appropriate courses. Check with other grads working in your area of interest as well.

Grad Student Social Life

Since grad students are your main source of information about what is really going on around campus, it is a good idea to take advantage of opportunities to get to know each other. Other grad students will be a great support through what can be a stressful time at Cornell and other grads can even be a lot of fun. Several opportunities exist for socializing with other grad students.

Procedures for Graduate Student Injuries

The process can be summarized as follows:

- When injured, a graduate or professional student should immediately seek medical attention and file a University injury report (<http://gradschool.cornell.edu/policies/procedures-graduate-student-injuries>).
- After receiving the University injury report, Environmental Health and Safety will notify the Assistant Dean for Graduate Student Life, who will notify the student's school, University Health Services, and the Dean of Students office.
- A representative from the student's school (Graduate School or professional school) will contact the student to offer support and assist the student in identifying and engaging appropriate offices across campus.

Great Outdoors Activities Around Ithaca

Here's a list of some parks and places to see as soon as you can and definitely before you leave Ithaca. Nothing is all that far and buses run to many of the attractions (277-RIDE). Take full advantage while you are here! This is one of the most beautiful places in the US. If you don't have an Ithaca map, get one. You can also get a copy of *Trails of Tompkins County* by calling 607-275-9487.

1. Six-Mile Creek, near E. State Street between Cornell and the Commons. This is a great trail through the forest. The trail leads to a reservoir and you can go further to Potter's Falls, which is amazing.
2. The Wildflower Trail, connected to the area above. This trail is great for walks by the river and through the forest, especially during the Spring when the wildflowers are all out in bloom.
3. Upper and Lower Buttermilk Falls State Park, off Route 13. There are amazing waterfalls and paths.
4. Treman Park, off of Route 13. This park is even more amazing. There is sheer cut rock and natural pools.
5. Taughannock Falls State park, off of Route 89. There is a view point overlooking the falls (higher than Niagara) and there are several trails near the falls.
6. Taughannock Park by the Lake, across from the parking lot of the above. You can picnic, swim, fish, or watch the sunset, etc. During the summer there are evening concerts on Saturday's.
7. The Plantations, on Cornell campus. There are beautiful gardens and the grounds extend much further than you can imagine.
8. Sapsucker Woods, off Route 13. Cornell Ornithology Labs are there. This is a nice place for walks through the woods and bird watching.
9. Sindagin Hollow State Forest, off Route 79 near Caroline. Great place to mountain bike and ski.
10. Hammond Hill, off Route 13 East past the airport. Another great place to walk, mountain bike, and ski.

We hope this handbook will serve some of your needs while you are at Cornell University.

If you have any suggestions, additions, or comments, please contact Brenda Marchewka
BEE Student Services, 207 Riley-Robb Hall
607-255-2173, bls19@cornell.edu

We wish you the very best of luck with your graduate studies!

