About the School: A Message From the Chair  
Terry Snell, Interim Chair

There could not be a more exciting time to be a biologist. We have come through three incredibly productive decades of research that have expanded the frontiers of knowledge in many areas. We have made amazing progress in understanding the workings of individual cells, organisms, populations, and communities. For example, we now understand many of the molecular details of how information is encoded and expressed by genes throughout plant and animal development. On the cellular level, we have begun to document the mechanisms that underlie various neurological and physiological processes associated with a variety of human diseases. At population level, many of the mysteries about how species interact and adapt to their environments are beginning to unravel.

The next twenty years promise to be just as exciting and productive in biology. Most scientists agree that future advances in biology will result from integration rather than specialization. For example, future ecologists will integrate knowledge of cellular and molecular processes to better understand how organisms sense their environments and how they use these sensations to induce behavioral and physiological responses in individuals, populations, and communities. Boundaries that currently define traditional areas of biological research are becoming blurred, and biologists now regularly integrate knowledge and methodologies from fields that are currently considered outside of biology. The significant role of mathematics and computer science in biological research will continue to grow. Increasingly, cells, organisms, and populations will be viewed and studied as composites of dynamically interacting units. These approaches will be focused on solving some of our most challenging problems like climate change, the loss of biodiversity, biofuels, bioremediation, and drug discovery.

While past research has taught us much about how cells and populations are structured and function, future biology will be focused on understanding how these systems interact. The mathematical and computer sciences will be essential tools in the “systems approach” to biology. Likewise, the integration and incorporation of engineering into biological research will be a hallmark of future discoveries. Many algorithms originally developed by systems engineers to help understand the dynamics of complex electrical networks are already being employed to unravel the complexities of biochemical pathways in cells.

The School of Biology at Georgia Tech is ideally positioned to exploit these scientific trends and to make discoveries that will significantly advance the field. We are also well prepared to train students to think critically, solve problems, and to become the next generation of professional biologists. Long-standing strengths in engineering and the mathematical and computer sciences at Georgia Tech provide an ideal environment in which to prepare young biologists to become world leaders in integrative biological research. The School of Biology is composed of a diversity of researchers, many of whom have pioneered integrative approaches to the study of biological systems. They also are skilled in mentoring young scientists in many kinds of projects, ranging from the assembly of ecological communities, to membrane trafficking in cells, to the molecular genetics of bacterial pathogenesis. As you can see, the School of Biology is making exciting advances everyday and well on its way to becoming a recognized leader in biology. I invite you to join us on this exciting journey of discovery.

Professor Terry Snell  
Interim Chair  
School of Biology
# Table of Contents

Greeting from the Interim Chair ..................................................................................................................2

Introduction ..................................................................................................................................................6

   Departmental Resources ..........................................................................................................................6
   Other sources of information ...................................................................................................................6

The Graduate Program ................................................................................................................................7

   School of Biology Graduate Committee .................................................................................................9
   Institute Graduate Committee .................................................................................................................9
   Courses offered .......................................................................................................................................9

   General Policies and Requirements ........................................................................................................9
   Thesis Advisor ..........................................................................................................................................10
   Thesis Committee ...................................................................................................................................10
   Departmental Seminar ..............................................................................................................................10
   Tools of Science (BIOL 8106) ..................................................................................................................10
   Grades and Credit Hours ..........................................................................................................................10
   Transfer of Credit from Another University .........................................................................................11
   Requirements of MD/PhD Students ..........................................................................................................11

Doctor of Philosophy (PhD) Degree Programs ..........................................................................................12

   PhD IN BIOLOGY ..................................................................................................................................12
   Course Requirements ...............................................................................................................................12
   Good Standing ...........................................................................................................................................13
   Special Problems (Biology 890X) .............................................................................................................14
   Teaching Requirement .............................................................................................................................14
   Registration .............................................................................................................................................14
   Advisor and Thesis Advisory Committee ...............................................................................................14
   Qualifying Exam ......................................................................................................................................14
   Written Qualifying Exam ..........................................................................................................................15
   Exam Format and Grading ..........................................................................................................................15
   Oral Qualifying Exam ...............................................................................................................................16

Annual Thesis Committee Meetings ..........................................................................................................16

Format and Content of the Thesis ..............................................................................................................17

PhD Thesis Presentation and Defense .........................................................................................................17

Required Forms and Petitions for Biology PhD Students ...........................................................................17

   Thesis Committee Membership Form ......................................................................................................17
   Preliminary Program of Study Form .........................................................................................................17
   Thesis Committee Meeting Report ..........................................................................................................17
   Request for Approval of a Doctoral Minor Form .......................................................................................18
   Request for Admission to Candidacy Form ...............................................................................................18
   Approved Program of Study Form ............................................................................................................18
   Degree Petition .........................................................................................................................................18
   Certificate of Thesis Approval for Doctoral Students ...............................................................................18
   Biology PhD Program Timetable ..............................................................................................................19

PhD PROGRAM IN BIOINFORMATICS .......................................................................................................21

   General Requirements .............................................................................................................................21
   School of Biology Privileges ....................................................................................................................21
   Course Requirements ...............................................................................................................................21
   Registration ...............................................................................................................................................21
   Teaching Requirement .............................................................................................................................21
   Thesis Advisor and Committee ..............................................................................................................21
   Qualifying Exam .....................................................................................................................................22
   Required Forms and Petitions for Bioinformatics PhD Students ..............................................................23
   Thesis Committee Membership Form .....................................................................................................23
Master of Science (MS) Degree Programs

MASTER OF SCIENCE IN BIOLOGY WITH THESIS

Course requirements ........................................................................................................... 26
Good Standing ...................................................................................................................... 27
Registration ........................................................................................................................... 27
Thesis Advisor and Committee ............................................................................................ 27
Annual Thesis Committee Meetings ..................................................................................... 27
MS Thesis Topic and Format .................................................................................................. 28
MS Thesis Presentation and Defense ....................................................................................... 28
Transfer to the PhD Program.................................................................................................. 28
Required Forms and Petitions for MS Students

MS Thesis Committee Membership Form .............................................................................. 29
MS Program of Study Form .................................................................................................. 29
MS Thesis Committee Meeting Report .................................................................................... 29
Request for Approval of Master’s Thesis Topic Form .............................................................. 29
Approved Program of Study Form ......................................................................................... 29
Degree Petition ..................................................................................................................... 29
Certificate of Thesis Approval for MS Students ....................................................................... 29
Timetable for MS Degree with thesis .................................................................................... 30

MASTER OF SCIENCE IN BIOLOGY WITHOUT THESIS

Course Requirements ............................................................................................................ 31
GPA Requirements ................................................................................................................ 31
Advisor .................................................................................................................................. 31
Required Forms and Petitions for MS (non-thesis) Students

MS Program of Study Form .................................................................................................. 31
Degree Petition ..................................................................................................................... 32
Timetable for Master’s Degree Without Thesis ..................................................................... 32

PROFESSIONAL MASTER OF SCIENCE IN BIOINFORMATICS

Outline .................................................................................................................................. 33
Course Requirements ............................................................................................................ 34
Core Courses ........................................................................................................................ 34
Curricula Options .................................................................................................................. 34
Special Problems Research ..................................................................................................., 34
Recommended Sequence of Courses ..................................................................................... 35
Version A ................................................................................................................................ 36
Version B ................................................................................................................................ 36
Suggested Elective Courses .................................................................................................... 37
Management of Technology Certificate Option ..................................................................... 38
Timetable for Professional MS Degree in Bioinformatics ......................................................... 38

General Information and Policies

Athletic Facilities .................................................................................................................. 39
Biology Graduate Student Association (BGSA) ..................................................................... 39
Bookstore ............................................................................................................................. 39
BuzzCard (Student ID Card) ................................................................................................ 39
Computing Resources .......................................................................................................... 40
Biology Computing Resources .............................................................................................. 40
Classroom Mobile Lecterns .................................................................................................. 40
Copiers, Fax Machines, Phones ............................................................................................ 40
Introduction

Departmental Resources

The purpose of this handbook is to outline the School of Biology’s procedures for graduate students to receive a degree. The general rules and regulations governing all graduate students at Georgia Tech are found in the Georgia Tech General Catalog, http://www.catalog.gatech.edu/, or online at the Graduate Studies and Research web page, http://www.gradadmiss.gatech.edu/thesis.php.

This handbook will be updated annually in the summer. However, any major changes made prior to that time will be posted to our website with notification to all graduate students by email. Copies of all forms referred to in this handbook are available in the Appendix and on our website: http://www.biology.gatech.edu/.

If you have any questions that aren’t answered in the handbook, feel free to contact any of the following people:

Kevin Roman
Academic Assistant II
209 Cherry Emerson
404-385-4240

Dr. Kirill Lobachev
Chair, Graduate Committee
IBB 2303, IBB 2202 (lab)
404-385-6197, kirill.lobachev@biology.gatech.edu

Dr. Julia Kubanek
Associate Chair for Graduate Affairs
ES&T 2242, ES&T 2175 (lab)
404-894-8424, Julia.kubanek@biology.gatech.edu

Other sources of information

- Georgia Institute of Technology general website http://www.gatech.edu/students/graduate/
- Georgia Institute of Technology 2010-2011 General Catalog http://www.catalog.gatech.edu/
- Office of the Dean of Students: http://www.deanofstudents.gatech.edu/
- Georgia Tech Office for Graduate Studies and Research: http://www.gradadmiss.gatech.edu/
- OSCAR: On-line Student Computer Assisted Registration website, has catalog information and listings of all classes offered for current and following semesters: https://oscar.gatech.edu/
- School of Biology website: http://www.biology.gatech.edu/
The Graduate Program

The primary aim of our graduate program is to foster your development as a scientist by providing you with a strong technical background, a sound grasp of current scientific problems, and the analytical skills you'll need to begin to attack such problems. We also hope to motivate you to continued learning which will permit you to define and solve new kinds of problems during your professional career. Upon graduating, you will move on to positions in industry, government, and academe. Your reflections on our graduate program will be most welcome and your suggestions will assist us in further developing the program to remain at the cutting edge of science.

School of Biology Graduate Committee

The School of Biology Graduate Committee consists of five faculty members representing major research areas in the department. In 2010-2011, the committee includes Kirill Lobachev (Chair), Todd Streelman, Greg Gibson, Ingeborg Schmidt-Krey, and Soojin Yi. The Chair and Associate Chair of the School of Biology also take part in Graduate Committee affairs ex officio. The Graduate Committee has specific responsibility for establishing and administering graduate degree requirements, approving programs of study, as well as thesis and PhD committees, and providing oversight for administering the PhD qualifying exam.

The Graduate Coordinator and Academic Assistant work in the School of Biology Graduate Office and work directly with the Graduate Committee to facilitate and implement new policies, coordinate graduate recruiting efforts and admission of students into the program, develop on-campus programs and serve as a resource and liaison for graduate students in the department.

Julia Kubanek is Associate Chair of the School for Graduate Affairs. She is involved in the administrative oversight of the graduate program and works together with the committee on graduate student issues.

Institute Graduate Committee

The Institute Graduate Committee is responsible for all institute-wide academic policies and degree requirements at the graduate level. They also make all decisions regarding institute-level graduate student petitions. These petitions include late withdrawals, changes in graduate studies, grade disputes, and readmission into the program.

Courses Offered

Catalog descriptions of all courses offered may be found online at: http://www.biology.gatech.edu/graduate-programs/current-students/content/courses.php. In general, courses numbered 4xxx are intended for advanced undergraduate and graduate students, while courses numbered 6xxx-9xxx are intended for graduate students, but are available for undergraduate students with strong records.

General Policies and Requirements

The School of Biology has grown significantly over the last few years and our graduate program has changed and evolved with the School as a whole. Some of the requirements in this handbook may change during your studies, but you will always have the option of graduating under the requirements in effect when you entered the program.
Thesis Advisor

As a graduate student in the School of Biology, you are responsible for your overall program of study and your progress toward the degree. You will be advised throughout your graduate career by your thesis advisor and thesis committee, as well as by any other faculty you wish to consult.

Upon admission, you will be assigned an advisor who will work with you in selecting courses and planning your initial curriculum. This advisor may or may not become your primary thesis advisor. You may use your first year to explore research opportunities in the department, but you must select a primary advisor no later than the end of one year in residence. Your primary advisor must agree to act in that capacity and will be responsible for providing lab space to support your research. You may change advisors at any time and for any reason, but you must have a primary advisor at all times after the end of your first year in the program in order to remain in good standing.

Thesis Committee

Your thesis advisor will work with you to plan a research project and form an appropriate thesis committee. The thesis committee acts to advise you in your research and will have primary responsibility for evaluating your work and your thesis. The membership of the committee varies among degree programs. For School of Biology degree programs, it must be approved by the School’s Graduate Committee.

Departmental Seminar

Regular departmental seminars are an important part of your graduate education and should become part of your weekly routine. Students are required to take two, one hour biology seminar courses, one hour in the fall and one hour in the spring semesters. During the first full-time year in residence, you are required to register for Biology Seminar, designated BIOL 8002 in the fall and BIOL 8003 in the spring semesters. Students receive pass/fail credit by attending at least 10 seminars per semester and meeting any additional requirements your advisor may have relating to the seminars. For example, your advisor may require you to write reports on a subset of the seminars. Discuss the seminar courses with your advisor at the beginning of the semester you register. Generally, any biology-related school or center seminar on campus given by a speaker external to Georgia Tech qualifies. The student should email the list of seminars (title and date) attended to the Graduate Coordinator, Kirill Lobachev. Attendance at seminars is a very important component to a research career; therefore you are strongly encouraged to attend seminars as part of your professional life.

Tools of Science (Biology 8106)

Tools of Science is a mandatory course, students are advised to take it in the first year of study. This jointly-taught course introduces students to some of the knowledge they’ll need as scientists and provides a forum for discussing a variety of concerns and issues that affect all successful scientists and engineers. Biology 8106 also includes the CETL (Center for the Enhancement of Teaching and Learning) 8000 course that contains GTA teaching training. The course meets one afternoon each week.

Grades and Credit Hours

As a graduate student, you must maintain a minimum grade point average to remain in good academic standing. The minimum satisfactory GPA is 2.70 for MS students and 3.00 for PhD students. A graduate student must register for at least 12 credit hours to maintain full time status, and may
register for a maximum of 21 semester hours in fall or spring semester and a maximum of 16 semester hours during the normal summer term.

**Transfer of Credit from another University**

Please consult the Institute’s guidelines on transfer of credit from another university to MS and PhD degree programs at Georgia Tech. Currently a student matriculating for a MS degree with thesis may, with appropriate approval, receive up to six pass/fail credit hours for graduate-level courses taken at an accredited institution in the United States or Canada and not used for credit toward another degree. A student in a non-thesis MS degree program, may, with appropriate approval, receive up to nine pass/fail credit hours for graduate-level courses taken elsewhere. PhD students may also transfer graduate level course credit from another university (see PhD program regulations below).

A student requesting transfer credit must complete the following procedure preferably during the first year in the program:

a. Confer with your faculty advisor or the Graduate Coordinator to ascertain whether the courses to be transferred appear to be a logical part of your graduate program.

b. If your thesis advisory committee (for thesis students) or Graduate Coordinator (for non thesis students) considers the courses appropriate, provide a copy of the relevant transcript along with documentation describing each course to the Chair of the Graduate Committee. The required documentation should include catalog descriptions, syllabi, and textbooks used. The Graduate Committee will make a decision on the acceptability of the courses. If the Committee approves, a transfer credit form will be prepared, signed by the Chair or Associate Chair and sent to the Registrar.

c. If special circumstances suggest transfer of more credit hours than allowed by Institute and/or School guidelines, you may submit a petition justifying the request and a letter of support from your thesis advisory committee to the School Graduate Committee. If the School Committee approves the petition, it will forward it to the Institute Graduate Committee for its consideration.

**Requirements of MD/PhD Students**

Students enrolled in the MD/PhD program should strictly adhere to the guidelines outlined for PhD students in the Graduate Handbook. With approval from the Graduate Committee, courses taken at Medical School can be considered for credit towards the PhD degree, including the minor requirement.
Doctor of Philosophy (PhD) Degree Programs

The doctoral degree requires a thorough knowledge in a selected area of specialization, a general knowledge of biology, and the ability and dedication to carry out novel research in uncharted areas. It is not necessary to obtain a MS degree before pursuing a PhD degree. Students typically take about five years to complete their doctoral program.

The School of Biology offers a PhD degree in biology and participates in the interdepartmental PhD program in bioinformatics.

PhD in Biology

Course Requirements

The PhD degree requires a minimum of 40 credit hours. This must include: 18 credit hours of thesis research, and 18 credit hours of coursework (which includes nine credit hours in an approved minor).

<table>
<thead>
<tr>
<th>Coursework</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thesis Research (BIOL 9000)</td>
<td>18</td>
</tr>
<tr>
<td>Biology Seminar (BIOL 8002 and BIOL 8003)</td>
<td>2</td>
</tr>
<tr>
<td>Tools of Science (BIOL 8106)</td>
<td>2</td>
</tr>
<tr>
<td>Coursework approved by thesis committee. This coursework must meet the following three criteria:1-6</td>
<td>18</td>
</tr>
<tr>
<td>At least 9 of the 18 hrs must be graduate courses (6000 level or higher) with a letter grade</td>
<td></td>
</tr>
<tr>
<td>At least 9 of the 18 hrs must be Biology courses (BIOL 4XXX – 8XXX), with a letter grade</td>
<td></td>
</tr>
<tr>
<td>9 of the 18 hrs must fulfill the requirement for an approved minor3</td>
<td></td>
</tr>
<tr>
<td>Total Required</td>
<td>40</td>
</tr>
</tbody>
</table>

Important Notes:

1. Each individual course may be used to meet more than one of the three criteria; i.e. BIOL 6XXX can be used to fulfill 3 of the 9 hours of the graduate course requirement, 3 of the 9 hours of the Biology course requirement and 3 of the 9 hours for an approved minor. However a 3 hr course only counts as 3 hrs toward the 18 hour total coursework requirement.

2. A maximum of three credit hours of Special Problems - Research (BIOL 890X) and six credit hours of additional seminar courses may be counted toward the 18 hour total requirement.

3. The minor is an Institute requirement and should be in a field of study outside your own area of specialization. In recent years, students have chosen minor fields within the department (e.g.,

pg. 12
microbiology, cell biology) as well as in other departments (e.g., biochemistry) or interdisciplinary fields (e.g., chemical ecology or biogeochemistry)

4. A student may request transfer of up to nine credit hours of graduate level courses taken at another university toward the above curriculum requirements. The courses must be relevant to a student’s doctoral studies and must be approved by the student’s thesis advisory committee and the School’s Graduate Committee. A student may petition the School’s Graduate Committee to transfer additional credit hours as outlined on page 12 if special circumstances exist.

5. Teaching and Research Assistantships (BIOL 8997 and 8998) are not real courses and are for bookkeeping only. **Do not** put these on your Program of Study Form.

6. Any deviation from the Planned Program of Study requires approval of the thesis advisor and Graduate Committee.

**Good Standing**

To remain in good standing within the program, you must maintain a GPA of 3.0 while making progress toward the degree. The major milestones used in evaluating progress are summarized below. The Graduate Committee reviews the status of each student at least once a year in consultation with the student’s advisor and committee. Students who fail to maintain good standing are not eligible for departmental TA or RA support and may be dismissed from the program.

**Special Problems (BIOL 890X)**

Incoming students are encouraged to participate in lab rotations in several faculty labs through the mechanism of special problems courses. However, lab rotations are not required of incoming students. In Molecular and Cell Biology (MCB) area, most students participate in several lab rotations prior to selecting a thesis advisor with mutual consent. In Ecology, Evolution, and Behavior (EEB) area, it is common for students and faculty to mutually agree on advisor-student pairing prior to students accepting admission. There are advantages to both approaches.

Students who are accepted for admission will be asked to specify in their acceptance of the offer if they plan to:

A) Register for Special Problems during their first year and carry out at least two half-semester laboratory rotations prior to any decision on thesis advisor or,

B) Initiate lab research with a specific professor who agrees to be his/her initial advisor.

Prior to the first week of class in the fall semester, the Graduate Coordinator will ask faculty if they are willing to have graduate students participate in a lab rotation course. During the first week of class, interested faculty will have the opportunity to give a 15-minute research talk to students doing lab rotations. Before the end of registration, students will register for the appropriate special problem course based on semester and advisor. If doing a lab rotation in a professor’s lab for the first time, please register for BIOL 8901-xxx where xxx are the first three letters of the last name, in most cases, of the professor. If this is the second semester with the same professor, please register for BIOL 8902-xxx.
Teaching Requirement

All PhD students are required to participate as a graduate teaching assistant in a minimum of one course as part of their graduate training. A teaching assistantship typically involves six hours of contact time weekly (one six hour lab or two three hour labs). Office hours, preparation time, and grading generally take about six to eight hours each week, for a total commitment of roughly 12-14 hours effort per week.

Registration

Full-time enrollment is required of all students receiving assistantships or fellowships and for international students on visas. **Full-time students must be enrolled for at least 12 credit hours on a letter grade or pass-fail basis.** Please consult with your faculty advisor and the graduate coordinator for assistance with required courses. For general registration questions, please contact the Graduate office. All graduate research assistants should register for the GRA course BIOL 8998 for audit and all graduate teaching assistants should register for the GTA course BIOL 8997 for audit. Most students register for 16-18 credit hours in which some of these are the required audit hours mentioned above.

Advisor and Thesis Advisory Committee

Your thesis advisor acts as chair of your thesis advisory committee and has primary responsibility for advising you in your research. Normally, a thesis advisor must be a member of the tenure-track faculty of the School of Biology. Under special circumstances and with the approval of the Graduate Committee and the School Chair adjunct or research faculty in Biology or faculty in another school at Georgia Tech may act as co-advisor for a student in biology in collaboration with a thesis advisor from the School of Biology. In such cases, a written statement must be filed specifying who will be responsible for advising and supporting the student.

You should consult with your advisor about the membership of your thesis committee beginning in your first year of studies. The thesis committee must have five members, including three members of the academic faculty of the School of Biology and at least one member from outside the School of Biology. The composition of your committee may change as your studies progress, and it is not unusual to change members to your committee as you carry out your research. To establish or modify your thesis committee, submit a Thesis Committee Membership Form for approval by the Graduate Committee.

The thesis committee's role is to advise you on all aspects of your graduate studies. Your first committee meeting should occur at the end of your 12th month in the program and you must meet with your committee annually thereafter. Your preliminary program of study must be discussed and approved at your first meeting with your advisory committee.

Qualifying Exam

A PhD student gains admission to candidacy for the degree by passing a two-part qualifying examination. To be eligible for the qualifying exam, you must have:

1. Completed at least three graduate courses in biology with a letter grade.
2. Maintained a GPA of at least 3.0 in all regular courses listed on your program of study excluding Special Problems.
The qualifying exam has separate written and oral components, both of which are administered by your thesis advisory committee. The qualifying exam must be administered by at least four of your committee members.

1. The written exam must be taken no later than the beginning of the second semester of your second year in the program. Two months before your exam date, your advisory committee must notify you in writing and the Graduate Committee of the exam date and areas to be examined. You must pass the written exam within three months of your original exam date to remain in good standing in the PhD program.

2. The oral exam must be taken within three months of successful completion of the written exam or by the end of your second full academic year in the program, whichever is later. This exam requires that you prepare an original proposal on your thesis research following NIH or NSF guidelines. The oral exam will typically include an intensive discussion of the research proposed accompanied by questions from the committee focused on relevant areas of biology. If you fail the oral exam, you must retake it within three months of your first attempt. A second failure is grounds for dismissal from the PhD program. The final written proposal must be given to members of your thesis advisory committee at least two weeks before the oral exam.

Written Qualifying Exam

The written qualifying exam is an important milestone that gives each student an opportunity to demonstrate a detailed understanding of several areas of biology. Students taking the qualifying exam are expected to be knowledgeable about recent developments in biology, including current research published in *Science* and/or *Nature*, or presented in departmental seminars. The exam must be passed before a student can advance to candidacy for the PhD. Most students take the exam in their second year of study, but advanced students may take the exam earlier.

You should seek early advice on preparing for the PhD qualifying exam from your PhD advisor and from other faculty in the School of Biology.

Exam Format and Grading

This is a substantial and important exam, normally requiring two full days of effort. Your exam will be prepared, administered, and graded by the members of your advisory committee. Some exams are computer-based, others require preparation of diagrams and illustrations and must be hand-written. The detailed format of the exam will be determined by your committee, but most written exams extend over two full days. The steps involved in this exam are:

1. Two months before the exam date, you should meet with your advisory committee to define the areas to be examined. The exam should cover a broad spectrum of modern biology relevant to your scientific interests and plans. At this time, your advisory committee should provide you and the Graduate Committee with a written summary of the areas to be examined and a list of appropriate materials for study.

2. Your committee members will jointly administer and grade your exam. You will receive feedback on the outcome of the exam within two weeks of the exam date. At this time, you may pass the exam outright. Your committee may also decide that you failed the exam, or they
may identify weaknesses that should be addressed either by further study and reexamination, or through some other mechanism for demonstrating your command of the materials in question, such as writing a paper. Whatever the immediate result of your exam, your advisory committee must report a final result (pass/fail) to the Biology graduate office (Cherry Emerson 211) within three months of the date of the original exam.

3. The timing of the written exam is flexible and you should begin discussing the exam at your first committee meeting. Students entering the program in advanced standing may take the written exam at any time before the deadline. Remember that your committee must notify both you and the Graduate Committee of the exam date and content two months in advance.

What if…

… you fail an exam?

Your advisory committee has a three month window in which to retest you to determine your command of the exam materials. If you find yourself in this situation, you should consult with your advisor and the Graduate Committee as soon as possible after receiving your exam grade. You should also discuss your exam with the graders to get feedback on your performance, particularly if you plan to retake the exam.

If you fail an exam a second time, you will no longer be in good standing as a PhD student and will be required to leave the program.

Oral Qualifying Exam

This exam is administered by your thesis advisory committee. Well before the exam, you should consult with your advisor and committee in developing your research proposal. Normally, your first meeting with your advisory committee will occur several months before you fully develop your research proposal. The final research proposal must be your work and not simply a modification of an existing proposal. Most students prepare a pre-proposal for early review by their advisor. Your proposal should be written following the NSF (http://www.nsf.gov/pubsys/ods/getpub.cfm?gpg) guidelines for proposals. The final research proposal must be given to members of your thesis advisory committee at least two weeks before the oral exam.

The format of the oral qualifying exam itself will be determined by your advisor and advisory committee. The moderator of the exam will be a member of your thesis advisory committee other than your advisor. A typical exam will begin with a brief (30 - 40 minute) presentation of the proposed research followed by a free-ranging discussion that may last for several hours. Your presentation should be prepared using PowerPoint and should give both an overview of the problem to be addressed by your research and your strategies for attacking that problem. The discussion that follows is often motivated by the proposal itself, but your committee may question you on any relevant area of biology and related fields.

Annual Thesis Advisory Committee Meetings

You are responsible for meeting with your thesis advisory committee at least once each year (including your first year in the program) to present an overview of your academic and/or research progress and to consult with the committee on the work remaining to be done. You must file a Thesis Committee Meeting Form signed by the members of your committee following this meeting.
Format and Content of the Thesis

Your thesis should conform to Institute guidelines in format and style. Please see the online style manual (http://www.gradadmiss.gatech.edu/thesis.php) for detailed instructions on preparing your thesis. In addition to the university guidelines, the School of Biology requires that some portion of the PhD candidate's research must have been submitted for publication in a refereed scientific journal before the thesis defense. The thesis advisory committee may further require that a portion of the dissertation be accepted for publication with you as first author prior to the defense. Documentation that this requirement has been fulfilled must be presented with the graduation petition.

PhD Thesis Presentation and Defense

PhD students must make a public presentation and defense of their thesis. The thesis defense consists of a public seminar followed by an oral examination by the student’s thesis advisory committee. The final defense must be administered by a committee of five faculty members, composed of your advisor, three members of the academic faculty of the school of biology, and at least one member from outside the School of Biology.

A final draft of the thesis and copies of submitted/published manuscripts must be given to each member of the thesis advisory committee and made available for review by School of Biology faculty at least two weeks prior to the defense. The thesis defense must be scheduled and announced through the biology main office at least two weeks in advance.

Following the thesis defense and upon completion of any final changes to the thesis, the members of your thesis advisory committee must sign a Certificate of Thesis Approval Form, which must also be signed by the Graduate Coordinator before final submission.

The deadlines for thesis submission for graduation each term are available from the graduate school at http://www.gradadmiss.gatech.edu/thesis/thesisdeadlines.php. Failure to meet all deadlines may cause a delay in graduation date.

Required Forms and Petitions for Biology PhD Students

Thesis Advisory Committee Membership Form

This form defines and requests graduate committee approval of the membership of your thesis committee. This form must be submitted to the biology graduate office by the end of your second semester in the program.

Preliminary Program of Study Form

You should prepare a Preliminary Program of Study Form as early as possible in consultation with your thesis advisor and with the approval of your thesis committee. A copy of the approved form must be submitted to the biology graduate office to be placed in your file by the end of your 12th month in the program.

Thesis Advisory Committee Meeting Report

A copy of this form must be filed with the biology graduate office every year to document progress and report the outcome of the annual thesis advisory committee meeting. The student section should be completed PRIOR to the meeting. Your committee members will complete the remainder during the meeting. Submit the signed and completed form to the biology graduate office.
Request for Approval of a Doctoral Minor Form

After completing the nine course credits necessary for the doctoral minor, file the Request for Approval of a Doctoral Minor Form. This form must be signed by your advisor and the Graduate Coordinator before submittal to the Dean of Graduate Studies. The Graduate Coordinator’s signature may be obtained in the biology graduate office.

Request for Admission to Candidacy Form

This form is completed in two steps:

1. The first step seeks approval of the thesis topic. Complete the top portion of the form and have your advisor, thesis committee members, and the School Chair sign the form. Submit this form to the Biology graduate office, where it will be kept in your academic file.

2. After you have successfully passed the qualifying exams, the Graduate Coordinator completes Part II of the form, and then it is submitted to the Graduate Studies office by the Biology graduate office.

Approved Program of Study Form

Prepare a copy of the Program of Study Form to submit to the Registrar’s office with the Petition for Degree.

Degree Petition

Your degree petition must be submitted during the semester before your term of graduation. Deadlines are posted at [http://www.registrar.gatech.edu/students/calendar.php](http://www.registrar.gatech.edu/students/calendar.php). Complete and submit a Petition for Degree to the Registrar’s office in Room 103 of the Administration Building (Tech Tower). Please read the instructions on the Petition for Degree and follow them carefully. You must obtain signatures from your advisor and the School Chair before submitting the petition.

The Approved Program of Study Form must be attached to the degree petition. If you do not graduate the first time you petition, you must reactivate your degree petition by submitting another Petition for Degree. Reactivated degree petitions must be submitted by the end of Phase II registration for the term during which you wish to graduate.

Certificate of Thesis Approval for Doctoral Students

This form is completed and signed after your thesis defense and the completion of any necessary modifications or additions to your thesis. The Graduate Coordinator is the last to sign the form, after which the Biology graduate office can submit the document to Graduate Studies on your behalf.
## Biology PhD Program Timetable

<table>
<thead>
<tr>
<th>FORM or ACTION</th>
<th>TIMING or DEADLINE¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>Take introductory courses</td>
<td>First year</td>
</tr>
<tr>
<td>Rotate through labs of interest</td>
<td>First year</td>
</tr>
<tr>
<td>Select a faculty advisor from among the faculty of the School of Biology</td>
<td>End of the 2nd semester in the program</td>
</tr>
<tr>
<td>In consultation with your advisor, form your thesis advisory committee including at least three biology faculty. Submit the Thesis Committee Membership Form to the Biology graduate office</td>
<td>As early as possible and no later than the end of your 2nd semester in the program</td>
</tr>
<tr>
<td>Meet with your thesis committee and fill out a Preliminary Program of Study Form. Submit the completed form to the Biology graduate office</td>
<td>As early as possible and no later than the end of your 12th month in the program</td>
</tr>
<tr>
<td>Submit your Approval of Doctoral Minor Form to the Biology graduate office and to Graduate Studies</td>
<td>As soon as you complete the nine credits required for the minor</td>
</tr>
<tr>
<td>Request approval of your thesis topic by filling out the upper portion of the Request for Admission to PhD Candidacy Form, then submit it to the Biology graduate office</td>
<td>After completing your preliminary program of study</td>
</tr>
<tr>
<td>Take the written part of the qualifying exam, which is offered in the beginning of spring semester</td>
<td>Normally taken in January, and no later than in March of your 2nd year in the program</td>
</tr>
<tr>
<td>Take the oral part of the qualifying exam</td>
<td>Within three months of passing the written qualifying exam, or end of your 2nd year, whichever is later</td>
</tr>
<tr>
<td>Have the Request for Admission to PhD Candidacy Form signed by the Graduate Coordinator, then it is submitted to Graduate Studies by the Biology graduate office</td>
<td>After passing the oral exam</td>
</tr>
<tr>
<td>Carry out your research and publish at least one refereed paper</td>
<td>As early and quickly as possible</td>
</tr>
</tbody>
</table>

¹ Unless otherwise noted, the deadlines are for submission of forms to the Biology graduate office.
<table>
<thead>
<tr>
<th>FORM or ACTION</th>
<th>TIMING or DEADLINE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Meet with your thesis committee at least annually.</strong> Submit a <em>Thesis Committee Meeting Report Form</em> signed by the members of your committee to the Biology graduate office.</td>
<td>Once a year.</td>
</tr>
<tr>
<td>If necessary, you can modify your thesis committee membership by submitting a revised <em>Thesis Committee Membership Form</em> to the Biology graduate office.</td>
<td>As necessary, but no later than one semester prior to thesis defense</td>
</tr>
<tr>
<td><strong>Write your thesis.</strong> See the &quot;Manual for Graduate Theses,&quot; available from the Graduate Studies office (<a href="http://www.gradadmiss.gatech.edu/thesis.php">http://www.gradadmiss.gatech.edu/thesis.php</a>).</td>
<td>As early and quickly as possible</td>
</tr>
<tr>
<td><strong>Teach</strong> at least one course (2 credit hours or more of GTA time) as a teaching assistant.</td>
<td>No later than the end of your 4th year in the program</td>
</tr>
<tr>
<td>Submit a <strong>Petition for Degree</strong> and <strong>Approved Program of Study Forms</strong> to the Biology graduate office.</td>
<td>Submit these forms by the deadline announced by the Biology graduate office, which will always be the semester before graduation</td>
</tr>
<tr>
<td>Schedule your thesis presentation and defense.</td>
<td>Two weeks prior to the presentation, notify the administrative assistant in the Biology main office of the desired date and time to arrange for a room and announcement</td>
</tr>
<tr>
<td>Distribute the final draft of your thesis and any submitted or published papers: one copy to each committee member and one copy in room 208 Cherry Emerson.</td>
<td>As early as possible but no later than two weeks prior to thesis defense</td>
</tr>
<tr>
<td>Submit the <strong>Certificate of Thesis Approval Form</strong> and a copy of your completed thesis to the Institute Graduate Studies and Research Office.</td>
<td>After your defense and by the Registrar’s deadline</td>
</tr>
</tbody>
</table>
PhD Program in Bioinformatics

The program in bioinformatics is a multidisciplinary degree program involving five academic units in the Colleges of Science and Engineering: biology, biomedical engineering, chemistry and biochemistry, computing, and mathematics. Students in this program must be admitted to the graduate program in one of the participating schools, which acts as a home unit for the student.

General Requirements

Students in the Bioinformatics PhD program must meet all requirements set forth in the following link: (http://www.biology.gatech.edu/graduate-programs/bioinformatics/new/bioinformatics_phd.php). In the case of biology, a number of specific requirements are listed below. In cases where the biology and bioinformatics program requirements differ and no specific resolution is given below, the biology requirements will take precedence in matters of timing (e.g., deadlines) and reporting (e.g., forms to be submitted), while the bioinformatics program guidelines will take precedence in academic matters (e.g., course requirements).

School of Biology Privileges

Bioinformatics students have the same privileges as students in the biology PhD program. These include, but are not limited to, the normal level of support (GRA or GTA) in the first year of study and the opportunity to take part in laboratory rotations in the first year of study.

Course Requirements

Bioinformatics students must enroll in BIOL 8002 and 8003 (Seminar) and BIOL 8106 (Tools of Science) within their first two years in residence. At least 12 credits of coursework in categories A and B of the bioinformatics program must be taken in the School of Biology.

Teaching Requirement

Bioinformatics PhD students are required to participate in teaching a minimum of one course as part of their graduate training. A teaching assistantship typically involves six hours of contact time weekly (one six hour lab or two three hour labs). Office hours, preparation time, and grading generally take about six to eight hours each week, for a total commitment of roughly 12-14 hours effort per week.

Registration

Full-time enrollment is required of all students receiving assistantships or fellowships and for international students on visas. Full-time students must be enrolled for at least 12 credit hours on a letter grade or pass-fail basis. Please consult with your faculty advisor and the graduate coordinator for assistance with required courses. For general registration questions, please contact the Graduate Office. All graduate research assistants should register for the GRA course BIOL 8998 for audit and all graduate teaching assistants should register for the GTA course BIOL 8997 for audit. Most students register for 16-18 credit hours in which some of these are the required audit hours mentioned above.

Thesis Advisor and Committee

Students accepted into the bioinformatics program with the School of Biology as the home unit should choose a thesis advisor who is both a member of the bioinformatics program faculty and has a
primary faculty appointment in the School of Biology. Students choosing a thesis advisor outside of biology should request and complete a transfer to the school of the advisor within one semester. Such transfers require the permission of the graduate committee of the new home unit. The School of Biology does not provide financial support to students with advisors outside the School of Biology.

In keeping with the School of Biology requirements, students must file a Thesis Committee Membership Form by the end of their second semester in the program, and must hold their first thesis committee meeting by the end of their 12th month in the program. The School of Biology requires that at least one member of the thesis committee be from outside the bioinformatics program.

Qualifying Exam

The bioinformatics qualifying exam has separate written and oral components.

1. The written exam is a substantial and important exam, normally requiring two full days of effort. Your exam will be prepared, administered, and graded by the members of your thesis advisory committee. The detailed format of the exam will be determined by your committee, but most written exams extend over two full days.

The steps involved in this exam are:

a. At least two months before the exam date, you should meet with your thesis advisory committee to define the areas to be examined. The exam should cover a broad spectrum of modern bioinformatics relevant to your scientific interests and plans. At this time, your advisory committee should provide you with a written summary of the areas to be examined and a list of appropriate materials for study.

b. Your committee members will jointly administer and grade your exam. You will receive feedback on the outcome of the exam within two weeks of the exam date. At this time, you may pass the exam outright. Your committee may also decide that you failed the exam, or they may identify weaknesses that should be addressed either by further study and reexamination, or through some other mechanism for demonstrating your command of the materials in question, such as writing a paper. Whatever the immediate result of your exam, your thesis advisory committee must report a final result (pass/fail) to the biology graduate office (Cherry Emerson 211) within three months of the date of the original exam.

c. The timing of the written exam is flexible and you should begin discussing the exam at your first committee meeting. Students entering the program in advanced standing may take the written exam at any time before the deadline. Remember that your committee must notify both you of the exam date and content two months in advance.

2. The oral portion of the exam focuses on an original thesis research proposal which must be prepared following NSF (http://www.nsf.gov/pubsys/ods/getpub.cfm?gpg) guidelines. This exam is administered by the thesis advisory committee and will typically include an intensive discussion of the research proposed, accompanied by questions from the committee focused on relevant areas of bioinformatics.
A student who fails part of the comprehensive exam on the first attempt may retake the exam one time. Both parts of the qualifying exam must be passed by the end of the 36th month in the program.

**Required Forms and Petitions for Bioinformatics PhD Students**

*Thesis Committee Membership Form*

This form defines and requests approval of the membership of your thesis committee by the Bioinformatics Graduate Committee. This form must be submitted to the Biology graduate office by the end of your second semester in the program.

*Preliminary Program of Study Form*

You should prepare a Preliminary Program of Study Form as early as possible in consultation with your thesis advisor and with the approval of your thesis committee. A copy of the approved form must be submitted to the Biology graduate office to be placed in your file by the end of your 12th month in the program.

*Thesis Committee Meeting Report*

A copy of this form must be filed with the Biology graduate office every year to document progress and report the outcome of the annual thesis committee meeting. The student section should be completed PRIOR to the meeting. Your committee members will complete the remainder during the meeting. Submit the signed and completed form to the Biology graduate office.

*Request for Approval of a Doctoral Minor Form*

After completing the nine course credits necessary for the doctoral minor, file the Request for Approval of a Doctoral Minor Form. This form must be signed by your advisor and the Graduate Coordinator, and then the Biology graduate office submits it to Graduate Studies.

*Request for Admission to Candidacy Form*

This form is completed in two steps:

1. The first step seeks approval of the thesis topic. Complete the top portion of the form and have your advisor, thesis committee members, and the bioinformatics program chair sign the form. Submit this form to the Biology graduate office, where it will be kept in your academic file.
2. After you have successfully passed the qualifying exams, the Graduate Coordinator completes Part II of the form, and then the Biology graduate office can submit it on your behalf to Graduate Studies.

*Approved Program of Study Form*

Prepare a copy of the Program of Study Form to submit to the Registrar’s office with the Petition for Degree.

*Degree Petition*

Your degree petition must be submitted during the semester before your term of graduation. Deadlines are posted at [https://www.oscar.gatech.edu/](https://www.oscar.gatech.edu/). Complete and submit a Petition for Degree to the Registrar’s office in Room 103 of the Administration Building (Tech Tower). Please read the instructions on the Petition for Degree and follow them carefully. You must obtain signatures from your advisor and the School Chair before submitting the petition.
The Approved Program of Study Form must be attached to the Petition for Degree. If you do not graduate the first time you petition, you must reactivate your degree petition by submitting another. Reactivated degree petitions must be submitted by the end of Phase II registration for the term during which you wish to graduate.

Certificate of Thesis Approval for Doctoral Students

This form is completed and signed after your thesis defense and completion of any necessary modifications or additions to your thesis. The Graduate Coordinator is the last to sign the form, and then it is submitted to Graduate Studies on your behalf.

Bioinformatics PhD Program Timetable

<table>
<thead>
<tr>
<th>FORM or ACTION</th>
<th>TIMING or DEADLINE²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Take introductory courses</td>
<td>First year</td>
</tr>
<tr>
<td>Rotate through labs of interest (optional)</td>
<td>First year</td>
</tr>
<tr>
<td>Select a faculty advisor from among the faculty of the School of Biology</td>
<td>End of the 2nd semester in the program</td>
</tr>
<tr>
<td>In consultation with your advisor, form your thesis advisory committee</td>
<td>As early as possible and no later than the end of your 2nd semester in the program</td>
</tr>
<tr>
<td>committee including at least two bioinformatics faculty and one faculty</td>
<td></td>
</tr>
<tr>
<td>member from outside the bioinformatics program. Submit the Thesis Committee</td>
<td></td>
</tr>
<tr>
<td>Membership Form to the Biology graduate office</td>
<td></td>
</tr>
<tr>
<td>Meet with your thesis committee and fill out a Preliminary Program of Study</td>
<td></td>
</tr>
<tr>
<td>Form. Submit the completed form to the Biology graduate office</td>
<td>As early as possible and no later than the end of your 12th month in the program</td>
</tr>
<tr>
<td>Submit your Approval of Doctoral Minor Form to the Biology graduate office</td>
<td>As soon as you complete the nine credits required for the minor</td>
</tr>
<tr>
<td>Request approval of your thesis topic by filling out the upper portion of</td>
<td>After completing your Preliminary Program of Study Form</td>
</tr>
<tr>
<td>the Request for Admission to PhD Candidacy Form, then submit it to the</td>
<td></td>
</tr>
<tr>
<td>Biology graduate office</td>
<td></td>
</tr>
<tr>
<td>Take the written part of the qualifying exam, which is offered in January</td>
<td>Normally taken in January, and no later than in May of your 2nd year in the program</td>
</tr>
<tr>
<td>and May</td>
<td></td>
</tr>
<tr>
<td>Take the oral part of the qualifying exam</td>
<td>Within 3 months of passing the written qualifying exam, or May of your 2nd year in the program, whichever is later</td>
</tr>
</tbody>
</table>

² Unless otherwise noted, the deadlines are for submission of forms to the Biology graduate office.

pg. 24
<table>
<thead>
<tr>
<th>FORM or ACTION</th>
<th>TIMING or DEADLINE²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Have the <strong>Request for Admission to PhD Candidacy</strong> Form signed by the Graduate Coordinator, then submit the completed form to the Biology graduate office</td>
<td>After passing the oral exam</td>
</tr>
<tr>
<td>Carry out your <strong>research</strong> and publish at least one refereed paper</td>
<td>As early and quickly as possible</td>
</tr>
<tr>
<td><strong>Meet with your thesis committee at least annually.</strong> Submit a <strong>Thesis Committee Meeting Report</strong> signed by the members of your committee to the Biology graduate office</td>
<td>Once a year</td>
</tr>
<tr>
<td>If necessary, you can modify your thesis committee membership by submitting a revised <strong>Thesis Committee Membership Form</strong> to the Biology graduate office</td>
<td>As necessary, but no later than one semester prior to thesis defense</td>
</tr>
<tr>
<td><strong>Write your thesis.</strong> See the &quot;Manual for Graduate Theses,&quot; available from the Graduate Studies office (<a href="http://www.gradadmiss.gatech.edu/thesis.php">http://www.gradadmiss.gatech.edu/thesis.php</a>)</td>
<td>As early and quickly as possible</td>
</tr>
<tr>
<td><strong>Teach</strong> at least one course (2 credit hours or more of GTA time) as a teaching assistant</td>
<td>No later than the end of your 4th year in the program</td>
</tr>
<tr>
<td>Submit a <strong>Petition for Degree</strong> and <strong>Approved Program of Study</strong> forms to the Registrar</td>
<td>Submit these forms by the Registrar’s deadline (~3 weeks prior to the end of the semester preceding the semester of graduation)</td>
</tr>
<tr>
<td>Schedule your thesis presentation and defense</td>
<td>Two weeks prior to the presentation, notify the administrative assistant in the Biology main office of the desired date and time to arrange for a room and announcement</td>
</tr>
<tr>
<td>Distribute the final draft of your thesis: one copy to each committee member and one copy in room 208 Cherry Emerson</td>
<td>As early as possible but no later than two weeks prior to thesis defense</td>
</tr>
<tr>
<td>Submit the <strong>Certificate of Thesis Approval Form</strong> and a copy of your completed thesis to the Graduate Studies office</td>
<td>After your defense and by the Registrar's deadline</td>
</tr>
</tbody>
</table>
Master of Science (MS) Degree Programs

The School of Biology offers three programs of study leading to the master’s degree:

- Master of Science in Biology with thesis
- Master of Science in Biology without thesis
- Professional Master of Science in Bioinformatics

For the MS in biology programs, you should plan your activities to complete the program in two years of full-time study. The Professional Master of Science in Bioinformatics program is a rigorous interdisciplinary three-semester program of study, with summers spent in internships within the field.

Students admitted to the Masters degree program in the School of Biology are enrolled in a non-thesis program of study. If a student wishes to obtain a Masters degree with Thesis, he or she may petition the Graduate Committee for approval along with support from their thesis advisor.

Master of Science in Biology with Thesis

The MS degree reflects advanced training and a detailed knowledge of a specific area within biology. Some students complete an MS degree as a stepping stone toward a PhD, though this is not a necessary prerequisite to most PhD programs. Students with an interest in working as a laboratory technician or in a regulatory agency are likely to derive the most benefit from an MS degree.

Course requirements

Students are required to complete 30 credit hours of coursework, including 12 credit hours in biology, and six credit hours of master’s thesis research. A maximum of six credit hours of formal class work from another MS degree program relevant to the student's program may be transferred. These credits do not count toward the GPA requirement since they are credited as only pass/fail. A summary of the requirements is as follows:

<table>
<thead>
<tr>
<th>Coursework</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biology graduate courses (BIOL 6000-9000) with a letter grade</td>
<td>12</td>
</tr>
<tr>
<td>MS thesis (BIOL 7000)</td>
<td>6</td>
</tr>
<tr>
<td>Special Problems – Research (BIOL 890X)*</td>
<td>3</td>
</tr>
<tr>
<td>Biology Seminar (BIOL 8002 and BIOL 8003)</td>
<td>2</td>
</tr>
<tr>
<td>Tools of Science (BIOL 8106)</td>
<td>2</td>
</tr>
<tr>
<td>Other biology courses (4000 or higher) with a letter grade</td>
<td>5</td>
</tr>
<tr>
<td>Total Required</td>
<td>30</td>
</tr>
</tbody>
</table>
*A maximum of three credit hours of Special Problems – Research (BIOL 890X) and six credit hours of seminar courses may be counted toward the MS course requirements.

**Good Standing**

To remain in good standing within the program, you must maintain a GPA of 2.7 while making progress toward the degree. The major milestones used in evaluating progress are summarized below. The graduate committee reviews the status of each student at least once a year in consultation with the student’s advisor and committee. Students who fail to maintain good standing may be dismissed from the program.

**Registration**

Full-time enrollment is required of all students receiving assistantships or fellowships and for international students on visas. **Full-time students must be enrolled for at least 12 credit hours on a letter grade or pass-fail basis.** Please consult with your faculty advisor and the Graduate Coordinator for assistance with required courses. For general registration questions, please contact the Graduate Office. All graduate research assistants should register for the GRA course BIOL 8998 for audit and all graduate teaching assistants should register for the GTA course BIOL 8997 for audit. Most students register for 16-18 credit hours in which some of these are the required audit hours mentioned above.

**Thesis Advisor and Committee**

Your thesis advisor acts as chair of your thesis advisory committee and has primary responsibility for advising you in your research. Normally, a thesis advisor must be a member of the tenure-track faculty of the School of Biology. Under special circumstances and with the approval of the Graduate Committee, adjunct or research faculty in biology or faculty in another school at Georgia Tech may act as co-advisor for a student in biology in collaboration with a thesis advisor from the School of Biology. In such cases, a written statement must be filed specifying who will be responsible for advising and supporting the student in the event the co-advisor is no longer available.

You should consult with your advisor about the membership of your thesis committee beginning in your first year of studies. The thesis committee must have at least three members including two members of the faculty of the School of Biology and at least one member from outside the School of Biology. The composition of your committee may change as your studies progress, and it is very common to add members to your committee as you carry out your research. Thesis advisory committees must be approved by the Graduate Committee.

The thesis committee's role is to advise you on all aspects of your graduate studies. Your first committee meeting must occur before the end of your 12th month in the program and annually thereafter. Your preliminary program of study must be discussed and approved at your first meeting with your thesis committee.

**Annual Thesis Committee Meetings**

You are responsible for meeting with your thesis committee at least once each year (including your first year in the program) to present an overview of your research progress and to consult with the committee on the work remaining to be done. After this meeting, you must file a Committee Meeting
Form signed by the members of your committee and giving a summary of your progress to date and work planned for the future.

**MS Thesis Topic and Format**

Once you have defined your research project and made some progress in your research, the Institute’s Request for Approval of Master’s Thesis Topic Form must be completed and approved by your thesis committee and the School Chair. This form must be submitted at least one semester before the thesis is defended.

You must submit a well written thesis describing your research accomplishments. Your thesis should conform to university guidelines in format and style. Please see the online style manual ([http://www.gradadmiss.gatech.edu/thesis.php](http://www.gradadmiss.gatech.edu/thesis.php)) for detailed instructions on preparing your thesis. Your thesis committee may require that some portion of your thesis be submitted and/or accepted for publication prior to your defense.

**MS Thesis Presentation and Defense**

MS students must make a public presentation and defense of their thesis. The thesis defense consists of a public seminar followed by an oral examination by the student’s thesis committee.

A final draft of the thesis must be given to each member of the thesis advisory committee and made available for review by School of Biology faculty at least two weeks prior to the defense. The thesis defense must be scheduled and announced through the biology main office at least two weeks in advance.

Following the thesis defense and upon completion of any final changes to the thesis, the members of the thesis committee must sign a Certificate of Thesis Approval Form, which must also be signed by the Graduate Coordinator before final submission.

The deadlines for thesis submission for graduation each term are available from the graduate school at [http://www.gradadmiss.gatech.edu/thesis.php](http://www.gradadmiss.gatech.edu/thesis.php). Failure to meet all deadlines may cause a delay in graduation date.

**Transfer to the PhD Program**

A student may request a transfer from the MS program to the PhD program via written petition and with approval of the Graduate Committee and Chair. Students admitted to the MS program cannot petition for a change to PhD until they complete at least nine credit hours of 6000-8000 level graduate courses at Georgia Tech. The Graduate Committee must approve the transfer to the PhD program. The Masters student applies to the PhD program and will be evaluated among the pool of applicants.

**Required Forms and Petitions for MS Students**

*MS Thesis Committee Membership Form*

This form defines and requests departmental approval of the membership of your thesis committee. Complete and submit this form to the Biology graduate office by the end of your 12th month in the program.
**MS Program of Study Form**

You should prepare a MS Program of Study Form as early as possible in consultation with your thesis advisor and with the approval of your thesis committee. A copy of the approved form must be submitted to the Biology graduate office to be placed in your file by the end of your 12th month in the program.

**MS Thesis Committee Meeting Report**

A copy of this form must be filed with the Biology graduate office every year to document progress and report the outcome of the annual thesis committee meeting. Your section (“Student Section”) should be completed PRIOR to the meeting. Your committee members will complete the remainder during the meeting. Submit the signed and completed form to the Biology graduate office.

**Request for Approval of Master’s Thesis Topic Form**

The Request for Approval of Master’s Thesis Topic Form must be completed and approved by the thesis committee at least one semester before you defend your thesis. Once the form is signed by the Chair of the School, you should submit it to the Graduate Studies office with one copy submitted to the Biology graduate office at the same time.

**Approved Program of Study Form**

Prepare a clean and final copy of the Program of Study Form to submit to the Degree Certification office with the degree petition.

**Degree Petition**

Your degree petition must be submitted during the semester before your term of graduation. Deadlines are posted at [https://www.oscar.gatech.edu/](https://www.oscar.gatech.edu/). Complete and submit a Petition for Degree to the Registrar’s office in Room 104 of the Administration Building (Tech Tower). Please read the instructions on the Petition for Degree and follow them carefully. You must obtain major school approval signatures on the petition before submitting the petition.

The Approved Program of Study Form must be attached to the degree petition. If you do not graduate the first time you petition, you must reactivate your degree petition by submitting another Petition for Degree. Reactivated degree petitions must be submitted by the end of Phase II registration for the term during which you wish to graduate.

**Certificate of Thesis Approval for MS Students**

This form is completed and signed after your thesis defense and completion of any necessary modifications or additions to your thesis. The Graduate Coordinator is the last to sign the form, after which you should submit it to the Graduate Studies office. A copy must be made for the Biology graduate office before submission of the form.
### Timetable for MS Degree with thesis

<table>
<thead>
<tr>
<th>FORM or ACTION</th>
<th>DEADLINE³</th>
</tr>
</thead>
<tbody>
<tr>
<td>Select a faculty advisor from among the faculty of the School of Biology</td>
<td>By the end of the 2nd semester</td>
</tr>
<tr>
<td>Choose a thesis committee with at least three biology faculty. Submit a Thesis Committee Membership Form to the Biology graduate office</td>
<td>By the end of the 12th month in the program</td>
</tr>
<tr>
<td>Fill out and submit a Program of Study Form in consultation with your committee and submit to the Biology graduate office</td>
<td>By the end of the 12th month in the program</td>
</tr>
<tr>
<td>Fill out and submit a Request for Approval of Master’s Thesis Topic Form</td>
<td>As early as possible, but no later than one semester prior to thesis defense</td>
</tr>
<tr>
<td>Carry out your research</td>
<td>As early and quickly as possible</td>
</tr>
<tr>
<td>Meet with your thesis committee at least annually. File a Thesis Committee Meeting Report signed by the members of your committee to the Biology graduate office</td>
<td>Once a year</td>
</tr>
<tr>
<td>Write your thesis. For details, see: <a href="http://www.grad.gatech.edu/thesis/thesis_man.html">http://www.grad.gatech.edu/thesis/thesis_man.html</a></td>
<td>As early and quickly as possible</td>
</tr>
<tr>
<td>Submit the Petition for Degree and Approved Program of Study forms to the Registrar</td>
<td>Submit these forms by the Registrar’s deadline (~3 weeks prior to the end of the semester preceding the semester of graduation)</td>
</tr>
<tr>
<td>Schedule your thesis presentation and defense</td>
<td>Two weeks prior to the presentation, notify the administrative assistant in the Biology main office of the desired date and time to arrange for a room and announcement</td>
</tr>
<tr>
<td>Distribute the final draft of your thesis: one copy to each committee member and one copy in CE 208</td>
<td>As early as possible but no later than two weeks prior to thesis defense</td>
</tr>
<tr>
<td>Submit the Certificate of Thesis Approval Form and a copy of your completed thesis to the Graduate Studies office.</td>
<td>After your defense and by the Registrar's deadline</td>
</tr>
</tbody>
</table>

³ Unless otherwise noted, the deadlines are for submission of forms to the Biology graduate office.
Master of Science in Biology without Thesis

The non-thesis MS degree reflects advanced study in a specific area within biology. This degree program is best suited for students who wish to pursue careers in consulting firms or regulatory agencies that do not require experience in laboratory research.

Course Requirements

Students are required to complete 35 credit hours of coursework, including 21 credit hours in biology. A maximum of nine credit hours of formal coursework from another MS degree program relevant to the student’s program may be transferred. These credits do not count toward the GPA requirement since they are credited as only pass/fail.

<table>
<thead>
<tr>
<th>Coursework</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biology graduate courses (BIOL 6000-9000) with a letter grade</td>
<td>15</td>
</tr>
<tr>
<td>Other graduate courses (6000-9000) with a letter grade.</td>
<td>9</td>
</tr>
<tr>
<td>These may be taken in biology or other departments</td>
<td></td>
</tr>
<tr>
<td>Other biology courses (4000 or higher) with a letter grade</td>
<td>6</td>
</tr>
<tr>
<td>Special Problems – Research (BIOL 890X)*</td>
<td>3</td>
</tr>
<tr>
<td>Biology Seminar (BIOL 8002 and BIOL 8003)*</td>
<td>2</td>
</tr>
<tr>
<td>Total Required</td>
<td>35</td>
</tr>
</tbody>
</table>

* A maximum of three credit hours of Special Problems – Research (BIOL 890X) and six credit hours of seminar courses may be counted toward the MS course requirements.

GPA Requirements

To remain in good standing within the program, you must maintain a GPA of 2.7 while making progress toward the degree. The major milestones used in evaluating progress are summarized below. The Graduate Committee reviews the status of each student at least once a year in consultation with the student’s advisor and committee. Students who fail to maintain good standing may be dismissed from the program.

Advisor

The Biology Graduate Coordinator provides general advice and guidance for non-thesis MS students. In most instances, a member from the Graduate Committee is assigned to be the MS non-thesis student’s general advisor.

Required Forms and Petitions for MS (non-thesis) Students

MS Program of Study Form

You should prepare a MS Program of Study Form as early as possible in consultation with your faculty advisor. A copy of the approved form must be submitted to the Biology graduate office to be placed in your file by the end of your second semester in the program.
**Degree Petition**

Your degree petition must be submitted during the semester before your term of graduation. Deadlines are posted at [https://www.oscar.gatech.edu/](https://www.oscar.gatech.edu/). Complete and submit a Petition for Degree to the Registrar’s office in Room 104 of the Administration Building (Tech Tower). Please read the instructions on the Petition for Degree and follow them carefully. You must obtain major school approval signatures on the petition before submitting the petition.

The Approved Program of Study Form must be attached to the degree petition. If you do not graduate the first time you petition, you must reactivate your degree petition by submitting another Petition for Degree Form. Reactivated degree petitions must be submitted by the end of Phase II registration for the term during which you wish to graduate.

Any current PhD student requesting an MS in biology without thesis degree must get approval from their thesis advisor one semester prior to submitting their Petition for Degree to the Registrar’s office.

---

**Timetable for Master’s Degree without Thesis**

<table>
<thead>
<tr>
<th>FORM or ACTION</th>
<th>DEADLINE&lt;sup&gt;4&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Select a faculty advisor from among the faculty of the School of Biology</td>
<td>Ideally, during the 1&lt;sup&gt;st&lt;/sup&gt; semester, and no later than the end of the 2&lt;sup&gt;nd&lt;/sup&gt; semester in the program</td>
</tr>
<tr>
<td>Fill out a <strong>Program of Study Form</strong> in consultation with your advisor and submit the completed form to the Biology graduate office</td>
<td>By the end of the 2&lt;sup&gt;nd&lt;/sup&gt; semester in the program</td>
</tr>
<tr>
<td>Submit the <strong>Petition for Degree</strong> and <strong>Approved Program of Study</strong> forms to the Registrar</td>
<td>Submit these forms by the Registrar’s deadline (~3 weeks prior to the end of the semester preceding the semester of graduation)</td>
</tr>
</tbody>
</table>

<sup>4</sup> Unless otherwise noted, the deadlines are for submission of forms to the Biology graduate office.
Professional Master of Science in Bioinformatics

Outline:

This is an interdisciplinary degree program and as such includes courses from multiple Schools on campus. In the first two semesters each student is required to take course work which will provide intensive training in the areas of biology, biochemistry, computing, mathematics and statistics where the student's skills are not yet sufficient for the interdisciplinary studies of the third semester.

During the summer following the first year in the program, students will be working in internships with industry or government laboratories, or engaged in research with Georgia Tech faculty. During the third semester of the program, students can specialize in one of several areas of bioinformatics.

As an option a student may delay graduation for one semester and use this time for additional professional coursework, extended internship, or research with Georgia Tech faculty.

Course Requirements:

• Students are required to complete a total of 37 credit hours of coursework for the MS Bioinformatics degree. At least 21 credit hours of graduate courses of 6000 level or higher should be taken with letter grade.
• A maximum of 6 credit hours of BIOL 8901 Special Problems (research for academic credit with Biology faculty) and 3 credit hours of pass/fail coursework (in a non-core course) may be counted toward the 37 credit hours required for the degree.
• A maximum of 6 credit hours of formal class work from another MS or PhD degree program relevant to the student's program may be transferred. These credits do not count toward the GPA requirement since they are credited as only Pass/Fail.
• Transfer credit will not be given for courses taken as requirements toward an undergraduate degree.
• A minimum overall GPA of 2.7 is required to graduate with the MS Bioinformatics degree.
Core Courses:

All students are required to pass or demonstrate proficiency in these subjects:

- CS 4710  Introduction to Computing Concepts in Bioinformatics
- CS 4400  Introduction to Database Systems
- MATH 3215  Introduction to Probability and Statistics
- MATH 6705  Modeling and Dynamics
- BIOL 4150/8803  Genomics and Applied Bioinformatics
- BIOL 7111  Molecular Evolution
- BIOL 8803C  Computational Genomics
- BIOL 7023  Bioinformatics

Students who have taken equivalent courses at other universities may substitute other courses only with the permission of the program director.

Curricula Options:

The MS Bioinformatics program retains flexibility to accommodate students who enter with different backgrounds and have different career goals. The following pages offer two sample curricula for students with either bioscience backgrounds (version A), or students with computational/engineering backgrounds (version B). Version A has more CS and Math courses, and version B has more bioscience courses.

In addition, we list suggested courses grouped by 3 different subfields within bioinformatics and computational biology. These are elective courses that can be used to complete the 37 hours required for the degree, after fulfilling the core course requirements listed above. This is not a complete list, as new courses are added each year in various departments. Finally, students with the goal of working in the biotech industry should consider courses in the Management of Technology certificate program. Students should consult with the program director or another faculty adviser to determine which elective courses fit their interests and capabilities.

Special Problem Research:

Students are strongly recommended to perform research with faculty for academic credit, as BIOL 8901 Special Problems. This research experience will provide valuable experience in applying theory to real research problems, and may lead to support as a graduate research assistant in subsequent terms. Such experience will also be very helpful in securing internships and co-ops, and finding a job after graduation or for applying to PhD programs.
Recommended Sequences of Courses for MS Bioinformatics Entering 2009

Version A for students with bioscience degrees

<table>
<thead>
<tr>
<th>Courses</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>First Semester (13 credit hours)</strong></td>
<td></td>
</tr>
<tr>
<td>Special Problems Research (BIOL 8901) or Elective</td>
<td>3</td>
</tr>
<tr>
<td>Genomics and Applied Bioinformatics (BIOL 4150/8803)*</td>
<td>3</td>
</tr>
<tr>
<td>Modeling and Dynamics (MATH 6705)*</td>
<td>3</td>
</tr>
<tr>
<td>Introduction to Computing Concepts in Bioinformatics (CS 4710)*</td>
<td>4</td>
</tr>
<tr>
<td><strong>Second Semester (12 credit hours)</strong></td>
<td></td>
</tr>
<tr>
<td>Molecular Evolution (BIOL 7111)* or Research or Elective</td>
<td>3</td>
</tr>
<tr>
<td>Computational Genomics (BIOL 8803C)*</td>
<td>3</td>
</tr>
<tr>
<td>Introduction to Probability and Statistics (MATH 3215)*(^1)</td>
<td>3</td>
</tr>
<tr>
<td>Introduction to Database Systems (CS 4400)*</td>
<td>3</td>
</tr>
<tr>
<td><strong>Third Semester (12 credit hours)</strong></td>
<td></td>
</tr>
<tr>
<td>Bioinformatics (BIOL 7023)*</td>
<td>3</td>
</tr>
<tr>
<td>Research and/or Electives</td>
<td>9</td>
</tr>
<tr>
<td><strong>Total Required</strong></td>
<td><strong>37</strong></td>
</tr>
</tbody>
</table>

* Core courses – permission of the program coordinator required to make substitutions for these courses in the program of study

\(^1\)Math 3215 is a rigorous calculus-based introduction to fundamental probability and statistics, and cannot be substituted with an applied statistics or biostatistics course.
Version B for students with math, engineering or computing degrees who have already had the equivalent of MATH 3215*, MATH 6705*, CS 4400*, and or CS 4710*.

<table>
<thead>
<tr>
<th>Courses</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>First Semester (13 credit hours)</strong></td>
<td></td>
</tr>
<tr>
<td>Special Problems Research (BIOL 8901) or Electives</td>
<td>3</td>
</tr>
<tr>
<td>Genomics and Applied Bioinformatics (BIOL 4150/8803)*</td>
<td>3</td>
</tr>
<tr>
<td>Prokaryotic Molecular Genetics (BIOL 4608)</td>
<td>3</td>
</tr>
<tr>
<td>Introduction to Computing Concepts in Bioinformatics (CS 4710)*</td>
<td>4 or 3</td>
</tr>
<tr>
<td>or Intro to Database Systems (CS 4400)* or advanced database course</td>
<td></td>
</tr>
<tr>
<td>(CS 6400, 6411, 6430)</td>
<td></td>
</tr>
<tr>
<td><strong>Second Semester (12 credit hours)</strong></td>
<td></td>
</tr>
<tr>
<td>Molecular Evolution (BIOL 7111)*</td>
<td>3</td>
</tr>
<tr>
<td>Computational Genomics (BIOL 8803C)*</td>
<td>3</td>
</tr>
<tr>
<td>Eukaryotic Molecular Genetics (BIOL 4668)</td>
<td>3</td>
</tr>
<tr>
<td>Research or Elective</td>
<td>3</td>
</tr>
<tr>
<td><strong>Third Semester (12 credit hours)</strong></td>
<td></td>
</tr>
<tr>
<td>Bioinformatics (BIOL 7023)*</td>
<td>3</td>
</tr>
<tr>
<td>Advanced course in statistics (MATH 6262, 6267, or other)</td>
<td>3</td>
</tr>
<tr>
<td>Research and/or Electives</td>
<td>6 or 7</td>
</tr>
<tr>
<td><strong>Total Required</strong></td>
<td>37</td>
</tr>
</tbody>
</table>

* Core courses – permission of the program coordinator required to make substitutions for these courses in the program of study

1 Math 3215 is a rigorous calculus-based introduction to fundamental probability and statistics, and cannot be substituted with an applied statistics or biostatistics course.
Suggested Elective Courses for students interested in:

Genomics:
- BIOL 4150/8803 Genomics and Applied Bioinformatics
- BIOL 8802 Microbial Genomics
- BIOL 4608/6608 Prokaryotic Molecular Genetics
- BIOL 4668/7668 Eukaryotic Molecular Genetics
- BIOL 4015/8803 Cancer Biology
- CHEM 6572 Macromolecular Structures
- BIOL 8901/8902 Special Problems (research for credit)

Structural biology:
- BIOL 4478 Biophysics
- BIOL 7110 Macromolecular Modeling (pre-req: Chem 6572)
- BIOL 8802 Computational Systems Biology
- CHEM 6572 Macromolecular Structures
- CHEM 4765 Drug Design, Development and Delivery
- CHEM 6501 Biochemistry I
- CHEM 6573 Molecular Biochemistry
- BIOL 8901/8902 Special Problems (research for credit)

Computational biology:
- BIOL 4755 Mathematical Biology
- BIOL 6422 Theoretical Ecology
- BIOL 4401 Experimental Design and Statistical Methods
- MATH 3012 Applied Combinatorics
- MATH 6014 Graph Theory
- MATH 6266 Linear Statistical Models
- MATH 6262 Statistical Estimation
- MATH 6267 Multivariate Statistical Analysis
- BIOL 8901/8902 Special Problems (research for credit)

This is not a comprehensive list. New courses are offered from time to time that may be highly relevant to any of these areas. Students should consult with the program director or faculty research adviser regarding suitable electives.
Management of Technology Certificate Option

Students interested in pursuing careers in business and industry may also take courses towards a Management of Technology certificate. This certificate requires a core course, MGT-ISyE 6772 Management of Technology: Managing Resources of the Technological Firm, plus 3 additional elective courses. Details are available at the link below:

http://mgt.gatech.edu/programs/mba/cert_mot.html

Timetable for Professional MS Degree in Bioinformatics

<table>
<thead>
<tr>
<th>• FORM or ACTION</th>
<th>DEADLINE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prepare and submit professional resume to the Bioinformatics Program Coordinator</td>
<td>January 15 of the first year in the program</td>
</tr>
<tr>
<td>Register with Co-op Office*</td>
<td>Two weeks before registration ends for Co-op semester</td>
</tr>
<tr>
<td>Apply for summer internships (outside or inside Georgia Tech)</td>
<td>Varies with sponsor, deadlines begin as early as December for the summer of the following year</td>
</tr>
<tr>
<td>File approved MS Degree Petition to the Bioinformatics Program Coordinator</td>
<td>Registrar’s Deadline. Typically within the semester preceding the semester of graduation, e.g., July 2, 2010 for December 2010 graduation.</td>
</tr>
</tbody>
</table>

*Students MUST be registered for the term they will work as Co-ops. Students should pre-enroll with the Co-op office in the spring semester if they wish to work as a Co-op or intern during the summer, and then register for summer semester Co-op once they have received an offer letter. Please inform prospective employers that you must have the letter of offer BEFORE the registration period ends – Friday of the first week of classes.
General Information and Policies

Athletic Facilities

The Georgia Tech Campus Recreation Center underwent a major renovation in two phases to produce a $45 million recreation complex. The center boasts an enclosed aquatic center, new weight and cardio rooms, three aerobics/martial arts rooms, six multi-use basketball courts with a four-lane jogging track suspended above, and a game room. The complex is about the size of a basketball coliseum and includes a pool with a water slide, hot tub, and sun deck. Recreation opportunities include the Sport Club program, which allows students to compete in a particular sport throughout the year; intramural sports, which range from traditional sports to more exotic sports including ultimate Frisbee and inner tube water polo; fitness and options classes; and Outdoor Recreation at Georgia Tech (ORGT), which includes opportunities for backpacking, caving, mountain biking, whitewater kayaking, canoeing, and rock climbing. Membership is automatically included in the mandatory student fees.

Biology Graduate Student Association (BGSA)

The Biology Graduate Student Association (BGSA) is an integral part of the Georgia Tech School of Biology. The purpose of BGSA is to enhance communication between faculty and graduate students as well as promote camaraderie between students in different buildings and research areas within the department. All graduate students are members of BGSA, and five students are elected each spring to serve as officers. Officer positions include President, Vice President, Secretary/Treasurer, Social Director, and Intramurals Director. The BGSA holds monthly business meetings to inform students of upcoming events in the department. During business meetings, students may air concerns or problems encountered at Georgia Tech and seek guidance from other students. In some instances, officers relate problems encountered by students to faculty or administrators in order to work out suitable solutions. In addition to the business meetings, BGSA organizes intramural teams and relates information regarding dates and times of practices and games. The BGSA also participates in fun activities several times during the year.

In addition to meetings and activities, the BGSA plays a key role in the interview process for prospective graduate students by providing a student perspective on the School of Biology. Each fall semester, the BGSA organizes a symposium for the department that features research from graduate students within the department. The BGSA also invites a guest scientist to present a departmental seminar during the spring term and is responsible for coordinating events associated with the guest’s visit.

Bookstore

The Barnes & Noble Georgia Tech Bookstore is located in Technology Square directly across the Downtown Connector from campus on 5th Street.

BuzzCard (Student I.D. Card)

Your student photo I.D. card or "BuzzCard" is used to access a number of campus facilities (CRC, Student Health Services, etc.), can be used as a purchasing card, and also serves as your library card (see www.BuzzCard.gatech.edu for a listing of all places on campus that accept BuzzCards and how to
add money to your card account). BuzzCards are made at the BuzzCard office in the Student Center. There can be a long line during orientation, so the office has extended hours at the beginning of each semester to help alleviate the crowds: Monday through Thursday 8:00am – 6:00pm and Fridays 8:00am - 5:00pm. In order to obtain a BuzzCard, you will need a picture I.D. (i.e.: driver's license, passport), and some documentation from the School of Biology, which will be given to you at your initial orientation.

Computing Resources

A day or two after you first register as a student at Georgia Tech, the Office of Information Technology (OIT) will establish a user ID and password for you on the campus network. This ID, usually referred to as your GT account but sometimes referred to as your Computer ID, gives you access to an e-mail account, a home page location, and other services. **Your GT account is the official e-mail account used by the School of Biology for communications.** In addition to imap mail servers, all students have access to Georgia Tech’s web-based email system, ZIMBRA (http://mail.gatech.edu/), which provides a web browser interface to your email account via imap. This is often the best way to access your campus e-mail account while off campus.

The computer support specialist for the School of Biology is Troy Hilley, located in room 338 Cherry Emerson. Troy may be reached at 404-790-1270. Troy is available to help our department with both software and hardware issues. For the fastest response, please e-mail him a request at helpdesk@biology.gatech.edu. This address is part of an OIT-based monitoring system to make sure your request is handled promptly and effectively.

Classroom Mobile Lecterns

Most classrooms for the School of Biology are equipped with mobile lecterns. These lecterns provide a computer and VCR to aid with classroom instruction. You will need a valid faculty Georgia Tech (“prism”) ID to log onto the computer. Student IDs will not work. You will receive a faculty ID when you receive your student ID information, so that you may access these lecterns.

The classroom lecterns are installed and maintained by OIT. If you have any questions or concerns regarding the mobile lecterns, then please contact the OIT helpdesk at x47173 or go to room 140 of the Rich Building and ask for assistance.

Copiers, Fax Machines, Phones

The School of Biology has two photocopiers available in room 208 Cherry Emerson and one in room 2154 of the Ford Environmental Science and Technology building (ES&T). You can get an account number to use the photocopiers from Lisa Tuttle in the main Biology office (201 Cherry Emerson). Photocopiers are for educational and research purposes only. Violators will have their accounts revoked.

Biology also has two fax machines available: one in 208 Cherry Emerson (404-894-0519) and one in 2154 ES&T (404-385-4440). All long distance faxes must be for educational or research purposes only. Personal local faxes are acceptable.

Graduate students generally do not have phones located in their offices. All faculty research labs are equipped with phones and can be used as a point of contact for students in that lab, at the faculty member’s discretion. State law mandates that no personal long distance calls are allowed on School of Biology phones.
Counseling Services

The Georgia Tech Counseling Center supports the academic mission of the Institute by providing counseling and psychotherapy to students as well as crisis intervention. The Counseling Center is located in room 238 of the Smithgall Student Services Building (404-894-2575, www.counseling.gatech.edu). Their services include:

- Individual/group counseling
- Marriage/couples counseling
- Help in choosing a major
- Computer-assisted career guidance program (SIGI PLUS)
- Interest and personality testing
- Assistance in obtaining career information
- Computer assisted study skills instruction program (CASSI-GT)
- Written and video taped information on majors
- Information about other colleges and universities, graduate and professional schools
- Applications for national tests (GRE, GMAT, LSAT, MCAT)
- Referral sources

Dean of Students

The Office of the Dean of Students (http://www.deanofstudents.gatech.edu) provides access to a broad range of information, resources, and referrals in connection with student life and academic affairs on campus.

E-Mail

E-mail accounts are available to all Georgia Tech students. During your first semester, an account will be created for you 24 hours after you have registered for classes. Your computer account, personal password and other information can be obtained from a temporary terminal in the bookstore lobby area during orientation. Throughout the year, visit the Office of Information Technology in the Rich Building, Room 140 for any questions concerning your e-mail account. As a GTA or GRA, you will be assigned both a student account and a faculty account. Please note that your professors will generally use your student address for correspondence, while you will need your faculty account to access the classroom lecterns. If you regularly check only one of your accounts, you may wish to set mail forwarding on the “dormant” account to ensure that you don’t miss any important messages. The OIT Customer Support website (http://www.oit.gatech.edu/cs) contains a variety of useful information on account management and mail forwarding.

Emergencies

In an emergency situation, DO NOT CALL 911. Call the Georgia Tech Police at 404-894-2500. The GT Police will get the appropriate emergency vehicles to your location more quickly than the city police department.

Employment Forms

If you are going to be employed on campus (i.e., as a GRA or GTA), you will be obtaining your necessary documents to work at your initial School of Biology orientation session. You will need to
complete these documents and turn them in to Human Resources. If you are unable to attend the biology orientation, please see Nena Gray, Financial Manager, and she is located in 205 Cherry Emerson.

Financial Aid

Three types of financial aid are currently available to qualified graduate students in Biology:

• Graduate Teaching Assistantships (GTAs) and Graduate Research Assistantships (GRAs), which include tuition waivers
• Outside fellowships (sponsored by NIH, NSF, EPA, etc.)

GRAs, GTAs, and most fellowships are awarded on the basis of academic performance and not on the basis of need. However, if you have a demonstrated need, you may apply to the Georgia Tech Office of Student Financial Planning in the Student Success Center for employment under the federal work-study program or for student loans (http://www.finaid.gatech.edu/).

Graduate Teaching Assistantships and Graduate Research Assistantships

Assistantships are forms of employment and, as such, involve a responsibility to perform to the satisfaction of the supervisor. A one-third time assistantship requires that an average of 14 hours/week be devoted to the assigned activities during the semester. Successful and timely completion of a PhD dissertation generally requires that you spend significantly more than 14 hours/week on thesis research.

Most PhD students in Biology are offered a teaching assistantship upon admission to the graduate program. This aid is promised for the first 12 months of the program. Before the end of the initial one-year TA commitment, students are expected to decide on a faculty member with whom they would like to work and seek a commitment from that faculty member for full GRA support for their entire time in the program. Any GTA support beyond the first year is provided only by recommendation from the Graduate Committee and approval by School administration (Chair/Associate Chair), and should by no means be assumed automatically. Each semester, a support form must be submitted to the graduate biology office to inform the department of the particular type of support you request in the upcoming semester. This form has to be signed by the student’s advisor. The Graduate Committee performs a review of all graduate students each semester and makes a recommendation to either continue or discontinue financial support for each student based on their academic performance and satisfactory progress toward the degree.

Students receiving a GTA or GRA assignment are expected to take courses related to their degree program and should not take courses towards a second degree in another area. Assistantships may be revoked if a student pursues coursework towards another degree.

MS thesis and non-thesis students are not offered teaching or research assistantships upon acceptance into the program. Thesis MS students may apply for GTA support in the same way as a PhD beyond their first year (see above). They are considered in a lower priority group, compared to PhD students, and are supported only if sufficient funds are available (this can not be guaranteed beforehand). Non-thesis students in the MS degree program are not supported by the School of Biology for a GTA. Exception is made only for MS students in the Bioinformatics (BINF) Program who have already paid full tuition previously and are recommended by the group of Bioinformatics and Computational Biology Faculty (confirmed by The Graduate Committee) for support from MS-BINF program funds. MS students in any category can be supported by GRA from a faculty member at the faculty member’s discretion.

pg. 42
Salary rates for GTA’s and GRA’s are determined according to School of Biology policy and depend on student status (PhD, thesis MS, non-thesis MS, MS bioinformatics). Rates can be changed from year to year in accordance with the School of Biology. For the 2010-2011 academic year, the GTA and GRA stipend for a PhD student is $1,837.50/month, or $22,050 annually. The annual rate for MS thesis and MS bioinformatics students is $16,500, with a monthly rate of $1,375, and the rate for MS non-thesis students is $900/month and $10,800 annually.

External Fellowships

All graduate students are encouraged to apply for external fellowships from NIH, NSF, EPA, HHMI, NOAA and other agencies. These fellowships usually offer multiple years of support and may provide a supply allowance as well as a stipend. For more information, talk to your faculty advisor or see the Georgia Tech Graduate Studies and Research Office website: http://www.gradadmiss.gatech.edu/financial/financial_support.php which maintains an excellent page on fellowship information. In addition, the University of Illinois maintains a website on graduate fellowships through the IRIS database. Georgia Tech is a subscriber and you can search IRIS (http://www.library.uiuc.edu/iris) from any computer at Georgia Tech.

Students on external fellowships are expected to maintain strong academic performance and progress in their programs of study. External fellowships often require an annual progress report to maintain funding.

Registration requirements for students receiving GRAs, GTAs and fellowships

Full-time enrollment is required of all students receiving assistantships or fellowships and for international students on visas. Full-time students must be enrolled for at least 12 credit hours on a letter grade or pass-fail basis. The advisor and school chair may approve the substitution of one course (up to three hours) on an audit basis for fall and spring semesters, and two courses (up to six hours) on an audit basis for summer semesters only for special circumstances. Full-time students working exclusively on thesis research should be registered for 18 or more hours of 7000 or 9000 (master’s or doctoral thesis) in fall and spring semesters, and for up to 16 hours during summer semesters. If you do not register properly, the Bursar’s office will automatically bill you for your tuition and you will not receive a salary or stipend check until the registration problem is corrected. There is a very limited window of time to correct registration errors at the beginning of each semester.

Outside employment

If you have an assistantship, outside employment is prohibited without special permission from the Graduate Committee.

Employed International Students

If you hold an F-1 or J-1 visa and seek outside employment, you must contact the Office of International Education at 404-894-7475. The rules and policies governing the employment of students on visas may be found at http://www.oie.gatech.edu/.

Good Academic Standing

As a graduate student, you must maintain a satisfactory grade point average to remain in good academic standing. The minimum satisfactory GPA is 2.70 for MS students and 3.00 for PhD students. If your overall GPA drops below the minimum allowed, you will be placed on academic
probation. After two semesters of probation, the Institute may drop you from its rolls at any time. If your GPA for any one term is 2.00 or lower, you may be placed on academic probation or dropped from the rolls immediately following evaluation of your case by the Graduate Committee. In addition to meeting these minimum grade requirements, you must make satisfactory progress toward the degree in order to remain in good standing.

**Graduate Student Government at Georgia Tech**

The Graduate Student Government (http://www.cyberbuzz.gatech.edu/sga) provides graduate students with a voice in Institute affairs and administers the Graduate Conference Fund, which provides small grants to help cover the costs of travel to scientific conferences.

**Grievances and Appeals**

The General Catalog of the Georgia Institute of Technology describes a regular set of procedures for addressing grievances and appeals related to academic matters and grade disputes (Rules and Regulations, Section XXI). The following brief summary provides an overview of these procedures, which are described in full at http://www.catalog.gatech.edu/rules/1.php.

1. In cases where instructors have acted unfairly or improperly in the assignment of grades, students have the opportunity to appeal. The first step is to attempt to resolve the grievance with the individual faculty member or department involved.

2. If a student cannot come to a satisfactory resolution with the professor, the next step is to request a formal hearing in writing. The letter should be addressed to the School Chair and should state the complaint and the remedy sought from the school or department. The Chair will then convene an *ad hoc* committee consisting of four members, including one faculty member chosen by the student. This committee will review the merits of the complaint and all the evidence and will render a decision within 30 days of the hearing.

3. A student who is not satisfied with the decision of the departmental *ad hoc* committee can make a final, written appeal to the Student Grievance and Appeal Committee. The appeal letter should include a statement of the basis for the grievance, the facts that support it, a summary of the steps that have already been taken, the reasons why any prior resolutions of the grievance are unfair or unsatisfactory, and a statement of the desired result. There are a number of possible outcomes of this final stage of the appeal process. The committee may deny the appeal or may decide to hold a formal hearing. In either case, the decision will be made within 30 days. If there is a hearing, the committee will make a decision within 30 days of receiving the testimony and any relevant documents.

**Health Care and Insurance**

**Student Health Services Center**

The Georgia Tech Student Health Services Center is located at 750 Ferst Drive NW. Their phone number is (404) 894-2584.

All incoming students, including graduate students, must complete and return a Medical Entrance Form prior to registration. Registration will be delayed if the form is not received by the deadline dates indicated on the form. All registered students are required to pay the student health fee of about $1000 per year, and in return are eligible for all benefits provided by the Student Health Center on campus. The Health Center is staffed by licensed physicians, registered nurses, medical and x-ray
technologists, health educators, and pharmacists. The Student Health Center physicians are experienced in all areas of primary care, emergency, internal, sports, and travel medicine. In addition to their medical staff, a women’s health nurse practitioner is also available for annual gynecological exams and birth control consultations.

Services Covered by the Student Health Fee

- Blood pressure screening
- Cold self-care program
- Observation unit
- Psychiatric assessment
- Sports medicine clinic
- Unlimited MD*(doctors)/RN*(nurses) visits
- Wellness Center services
- Women’s Clinic visits
- X-Ray and EKG services

A minimal fee may be charged for the following services:

- Allergy injections (patients provide allergy serum for injections)
- Birth control
- HIV testing/consultation
- Immunizations
- Laboratory tests
- Pap smears
- Pharmacy services
- Physical therapy
- Smoking cessation
- Travel clinic
- Specialty clinics

The Student Health Center will meet most student and spouse health care needs, but it does not cover the cost of emergency or specialized care, hospitalization, and outpatient diagnostic tests and surgery. The Student Health Center offers two voluntary accident and illness policies to help cover these unexpected and potentially expensive costs. More information can be found at http://www.health.gatech.edu/finance/Pages/insurance.aspx. For other information, please contact Ms. Jennifer White at jennifer.white@health.gatech.edu or (404) 894-0633.

Honor Code / Student Conduct

All Georgia Tech graduate students are expected to abide by the honor code as written at http://www.honor.gatech.edu/. The Georgia Tech Office of Student Integrity webpage has details on the processes for reporting an infraction, as well as what is to be expected if you commit an infraction.
Housing

On-campus housing for graduate students is available in the Graduate Living Center or the Hemphill Avenue Apartments, and can be arranged through the Housing office. Applications for on-campus housing are due to the Housing Office by approximately July 1st of each year. See the Housing website for exact deadlines and to apply on-line (http://www.housing.gatech.edu/). The regular move-in date is typically the weekend before classes begin, but the Housing office allows students to move in approximately one week earlier (for an additional fee) to allow attendance at the various orientation programs before the start of classes.

For off-campus housing information, we suggest you talk to other graduate students in your department and check postings in areas frequented by students. Many students live in the residential neighborhood adjacent to Georgia Tech, called Home Park. There are also many apartment complexes located within a few miles of campus. University Apartment Locators is a service that provides comparisons of the cost of apartments and can help you locate an apartment. They can be reached at 404-931-7998 or online at http://www.findmyapt.com/. Other possible sources of information include the Atlanta Journal-Constitution at www.ajc.com, and departmental bulletin boards.

Injuries and Accidents

As a graduate student in the School of Biology, you may or may not also be an employee of Georgia Tech. If you are paid as an RA, TA, or student assistant, you are considered a Georgia Tech employee and are covered by workers’ compensation insurance.

Employees

If you suffer a job-related injury when performing work as an employee, notify your faculty advisor and our Safety Officer, Marc Pline (404-403-4610), as soon as possible after the accident.

We are required to record every incident that happens, no matter how small it seems. If you are injured enough to lose days of work or need medical attention, you are covered by workers’ compensation. Marc Pline or the main Biology office will be able to direct you to which medical offices you can go to for assistance.

If the injury/accident is an emergency situation, DO NOT CALL 911. Call the Georgia Tech Police at 404-894-2500. The GT Police will get the appropriate emergency vehicles to your location more quickly than Atlanta Police.

Students

If you suffer an injury while in a research lab or classroom building as a student, the Student Health Center on campus will provide medical treatment. If the injury occurred while doing research, notify your faculty advisor and our Safety Officer, Marc Pline (404-403-4610), as soon as possible after the accident. If the injury/accident is an emergency situation, DO NOT CALL 911. Call the Georgia Tech Police at 404-894-2500. The GT Police will get the appropriate emergency vehicles to your location more quickly than Atlanta Police.

International Students

The Office of International Education (OIE) is located in the Savant Building at 631 Cherry Street, Suite 211 (http://www.oie.gatech.edu). If you are a new international student, it is very important that
you report to OIE with your passport, I-94, and I-20 or DS-2019 as soon as possible after your arrival on campus. OIE staff will tell you what you need to do during your first week at Georgia Tech.

All international students are required to attend the International Student Services Program (ISSP) Orientation. In addition, international students must be screened for tuberculosis during the GradExpo. As a special service to new international students, a representative from the Social Security Administration will be present at the GradExpo, Campus Recreation Center on Ferst Drive during the week of orientation and registration to issue Social Security numbers.

The Georgia Tech Center for Enhancement of Teaching and Learning (CETL) offers several courses geared specifically toward international students:

- **CETL 8791**: Instructional Practices for International Teaching Assistants
- **CETL 8792**: Classroom English and Pedagogy for International Teaching Assistants
- **CETL 8793**: Classroom English for International Graduate Students
- **CETL 8794**: Academic English for International Graduate Students

More information on courses can be found at [http://www.cetl.gatech.edu/](http://www.cetl.gatech.edu/).

**Lab Safety**

The department of Environmental Health and Safety provides safety oversight and training for the Georgia Tech community. A copy of the Institute laboratory safety manual is available online at [http://www.safety.gatech.edu/](http://www.safety.gatech.edu/). Marc Pline is the School of Biology Safety Officer and can answer most questions relating to research safety. Marc can be reached at (404) 403-4610 or marc.pline@biology.gatech.edu.

**Library**

The Library and Information Center (404-894-4529, [http://www.library.gatech.edu](http://www.library.gatech.edu)) is located at 704 Cherry Street near the Tech Tower. Current Georgia Tech faculty, staff, and students can use their BuzzCards to check out materials. Most books and videos can be checked out. Items that do not circulate are: journals, magazines, reference books, microforms, newspapers, some reserve books, indexes and abstracts. Materials are checked out at the Circulation Desk, located on the 1st floor east. Each item can be renewed up to 3 times over the phone, in person, or online. After the 3rd renewal, items must be brought to the Circulation Desk for additional renewals. Overdue items must be brought to the Circulation Desk for renewals. Items that are recalled may not be renewed. Current Georgia Tech students, faculty and staff may use their BuzzCard to borrow books from the Woodruff Library at Emory University and all general libraries within the University System of Georgia, which includes Georgia State University main and law libraries. To borrow books from other university libraries, or UGA and Emory specialty libraries, please contact our Circulation Department first.

A valuable resource available to all affiliates of Georgia Tech is the GALILEO database system. GALILEO stands for GeorgiA LIbrary LEarning Online, an initiative of the Board of Regents of the University System of Georgia. A World Wide Web-based virtual library, GALILEO provides access to multiple information resources, including secured access to licensed products. Participating institutions may access over 100 databases indexing thousands of periodicals and scholarly journals. Over 2000 journal titles are provided in full-text. Other resources include encyclopedias, business
directories, and government publications. To access GALILEO, you must have your GT account and password.

Many journals are available electronically as e-journals through the Library website (http://www.library.gatech.edu/). If you have difficulty finding a journal you need, help can be sought from both virtual librarians and the Information Services desk on the first floor of the library, or by phone at (404) 894-4530, or through the RealTime Reference Service powered by America Online’s Instant Messenger service. To send a message to Real Time Reference:

- Open the Instant Messenger program
- Click Online tab
- Click "IM" (Instant Messenger) button
- Enter "gtrefdesk" in "to" box

All journals published before 1980 are in compact storage in the Library basement. These older journals have been placed in compact storage to conserve them and to provide much needed shelf space in the general library stacks. To access an item in storage, complete a “Storage Request” form and take it to the Circulation Desk. The form requires the journal name, call number, volume number, volume date, and page numbers of the article. Forms are available at the Circulation Desk and at the Information Services Desk, and can be downloaded and printed. Requests may also be faxed to (404) 894-0399 so that they can be at the Circulation Desk when you arrive. Storage items are strictly for in-house use. You may make photocopies.

Parking and Transportation

On-Campus Parking

If you plan to have a car on campus when you arrive at Tech, you will need to apply for a parking permit. Parking on campus is very limited; be aware that applying for a permit does not ensure that you will receive one. However, if you will need a parking permit, you should apply for one as soon as possible. You may apply online for your parking permit. The application may be found at http://www.parking.gatech.edu. You may also call them at (404) 894-9645, or their office is located at 828 West Peachtree Street NW.

Stinger and Trolley Services

The University runs the Stinger Bus System with several routes to various places on campus, and also provides transportation to and from the Midtown MARTA station (Metropolitan Atlanta Rapid Transit Authority) via the Tech Trolley. Consult the Stinger schedule and routes on the Parking and Transportation office’s website at http://www.parking.gatech.edu.

The Stingerette Shuttle Service provides van transportation on campus during the evening and nighttime hours (after the buses have ceased operation for the day). During the day, the Stingerette shuttle provides transportation for handicapped persons on campus. On weekends, the vans also provide a shuttle service to and from the local grocery store. For more detailed information regarding the Stingerette Shuttle Service, see the Stinger link posted above.

Also, there is an online service where you can monitor real-time movement of the Trolley and Stinger shuttles. NextBus provides this service, and their website is www.nextbus.com.
Purchasing and Receiving
For purchases, please see your faculty advisor.

When a package is received in Cherry Emerson, it is delivered to room 208. Someone in the BioHub center will e-mail you to notify you of its arrival. Packages must be picked up promptly. A receiving log is located in room 208 and you are required to sign for the package.

Radiation Safety
The Office of Radiological Safety (ORS) at 900 Atlantic Drive (voice: (404) 894-3605, fax: (404) 894-9325, e-mail: ors@ors.gatech.edu) provides assistance and guidance in the safe use of radioactive materials. Anyone wishing to use radioisotopes or radiation producing equipment in research must be trained and certified by ORS. A copy of the Institute Radiation Safety Manual is available online at: http://www.ors.gatech.edu/rsm.htm

Questions on use and disposal of radioactive materials should be addressed to the biology Safety Officer, Marc Pline. He may be reached at (404) 403-4610, or marc.pline@biology.gatech.edu.

Registration
The OSCAR (https://oscar.gatech.edu/) provides detailed information on registration dates and how to register via the computerized Web Access System. The Web Access System, which is used for registration, can also be used to check:

Registration status
- Add or drop classes; select variable credits, grading modes, or levels; display your class schedule; obtain student invoice statement; web payment options.

Student records
- View your holds; display your grades and transcripts; review summary of charges and payments by term; web payment options.

Financial aid
- Apply for financial aid; review the status of your financial aid applications; check status of document requirements; review loans.

Campus services
- Sign up for direct deposit, meal plans.

After registering for courses, be sure to determine your fees ($718 for GTA or GRA) and pay these by the deadline (deadlines are given on the Bursar's calendar at http://www.bursar.gatech.edu/) at the Bursar's office on the first floor of Lyman Hall. Note: You cannot do anything else (e.g., P.O. Box, e-mail, financial aid, etc.) until 24 hours after you register.

Sexual Harassment
It is the policy of the Institute that no member of its community, including administrators, faculty, staff, or students, should be subjected to sexual harassment by another. This policy and procedure is intended to create an atmosphere in which individuals who believe that they are the victims of harassment are assured that their complaints will be dealt with fairly and effectively. Toward this end, the Georgia Institute of Technology supports the principle that sexual harassment represents a failure in ethical behavior and that sexual exploitation of professional relationships will not be condoned.
Sexual harassment is defined as unwelcome sexual advances, requests for sexual favors, and other verbal or physical conduct of a sexual nature when:

1. submission to such conduct is made, either explicitly or implicitly, a term or condition of an individual's employment or academic standing; or
2. submission to or rejection of such conduct is used as the basis for employment or academic decisions affecting the individual; or
3. such conduct has the effect of unreasonably interfering with an individual's work or academic performance or creates an intimidating, hostile working or academic environment.

Both men and women may be either the initiators or victims of sexual harassment.

Any member of the Institute community who believes that he or she has been the victim of sexual harassment as defined above should promptly report the matter to the appropriate Institute official designated to handle such complaints.

Travel

As a graduate student, you may travel to scientific meetings, research sites or educational destinations related to your research with the approval of your faculty advisor. Graduate students are eligible for travel funds through the GT Graduate Student Senate and the College of Sciences. The faculty member may also supply funds from a research account for travel. If you plan to travel and have your faculty advisor’s approval, the following needs to be done in the order shown, starting at least 30 days prior to travel:

1. A Travel Authority Request form (TAR) must be completed, printed, signed by you and your faculty advisor and turned into the Finance office (Cherry Emerson, Room 203) BEFORE you leave on your trip.
2. If your faculty advisor has agreed to pay for the airline ticket, it can be direct-billed to Georgia Tech. See the Finance office for further instructions on this process.
3. If you want to seek funds from the Graduate Student Senate Conference, you will need to complete their application and the College of Sciences conference fund application which are available from Nena Gray in the Biology financial office. These must be received by the Student Senate and College of Sciences offices at least 21 days prior to travel or you will not be eligible for funds. Generally, a trip is covered by one-third from the Student Senate, one-third from the College of Sciences, and one-third from the faculty member. Notice of approval/disapproval of funds from these sources is usually received within a week.
4. Read all notes in the travel forms concerning meal allowances so that you are aware of what you are eligible to claim for expenses.
5. If your faculty advisor has agreed to pay for your registration, it can be charged to his/her P-card.
6. If you need a travel advance to cover expenses during your travel, forms are available from Nena Gray in the Biology financial office.
7. Once your trip is completed, complete the Travel Expense Form (TES) and attach all receipts for lodging, travel (airfare, train, taxi parking, etc.), and registration (if you did not pay for it on a P-card). Travel Expense Forms should be submitted to the Biology finance office. Reimbursements are made by direct deposit to your checking account if you are a GT employee.
NOTE: The Travel Authority Request form and the Travel Expense form are both obtained in the CoS Finance System: cosfinancial.gatech.edu. For further assistance, please see Nena Gray in the Finance office.

Withdrawing from School

Withdrawal from school will not be permitted after 60 percent of the term except in cases of hardship as determined by the Institute Graduate Committee, as appropriate. With the exception of part-time graduate students, students who withdraw from school and receive all grades of W will not ordinarily be permitted to re-enroll the next term. A student may withdraw from school via the Student Access System by the posted deadline in the official school calendar published in OSCAR. All holds on the student’s record must be cleared prior to withdrawal.
Buildings and Facilities

Buildings

Cherry Emerson Building (310 Ferst Drive)

The Cherry Emerson building is located at 310 Ferst Drive and is the original home of the School of Biology. The building includes all administrative offices for the school, as well as the primary classrooms used for biology courses. Faculty in Cherry Emerson include molecular & cell biology, microbiology, ecology, structural biology and bioinformatics. Facilities in Cherry Emerson include three autoclaves, environmental chambers, darkroom, rooftop greenhouse, and two computer labs.

Ford Environmental Science and Technology (ES&T) Building (311 Ferst Drive)

The Ford Environmental Science and Technology (ES&T) Building was completed in autumn 2002 and is the largest academic building on campus. A number of Biology faculty working in ecology, behavior, and marine science are housed on the first and second floors of the south wing of ES&T. Biology facilities in ES&T include an autoclave, a darkroom, six environmental chambers, and two aquarium rooms. The ES&T building was designed as an interdisciplinary facility and also houses the School of Earth and Atmospheric Sciences as well as portions of the Schools of Chemistry and Biochemistry, Civil and Environmental Engineering, and Chemical Engineering.

Petit Institute for Bioengineering and Biosciences (IBB) Building (315 Ferst Drive)

The Petit Institute for Bioengineering and Biosciences is an interdisciplinary facility including 42 faculty whose home departments include Biology, Chemistry and Biochemistry, Chemical Engineering, Biomedical Engineering, Electrical and Computer Engineering, and Mechanical Engineering. The mission of the Institute is to integrate engineering, information technology and the sciences in the conduct of biomedical research and education. Facilities available to biology personnel include a new mass spectrometry facility, located in the basement of IBB, and access to confocal microscopy.
## Directory
### University Offices

<table>
<thead>
<tr>
<th>Office</th>
<th>Address</th>
<th>Phone</th>
<th>Website</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bursar's office</td>
<td>1&lt;sup&gt;st&lt;/sup&gt; floor of Lyman Hall (no. 29A on campus map)</td>
<td>404-894-4618</td>
<td><a href="http://www.bursar.gatech.edu">www.bursar.gatech.edu</a></td>
</tr>
<tr>
<td>Graduate Studies and Research office</td>
<td>Room 310, Savant Building (no. 38 on campus map)</td>
<td>404-894-4843</td>
<td><a href="http://www.gradadmss.gatech.edu">www.gradadmss.gatech.edu</a></td>
</tr>
<tr>
<td>Office of Human Resources</td>
<td>500 Marietta St., NW (no. 142 on campus map)</td>
<td>404-894-9294</td>
<td><a href="http://www.ohr.gatech.edu">www.ohr.gatech.edu</a></td>
</tr>
<tr>
<td>Office of Information Technology</td>
<td>Rich Building (no. 51 on campus map)</td>
<td>404-894-7173</td>
<td><a href="http://www.oit.gatech.edu">www.oit.gatech.edu</a></td>
</tr>
<tr>
<td>Office of International Education</td>
<td>Room 211, Savant Building (no. 38 on campus map)</td>
<td>404-894-7475</td>
<td><a href="http://www.oie.gatech.edu">www.oie.gatech.edu</a></td>
</tr>
<tr>
<td>Library</td>
<td>Library and Information Center (no. 77 on campus map)</td>
<td>404-894-4530</td>
<td><a href="http://www.library.gatech.edu">www.library.gatech.edu</a></td>
</tr>
<tr>
<td>Police</td>
<td>Corner of Ferst Drive and Hemphill Ave. (no. 46 on campus map)</td>
<td>404-894-2500</td>
<td><a href="http://www.police.gatech.edu">www.police.gatech.edu</a></td>
</tr>
<tr>
<td>Registrar</td>
<td>1&lt;sup&gt;st&lt;/sup&gt; floor of Administrative Bldg. (no. 35 on campus map)</td>
<td>404-894-4150</td>
<td><a href="http://www.registrar.gatech.edu">www.registrar.gatech.edu</a></td>
</tr>
</tbody>
</table>
## FACULTY

<table>
<thead>
<tr>
<th>Name</th>
<th>Title (Office / Lab)</th>
<th>Phone Number</th>
<th>E-mail address</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CHERNOFF, Yury</strong></td>
<td>Professor (IBB 2304 / 2230)</td>
<td>4-1157, 5-1324</td>
<td>yury.chernoff@biology</td>
</tr>
<tr>
<td><strong>CHOI, Jung</strong></td>
<td>Assoc Prof (213)</td>
<td>4-8423</td>
<td>jung.choi@biology</td>
</tr>
<tr>
<td><strong>DICHRISTINA, Thomas</strong></td>
<td>Professor (EST 1240/1115)</td>
<td>4-8419, 5-4433</td>
<td>thomas.dichristina@biology</td>
</tr>
<tr>
<td><strong>DUFFY, Meghan</strong></td>
<td>Asst Prof (A124/A121/D102)</td>
<td>4-8426, 5-2843</td>
<td>meghan.duffy@biology</td>
</tr>
<tr>
<td><strong>FAN, Yuhong</strong></td>
<td>Asst Prof (IBB 2313/2228/2B)</td>
<td>5-1312, 5-1322</td>
<td>yuhong.fan@biology</td>
</tr>
<tr>
<td><strong>GAUCHER, Eric</strong></td>
<td>Assoc Prof (CE 311, 222, 224, 226, 227)</td>
<td>5-3265, 5-8584</td>
<td>eric.gaucher@biology</td>
</tr>
<tr>
<td><strong>GIBSON, Greg</strong></td>
<td>Prof (CE 301)</td>
<td>5-2343</td>
<td>greg.gibson@biology</td>
</tr>
<tr>
<td><strong>GOODISMAN, Mike</strong></td>
<td>Asst Prof (A110/A101)</td>
<td>5-6311, 5-6312</td>
<td>michael.goodisman@biology</td>
</tr>
<tr>
<td><strong>HAMMER, Brian</strong></td>
<td>Asst. Prof. (CE223)</td>
<td>5-7701, 5-7649</td>
<td>brian.hammer@biology</td>
</tr>
<tr>
<td><strong>HARVEY, Steve</strong></td>
<td>Professor (315/323A/324/325/327/329)</td>
<td>5-4498, 5-4499, 5-7650</td>
<td>steve.harvey@biology</td>
</tr>
<tr>
<td><strong>HAY, Mark</strong></td>
<td>Professor (EST 2102/2185)</td>
<td>4-8429, 5-6111</td>
<td>mark.hay@biology</td>
</tr>
<tr>
<td><strong>HU, David</strong></td>
<td>Asst. Prof. in Mechanical Eng.</td>
<td>4-0573</td>
<td>david.hu@me</td>
</tr>
<tr>
<td><strong>JIANG, Lin</strong></td>
<td>Asst Prof (C120/C111/C113)</td>
<td>5-2514, 5-7448, 5-7449</td>
<td>lin.jiang@biology</td>
</tr>
<tr>
<td><strong>JORDAN, I. King</strong></td>
<td>Assoc Prof (215/212/217)</td>
<td>5-2224, 5-1257, 5-1264</td>
<td>king.jordan@biology</td>
</tr>
<tr>
<td><strong>KUBANEK, Julia</strong></td>
<td>Assoc Prof (EST 2242/2175)</td>
<td>4-8424, 5-4437</td>
<td>julia.kubanek@biology</td>
</tr>
<tr>
<td><strong>LOBACHEV, Kirill</strong></td>
<td>Assoc Prof (IBB 2303/2202)</td>
<td>5-6197, 5-6198</td>
<td>kirill.lobachev@biology</td>
</tr>
<tr>
<td><strong>LOEFFLER, Frank</strong></td>
<td>Assoc. Prof in CE (EST 3228/3355)</td>
<td>4-0279, 5-4552</td>
<td>frank.loeffler@ce</td>
</tr>
<tr>
<td><strong>MCDONALD, John</strong></td>
<td>Prof. and Assoc. Dean Biology Dev. (IBB 3314)</td>
<td>4-3700, 5-6630, 5-8341</td>
<td>john.mcdonald@biology</td>
</tr>
<tr>
<td><strong>MERRILL, Al</strong></td>
<td>Professor (IBB 3309/3402)</td>
<td>5-2842</td>
<td>al.merrill@biology</td>
</tr>
<tr>
<td><strong>MONTOYA, Joseph</strong></td>
<td>Professor (EST 1244/1125)</td>
<td>5-0479, 5-0574</td>
<td>j.montoya@biology</td>
</tr>
<tr>
<td><strong>PULLMAN, Jerry</strong></td>
<td>Professor (IPST) MC 0620</td>
<td>4-5307, 4-4778 (F)</td>
<td>jerry.pullman@ipst</td>
</tr>
<tr>
<td><strong>SCHMIDT-KREY, Ingeborg</strong></td>
<td>Asst Prof (A118/A120/A122/A109/A111)</td>
<td>5-0286, 5-6673, 5-2844, 5-1269</td>
<td>ingeborg.schmidt-krey@biology</td>
</tr>
<tr>
<td><strong>SKOLNICK, Jeffrey</strong></td>
<td>Dir Ctr for the Sys Biol (250 14th rm 138)</td>
<td>404-407-8975</td>
<td>jeffrey.skolnick@biology</td>
</tr>
<tr>
<td><strong>SNELL, Terry</strong></td>
<td>Prof &amp; Interim Chair (CE 201A/EST 2240/2155)</td>
<td>4-8906, 5-4434, 5-6645</td>
<td>terry.snell@biology</td>
</tr>
<tr>
<td><strong>STORICI, Francesca</strong></td>
<td>Asst Prof (331/324/324D)</td>
<td>5-3339, 5-3338</td>
<td>francesca.storici@biology</td>
</tr>
<tr>
<td>Name</td>
<td>Title/Position</td>
<td>Phone Numbers</td>
<td>Email Address</td>
</tr>
<tr>
<td>---------------</td>
<td>---------------------------------------------</td>
<td>---------------</td>
<td>--------------------------------</td>
</tr>
<tr>
<td><strong>STREELMAN, Todd</strong></td>
<td>Assoc Prof (EST 2244/2165)</td>
<td>5-4435, 5-4436</td>
<td>todd.streelman@biology</td>
</tr>
<tr>
<td><strong>WARTELL, Roger</strong></td>
<td>Professor (IBB 1307/1205)</td>
<td>4-8421, 5-1315</td>
<td>roger.wartell@biology</td>
</tr>
<tr>
<td><strong>WEISSBURG, Marc</strong></td>
<td>Assoc Prof (EST 2238/2150)</td>
<td>4-8433, 5-0576</td>
<td>marc.weissburg@biology</td>
</tr>
<tr>
<td><strong>WEITZ, Joshua</strong></td>
<td>Asst Prof (219/214/216)</td>
<td>5-6169, 5-8343, 5-8341, 5-8342</td>
<td>joshua.weitz@biology</td>
</tr>
<tr>
<td><strong>YEN, Jeannette</strong></td>
<td>Professor (A116/C109)</td>
<td>5-1596, 5-7492</td>
<td>jeannette.yen@biology</td>
</tr>
<tr>
<td><strong>YI, Soojin</strong></td>
<td>Asst Prof (IBB 3302/3203/3B)</td>
<td>5-6084, 5-7484</td>
<td>soojin.yi@biology</td>
</tr>
</tbody>
</table>

**COURTESY APPOINTMENTS**

<table>
<thead>
<tr>
<th>Name</th>
<th>Title/Position</th>
<th>Phone Numbers</th>
<th>Email Address</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BALOG, Edward</strong></td>
<td>Asst. Prof in AP</td>
<td>4-3957</td>
<td>ed.balog@ap</td>
</tr>
<tr>
<td><strong>BORODOVSKY, Mark</strong></td>
<td>Regents Prof in BME</td>
<td>4-8432</td>
<td>mark.borodovsky@bme</td>
</tr>
<tr>
<td><strong>BOYAN, Barbara</strong></td>
<td>Professor in BME</td>
<td>5-4108</td>
<td>barbara.boyan@bme</td>
</tr>
<tr>
<td><strong>BUNIMOVICH, Leonid</strong></td>
<td>Regents Prof in Math</td>
<td>4-4748</td>
<td>leonid.bunimovich@math</td>
</tr>
<tr>
<td><strong>DUARTE, Audrey</strong></td>
<td>Asst. Prof. in Psychology</td>
<td>4-2349</td>
<td>audrey.duarte@psychology</td>
</tr>
<tr>
<td><strong>GOLDMAN, Daniel</strong></td>
<td>Asst. Prof in Physics</td>
<td>4-0993</td>
<td>daniel.goldman@physics</td>
</tr>
<tr>
<td><strong>HEITSCH, Christine</strong></td>
<td>Asst. Prof in Math</td>
<td>4-4758</td>
<td><a href="mailto:ceheitsch@gatech.edu">ceheitsch@gatech.edu</a></td>
</tr>
<tr>
<td><strong>KONSTANTINIDIS, Kostas</strong></td>
<td>Asst. Prof in Civil &amp; Environmental Eng.</td>
<td>5-3628</td>
<td>kostas.konstantinidis@ce</td>
</tr>
<tr>
<td><strong>KROGER, Nils</strong></td>
<td>Asst. Prof in Chemistry</td>
<td>4-4228</td>
<td>nils.kroger@chemistry</td>
</tr>
<tr>
<td><strong>LU, Hang</strong></td>
<td>Asst. Prof in ChBE</td>
<td>4-8473</td>
<td>hang.lu@chbe</td>
</tr>
<tr>
<td><strong>SANDERS, James</strong></td>
<td>Dir. &amp; Prof in Skidaway</td>
<td>912-598-2400</td>
<td><a href="mailto:jim.sanders@skio.usg.edu">jim.sanders@skio.usg.edu</a></td>
</tr>
<tr>
<td><strong>SCHUMACHER, Eric</strong></td>
<td>Asst. Prof in Psychology</td>
<td>4-6067</td>
<td><a href="mailto:eschu@gatech.edu">eschu@gatech.edu</a></td>
</tr>
<tr>
<td><strong>SPAIN, Jim</strong></td>
<td>Professor in Civil &amp; Environmental Eng (EST 3202)</td>
<td>4-0628</td>
<td>jspain@ce</td>
</tr>
<tr>
<td><strong>SULCHEK, Todd</strong></td>
<td>Asst. Prof in Mechanical Eng</td>
<td>5-1887</td>
<td>todd.sulchek@me</td>
</tr>
<tr>
<td><strong>VIDAKOVIC, Branislav</strong></td>
<td>Professor in ISYE</td>
<td>4-3935</td>
<td>branislav.vidakovic@isy e</td>
</tr>
<tr>
<td><strong>VOIT, Eberhard</strong></td>
<td>Professor in BME (Whitaker 4103)</td>
<td>5-5057</td>
<td>eberhard.voit@bme</td>
</tr>
</tbody>
</table>

**ACADEMIC PROFESSIONALS, INSTRUCTORS & LECTURER**

<table>
<thead>
<tr>
<th>Name</th>
<th>Title/Position</th>
<th>Phone Numbers</th>
<th>Email Address</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BROCKETT, Mirjana</strong></td>
<td>Academic Professional (323)</td>
<td>5-6885</td>
<td>mirjana.brockett@biology</td>
</tr>
<tr>
<td><strong>GARTON, David</strong></td>
<td>Lecturer (333)</td>
<td>5-1039</td>
<td>david.garton@biology</td>
</tr>
<tr>
<td><strong>GREEN, Linda</strong></td>
<td>Academic Professional (A104)</td>
<td>5-6517</td>
<td>linda.green@biology</td>
</tr>
<tr>
<td>NAME</td>
<td>Position</td>
<td>Phone</td>
<td>Email</td>
</tr>
<tr>
<td>--------------------</td>
<td>------------------------------------</td>
<td>-----------</td>
<td>---------------------------------</td>
</tr>
<tr>
<td>LEAVEY, Jennifer</td>
<td>Undergraduate Academic Professional (A112)</td>
<td>5-7229</td>
<td>jennifer.leavey@biology</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bowen, Nathan</td>
<td>Sr. Res. Scientist (IBB 2301A)</td>
<td>4-9020</td>
<td>nathan.bowen@biology</td>
</tr>
<tr>
<td>Brylinski, Michal</td>
<td>Research Scientist (250 14th rm 404-407-8989</td>
<td>404-407-8989</td>
<td>michal.brylinski@biology</td>
</tr>
<tr>
<td>Egertsdotter, Ulrika</td>
<td>Principle Res. Scientist (IPST-586)</td>
<td>4-0363</td>
<td>ulrika.egertsdotter@biology</td>
</tr>
<tr>
<td>Engel, Sebastian</td>
<td>Research Scientist (EST 2178)</td>
<td>5-4438</td>
<td>sabastian.engel@biology</td>
</tr>
<tr>
<td>Ilkowski, Bartosz</td>
<td>Sr. Res. Technologist (250 14th rm 146)</td>
<td>404-407-8982</td>
<td>bartosz.ilkowski@biology</td>
</tr>
<tr>
<td>Kacar, Betul</td>
<td>Research Scientist</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kiktev, Denis</td>
<td>Research Scientist</td>
<td></td>
<td>denis.kiktev@biology</td>
</tr>
<tr>
<td>Matyunina, Lilya</td>
<td>Research Scientist (IBB 3204)</td>
<td>5-6629</td>
<td>lilya.matyunina@biology</td>
</tr>
<tr>
<td>Nishida, Yuri</td>
<td>Research Scientist (IBB 2230)</td>
<td>5-1324</td>
<td>yuri.nishida@biology</td>
</tr>
<tr>
<td>Petrov, Anton</td>
<td>Research Scientist (327)</td>
<td>5-4499</td>
<td>anton.petrov@biology</td>
</tr>
<tr>
<td>Reinartz, Andrea</td>
<td>Research Scientist</td>
<td></td>
<td>andrea.reinartz@biology</td>
</tr>
<tr>
<td>Romanyuk, Andrey</td>
<td>Research Scientist (IBB 2216 / 2230)</td>
<td>5-1324</td>
<td>andrey.romanyuk@biology</td>
</tr>
<tr>
<td>Shearer, Tonya</td>
<td>Research Scientist (EST 2155)</td>
<td>5-4434</td>
<td>tonya.shearer@biology</td>
</tr>
<tr>
<td>Sullards, Cameron</td>
<td>Principle Research Scientist (IBB 0502)</td>
<td>5-4249, 4-4061</td>
<td>cameron.sullards@chemistry</td>
</tr>
<tr>
<td>Thomas, Sara</td>
<td>Research Scientist I</td>
<td></td>
<td>sara.thomas@biology</td>
</tr>
<tr>
<td>Walker, DeEtte</td>
<td>Research Scientist (IBB 3205)</td>
<td>5-6629</td>
<td>lila.walker@biology</td>
</tr>
<tr>
<td>Zhao, Gengxiang</td>
<td>Research Scientist (CE A102)</td>
<td>404-385-4397</td>
<td><a href="mailto:gengxiang.zhao@biology.gatech.edu">gengxiang.zhao@biology.gatech.edu</a></td>
</tr>
<tr>
<td>Zhou, Hongyi</td>
<td>Research Scientist (250 14th rm 142)</td>
<td>404-407-8978</td>
<td>hongyi.zhou@biology</td>
</tr>
</tbody>
</table>

**POSTDOCTORAL FELLOWS**

<table>
<thead>
<tr>
<th>NAME</th>
<th>Position</th>
<th>Phone</th>
<th>Email</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ando, Tadashi</td>
<td>Postdoctoral Fellow (250 14th)</td>
<td>404-407-8974</td>
<td>tadashi.ando@biology</td>
</tr>
<tr>
<td>Bandypadhyay, Sibali</td>
<td>Postdoctoral Fellow</td>
<td></td>
<td>sibali.bandypadhyay@biology</td>
</tr>
<tr>
<td>Bardill, Patrick</td>
<td>Postdoctoral Fellow</td>
<td>5-7649</td>
<td>patrick.bardill@biology</td>
</tr>
<tr>
<td>Gao, Mu</td>
<td>Postdoctoral Fellow (250 14th rm 404-407-8988</td>
<td>404-407-8988</td>
<td><a href="mailto:mu.gao@gatech.edu">mu.gao@gatech.edu</a></td>
</tr>
<tr>
<td>Lee, Seung Yup</td>
<td>Postdoctoral Fellow (250 14th rm 143)</td>
<td>404-407-8979</td>
<td>seung.lee@biology</td>
</tr>
<tr>
<td>Lin, An Shen</td>
<td>Postdoctoral Fellow (EST 2176)</td>
<td>5-4437</td>
<td>an-shen.lin@biology</td>
</tr>
<tr>
<td>Liu, Zheng</td>
<td>Postdoctoral Fellow (IBB 2212)</td>
<td>5-1322</td>
<td>zheng.liu@biology</td>
</tr>
<tr>
<td>Mezencev, Roman</td>
<td>Postdoctoral Fellow</td>
<td></td>
<td>roman.mezencev@biology</td>
</tr>
<tr>
<td>NAME</td>
<td>POSITION</td>
<td>PHONE</td>
<td>EMAIL</td>
</tr>
<tr>
<td>-----------------</td>
<td>---------------------------------</td>
<td>---------</td>
<td>--------------------------------</td>
</tr>
<tr>
<td>Mukherjee, Kuntal</td>
<td>Postdoctoral Fellow</td>
<td></td>
<td>kuntal.mukherjee@biology</td>
</tr>
<tr>
<td>Narayanan, Vidhya</td>
<td>Postdoctoral Fellow</td>
<td>5-6198</td>
<td><a href="mailto:vidhya@gatech.edu">vidhya@gatech.edu</a></td>
</tr>
<tr>
<td>Panjwani, Shiraj</td>
<td>Postdoctoral Fellow (IBB 2212)</td>
<td>5-1322</td>
<td>shiraj.panjwani@biology</td>
</tr>
<tr>
<td>Price, Charles</td>
<td>Postdoctoral Fellow (236)</td>
<td>5-5474</td>
<td>charles.price@biology</td>
</tr>
<tr>
<td>Scarberry, Kenneth</td>
<td>Postdoctoral Fellow (IBB)</td>
<td></td>
<td>kenneth.scarberry@biology</td>
</tr>
<tr>
<td>Symonova, Olga</td>
<td>Postdoctoral Fellow (221)</td>
<td>5-6198</td>
<td>olga.symonova@biology</td>
</tr>
<tr>
<td>Volkov, Kirill</td>
<td>Postdoctoral Fellow</td>
<td></td>
<td>kirill.volkov@biology</td>
</tr>
<tr>
<td>Wang, Lijuan</td>
<td>Postdoctoral Fellow (IBB 3219 3B)</td>
<td>5-6631</td>
<td>lijuan.wang@biology</td>
</tr>
<tr>
<td>Black, Benita</td>
<td>Academic Assistant II (A106)</td>
<td>5-7137</td>
<td>benita.black@biology</td>
</tr>
<tr>
<td>Brown-Vinson, Teresa</td>
<td>Accountant II (203)</td>
<td>4-8434</td>
<td>teresa.brown@biology</td>
</tr>
<tr>
<td>Cannella, Frank</td>
<td>Facilities Manager (C110)</td>
<td>404-219-0306</td>
<td>facilities_help@biology</td>
</tr>
<tr>
<td>Carey, Kendal</td>
<td>Clerk III (C110)</td>
<td>404-788-3431</td>
<td>facilities_help@biology</td>
</tr>
<tr>
<td>Gilmore, Jessica</td>
<td>Administrative Assistant (250 14th rm 139)</td>
<td>404-407-8976</td>
<td>jessica.gilmore@biology</td>
</tr>
<tr>
<td>Goodyear, Angie</td>
<td>Lab Technician (C105)</td>
<td></td>
<td>angie.goodyear@biology</td>
</tr>
<tr>
<td>Gray, Nena</td>
<td>Financial Manager (205)</td>
<td>5-4107</td>
<td>nena.gray@biology</td>
</tr>
<tr>
<td>Hilley, Troy</td>
<td>Sys Support Specialist II (338) 7am-4PM</td>
<td>404-790-1270</td>
<td>helpdesk@biology</td>
</tr>
<tr>
<td>Housley, Jessica</td>
<td>Research Technician II</td>
<td>5-2843</td>
<td>jessica.housley@biology</td>
</tr>
<tr>
<td>Kelly, Samuel</td>
<td>Research Technician (IBB 3402)</td>
<td>5-2918</td>
<td>samuel.kelly@biology</td>
</tr>
<tr>
<td>Macken, Kathryn</td>
<td>Project Coordinator (207)</td>
<td>4-8435</td>
<td>kathryn.macken@biology</td>
</tr>
<tr>
<td>Newnam, Gary</td>
<td>Research Technician (IBB 2230)</td>
<td>5-1324</td>
<td>gary.newnam@biology</td>
</tr>
<tr>
<td>Pline, Marc</td>
<td>Lab Manager (321)</td>
<td>404-403-4610</td>
<td>marc.pline@biology</td>
</tr>
<tr>
<td>Randall, Ryan</td>
<td>Research Technician II</td>
<td>5-8584</td>
<td>ryan.randall@biology</td>
</tr>
<tr>
<td>Roman, Kevin</td>
<td>Academic Assistant II (209)</td>
<td>5-4240</td>
<td>kevin.roman@biology</td>
</tr>
<tr>
<td>Totten, Kimberly</td>
<td>Research Technician (IBB 3205)</td>
<td>5-6629</td>
<td>kimberly.totten@biology</td>
</tr>
<tr>
<td>Tuttle, Lisa</td>
<td>Administrative Assistant II (CE, 201)</td>
<td>4-3700, 4-3735</td>
<td>lisa.tuttle@biology</td>
</tr>
<tr>
<td>Walker, Barbara E.</td>
<td>Administrative Manager (201)</td>
<td>4-3747</td>
<td>barbara.walker@biology</td>
</tr>
<tr>
<td>Wang, Elaine</td>
<td>Research Technician (IBB 3402)</td>
<td>5-2974</td>
<td>elaine.wang@biology</td>
</tr>
</tbody>
</table>
Faculty of the School of Biology

Yury Chernoff  
Professor
IBB 2304/2230, 404-894-1157  
Yury.chernoff@biology.gatech.edu
BS, St. Petersburg University, (Russia), Biology  
PhD, St. Petersburg University, (Russia), Biology
Yeast molecular genetics: genetic control of protein biosynthesis, folding and aggregation; prions and protein-based inheritance; chaperones and stress response.

Jung Choi  
Associate Professor
Cherry Emerson 213, 404-894-8423  
Jung.choi@biology.gatech.edu
BS, Massachusetts Institute of Technology, Biology  
PhD, University of CA San Diego, Biology
Plant molecular genetics, protein kinases and cell surface proteins in plant development and regeneration.

Thomas DiChristina  
Professor
ES&T 1240/1115, 404-894-8419  
Thomas.dichristina@biology.gatech.edu
BS, University of Rochester, Chemical Engineering  
MS, University de Bordeaux (France), Physical Chemistry  
PhD, California Institute of Technology, Environmental Microbiology
Environmental microbiology, geomicrobiology, biogeochemistry, microbial degradation of pollutants, microbial metal reduction.

Meghan Duffy  
Assistant Professor
Cherry Emerson A124/A121/D102, 404-894-8426  
duffy@gatech.edu
BS, Cornell University, Biology  
PhD, Michigan State University, Zoology and Ecology, Evolutionary Biology and Behavior
Evolutionary, population and community ecology, with particular focuses on host-parasite interactions, aquatic ecology, and eco-evolutionary dynamics.

Yuhong Fan  
Assistant Professor
IBB 2313/2228, 404-385-1312  
Yuhong.fan@biology.gatech.edu
PhD, Albert Einstein College of Medicine, Cell Biology
Epigenetic mechanisms crucial for chromatin structure reprogramming and gene expression during mammalian development and cell differentiation.

**Eric Gaucher**  
Ecology, Evolution, and Behavior  
Associate Professor  
Cherry Emerson 311/222, 404-385-3265  
[eric.gaucher@biology.gatech.edu](mailto:eric.gaucher@biology.gatech.edu)  
PhD, University of Florida, Evolutionary and Biomedical Sciences  
Evolutionary synthetic biology, molecular biology, comparative genomics, computational biology, bioinformatics, biomedicine, molecular evolution, and origins of life.

**Greg Gibson**  
Bioinformatics and Computational Biology  
Professor  
Director of the Center for Integrative Genomics  
Office: Boggs 1-98, Phone: 404-385-2343  
[greg.gibson@biology.gatech.edu](mailto:greg.gibson@biology.gatech.edu)  
Ph.D., University of Basel, Switzerland  
Genomic approaches to human genetics; variability of gene expression; systems biology of disease; theory of canalization and biological robustness.

**Michael Goodisman**  
Ecology, Evolution, and Behavior  
Associate Professor  
Cherry Emerson A110/C101, 404-385-6311  
[Michael.goodisman@biology.gatech.edu](mailto:Michael.goodisman@biology.gatech.edu)  
BA, Cornell University, Genetics  
PhD, University of Georgia, Genetics  
Sociobiology, behavioral ecology, bioinformatics, molecular evolution, developmental biology, population genetics, evolutionary, genomics.

**Brian Hammer**  
Ecology, Evolution, and Behavior/Molecular and Cell Biology  
Assistant Professor  
Cherry Emerson 223/210/218F, 404-385-4499  
[Brian.hammer@biology.gatech.edu](mailto:Brian.hammer@biology.gatech.edu)  
BS, Boston College, Biology  
MS, University of Michigan, Aquatic Ecology  
PhD, University of Michigan Medical School, Microbiology and Immunology
Brian Hammer

Assistant Professor
Cherry Emerson 223/210/218F, 404-385-4499
Brian.hammer@biology.gatech.edu
BS, Boston College, Biology
MS, University of Michigan, Aquatic Ecology
PhD, University of Michigan Medical School, Microbiology and Immunology

Research in my lab focuses on the bacterial pathogen Vibrio cholerae, a common inhabitant of marine environments and also the causative agent of the fatal diarrheal disease cholera. In particular, we study a process of cell communication called quorum sensing, which is used by V. cholerae and other bacteria to communicate using chemical signaling molecules called autoinducers (AIs). Because the extracellular concentration of the AIs increases as a function of population density, quorum sensing allows bacteria to coordinate gene expression on a population-wide scale and thereby behave like multicellular organisms. In V. cholerae, AI information is funneled internally through a signal transduction circuit that impinges on the transcription of multiple small regulatory RNAs (sRNAs). Using a combination of genetics, bioinformatics, and genomics, we have recently identified the molecular mechanism that explains how base-pairing of the sRNAs with target mRNA can both activate as well as repress expression of target genes. Importantly, we revealed that this sRNA signaling pathway is conserved in Vibrios isolated from both clinical and marine settings. The goal of our work is to reveal how quorum sensing enables V. cholerae to adapt to and exploit pathogenic and environmental niches that it inhabits.

Stephen Harvey

Bioinformatics and Computational Biology

Professor
GRA Eminent Scholar in Structural Biology
Cherry Emerson 315/319, 404-385-4498
Steve.harvey@biology.gatech.edu
BA, University of CA Berkeley, Physics
PhD, Dartmouth College, Biophysics

Macromolecular structure and dynamics and the relationship of these to biological function.

Mark Hay

Ecology, Evolution and Behavior

Professor
Linda and Harry Teasley Chair in Environmental Biology
ES&T 2102/2185, 404-894-8429
Mark.hay@biology.gatech.edu
BA, University of Kentucky, Zoology and Philosophy
MS, University of CA Irvine, Biology
PhD, University of CA Irvine, Ecology and Evolutionary Biology
How consumer-prey interactions, competition, and physical stresses interact to determine community structure and ecosystem function.

David Hu
Assistant Professor
Love Building 007, 404-894-0573
david.hu@me.gatech.edu
Ph.D. Mathematics, Massachusetts Institute of Technology, 2005
B.S.M.E., Massachusetts Institute of Technology, 2001
Fluid Mechanics: Fluid dynamics, solid mechanics, biomechanics, locomotion, and physical applied mathematics

Lin Jiang
Ecology, Evolution and Behavior
Assistant Professor
Cherry Emerson C120/C111, 404-385-2514
Lin.jiang@biology.gatech.edu
Ph.D, Rutgers University, Ecology and Evolution
Community ecology including causes and consequences of biodiversity, interrelationships between food web structure and community dynamics, ecological consequences of environmental noises, biological invasions, and phytoplankton ecology and evolution.

King Jordan
Bioinformatics and Computational Biology
Associate Professor
Cherry Emerson 215/212, 404-385-2224
King.jordan@biology.gatech.edu
PhD, University of Georgia, Genetics
I am interested in understanding evolutionary innovations that have led to the emergence of complexity in eukaryotic lineages, including i-the contributions of transposable elements to host gene regulatory and protein coding sequences, ii-the tempo and mode of gene regulatory and expression divergence and iii-convergent evolution of gene function.

Julia Kubanek
Ecology, Evolution and Behavior
Associate Professor
ES&T 2242/2175, 404-894-8424
Julia.kubanek@biology.gatech.edu
BS, Queen’s University (Canada), Chemistry
PhD, University of British Columbia (Canada), Organic Chemistry
Chemical ecology; Chemical communication & signaling; marine natural products chemistry; secondary metabolism; harmful algal blooms; plankton ecology.
Kirill Lobachev  
Molecular and Cell Biology  
Associate Professor  
IBB 2303/2202, 404-385-6197  
Kirill.lobachev@biology.gatech.edu  
MS, St. Petersbourg State University (Russia), Biology & Genetics  
PhD, St. Petersbourg State University (Russia), Genetics  
DNA repair, recombination, replication, genome stability.

John McDonald  
Molecular and Cell Biology  
Professor and Associate Dean for Biology Program Development  
Cherry Emerson 201/ IBB 3314, 404-894-3700  
John.mcdonald@biology.gatech.edu  
PhD, University of California, Davis, Genetics  
The role of retroviral-like transposable elements as a source of mutational change and their relevance to the genome structure and function. Another interest is the genetic basis of cancer and developing new diagnostics and therapeutics for ovarian cancer.

Alfred Merrill  
Molecular and Cell Biology  
Professor  
Smithgall Chair in Molecular Cell Biology  
IBB 3309/3402, 404-385-2842  
Al.merrill@biology.gatech.edu  
BS, Virginia Polytechnic Institute and State University, Biochemistry  
PhD, Cornell University, Biochemistry  
Cell regulation by sphingolipid mediators; role of cell signaling in pathogenesis, disease prevention and treatment; biomolecular mass spectrometry; biodiversity.

Joseph Montoya  
Ecology, Evolution and Behavior  
Professor  
ES&T 1244/1125, 404-385-0479  
j.montoya@biology.gatech.edu  
BA, University CA Berkeley, Biology  
PhD, Harvard University, Biology  
Biological oceanography: the nitrogen cycle in pelagic ecosystems, isotope biogeochemistry, nitrogen fixation, denitrification, inorganic N uptake, N excretion, plankton physiology.

Jerry Pullman  
Molecular and Cell Biology  
Professor of the Practice  
Institute for Paper Science and Technology, 404-894-5307  
Jerry.pullman@biology.gatech.edu
BS, California State University, Biology
MS, University of CA Davis, Botany
PhD, University of CA Davis, Plant Pathology

Multiplication of high-value trees through somatic embryogenesis, understanding the fundamental physical and chemical factors driving natural plant embryo development, and the creation of tissue culture systems necessary for the genetic engineering of forest trees.

Ingeborg Schmidt-Krey  
Molecular and Cell Biology  
Assistant Professor  
Cherry Emerson A118/A120, 404-385-0286  
Ingeborg.schmidt-krey@biology.gatech.edu  
PhD, Karolinska Institute, Biophysics and Structural Biology  
Eukaryotic membrane proteins comprise approximately 60% of all drug targets and are consequently immensely important for biomedical research. My research focuses on the crystallization, structure and function of eukaryotic membrane proteins.

Jeffrey Skolnick  
Bioinformatics and Computational Biology  
Professor  
Director, Center for the Study of Systems Biology, GRA Eminent Scholar  
250 14th Street, Room 138, 404-407-8975  
Jeffrey.skolnick@biology.gatech.edu  
PhD, Yale University  
Development of tools for the prediction of protein structure and function from sequence; functional genomics; automatic assignment of enzymes to metabolic pathways, prediction of protein tertiary and quaternary structure and folding pathways; prediction of membrane protein tertiary structure, prediction of small molecule ligands for drug discovery.

Terry Snell  
Ecology, Evolution and Behavior  
Professor and Interim Chair  
ES&T 2240/2155, 404-894-8906  
Terry.snell@biology.gatech.edu  
BS, Florida Southern College, Biology  
MS, University South Florida, Ecology  
PhD, University South Florida, Population Biology  
Chemical ecology of zooplankton; mate recognition; evolutionary ecology; aquatic toxicology; gene expression in response to environmental stress; aquaculture.

Francesca Storici  
Molecular and Cell Biology  
Assistant Professor  
Cherry Emerson 331, 404-385-3339  
Francesca.storici@biology.gatech.edu
Francesca Storici  Molecular and Cell Biology
Assistant Professor
Cherry Emerson 331, 404-385-3339
Francesca.storici@biology.gatech.edu
BS, University of Trieste (Italy), Biology
PhD, International School for Advanced Studies (Italy), Molecular Genetics
Yeast and mammalian molecular genetics; DNA repair; homologous recombination; gene targeting and gene therapy; RNA-mediated DNA repair.

Todd Streelman  Ecology, Evolution and Behavior
Associate Professor
ES&T 2244/2165, 404-385-4435
Todd.streelman@biology.gatech.edu
BS, Bucknell University, Biology
PhD, University of South Florida, Biology
Cichlid fishes and their relatives, a celebrated assemblage whose richness and diversity are unparalleled among vertebrates, are central to discussions of core evolutionary phenomena (adaptive radiation, modes of speciation, ecological convergence, trophic partitioning, sexual selection), the evolution of cichlid jaws, teeth and color patterns.

Roger Wartell  Molecular and Cell Biology
Professor
IBB 1307/1205, 404-894-8421
Roger.wartell@biology.gatech.edu
BS, Stevens Institute of Technology, Physics
PhD, University of Rochester, Physics

Marc Weissburg  Ecology, Evolution and Behavior
Professor
ES&T 2238/2150, 404-894-8433
Marc.weissburg@biology.gatech.edu
BS, University of California, Berkeley, Biology
PhD, State University of New York, Stony Brook, Ecology
Joshua Weitz
Ecology, Evolution, and Behavior/Bioinformatics and Computational Biology
Assistant Professor
Cherry Emerson 219/214, 404-385-6169
Joshua.weitz@biology.gatech.edu
PhD, Massachusetts Institute of Technology, Physics
Theoretical ecology; evolutionary ecology of microbial & viral communities; biological networks; vascular plants; scaling laws; disease dynamics; interacting particle systems.

Jeannette Yen
Ecology, Evolution and Behavior
Professor
Cherry Emerson A116/C109, 404-385-1596
Jeannette.yen@biology.gatech.edu
BA, Bryn Mawr College, Biology, Biochemistry
MS, University of Washington, Radioecology, Biological Oceanography
PhD, University of Washington, Biological Oceanography
Small-scale biological-chemical-physical interactions in the plankton, especially the behavior and signal recognition by marine zooplankton: fluid physics of signal structure, and reproductive strategies - of marine plankton, especially copepods.

Soojin Yi
Bioinformatics and Computational Biology
Associate Professor
IBB 3302/3203, 404-385-6084
Soojin.yi@biology.gatech.edu
BS, Seoul National University, Biology
MS, Seoul National University, Science Education
PhD, University of Chicago, Ecology and Evolution
Comparative and functional analyses of primate genomes; species differences and new genes, particularly the evolution of human specific traits; evolution of genome location and gene function; patterns and causes of mutation rate variation between different genomes and among genomic regions; sex chromosome evolution.
Mirjana Brockett

Cherry Emerson A114, 404-385-6885
Mirjana.brockett@biology.gatech.edu

BS, University of Belgrade
MSci, University of Belgrade
PhD, University of Belgrade, Evolutionary Genetics

Dr. Brockett earned her doctorate from the University of Belgrade and received research training in Evolutionary Biology and Population Genetics at the University of California – Davis and the University of Georgia. She currently teaches Genetics, Evolution, and Introductory Biology.

David Garton

Cherry Emerson 333, 404-385-1039
David.garton@biology.gatech.edu

BS, University of Alabama, Huntsville
PhD, Louisiana State University, Physiology

Recent courses taught by Dr. Garton include Experimental Design & Statistical Methods, Introductory Biology, and Senior Seminar. He is also the Director of the Pacific Study Abroad Program, which includes courses on the ecology and biogeography of New Zealand and Australia.

Linda Green

Cherry Emerson A104, 404-385-6517
linda.green@biology.gatech.edu

PhD, University of Virginia, Ecology

Her research focuses on anthropogenic changes to the community and ecosystem ecology of high elevation streams. She is also interested in the conservation biology of amphibians. Dr. Green currently teaches the Ecology, Evolution, and Math Models courses.

Cara Gormally

Cherry Emerson (CE) 307, 404-385-2762
Cara.gormally@biology.gatech.edu

Ph.D., Plant Biology, University of Georgia
Cara Gormally  
Cherry Emerson (CE) 307, 404-385-2762  
Cara.gormally@biology.gatech.edu  
Ph.D., Plant Biology, University of Georgia  
Cara Gormally joined the faculty at Georgia Tech in May 2010. She earned her Ph.D. in Plant Biology from the University of Georgia, where she also worked at the Center for Teaching and Learning. Her dissertation research investigated the ecological and evolutionary responses of plant populations to the coastal dune environment. Her research interests in biology education include the design, implementation, and evaluation of courses using active, collaborative learning strategies; the development of novel assessment tools to better understand how to help students learn to do science and to spark their interest in informal science learning; and advancing pedagogical development for future biology instructors.

Jennifer Kraft Leavey  
Senior Academic Professional  
Cherry Emerson A112, 404-385-7229  
Jennifer.leavey@biology.gatech.edu  
BS, Georgia Institute of Technology  
PhD, Emory University, Immunology and Molecular Pathogenesis  
Trained as an experimental immunologist at Emory University and the University of Georgia, Dr. Leavey came to Tech in July 2005 and currently teaches Cell Biology Lab, Immunology, GT1000, Microbiology and Microbiology Lab. She also coordinates advising for the School of Biology and is a past president of the Georgia Tech Academic Advisor’s Network (GTAAN).

Chrissy Spencer  
Academic Professional  
Cherry Emerson (CE) A114, 404-385-2762  
Cara.gormally@biology.gatech.edu  
Ph.D., Genetics, University of Georgia  
Chrissy Spencer joined the faculty at Georgia Tech in June 2010. She earned her Ph.D. in Genetics from the University of Georgia and completed two research post-doctoral fellowships. Her dissertation research investigated the ways that genetic interactions impact aging in the fruit fly model system. Her post-doctoral research at the University of British Columbia focused on what ecological and genetics factors generate and maintain diversity using Escherichia coli experimental evolution. Her current research interests include involving undergraduates in the genetic assessment of stands of Carolina Hemlock in the Southern Appalachians. Dr. Spencer currently teaches Introductory Biology, Cell Biology Lab, and Math Models.