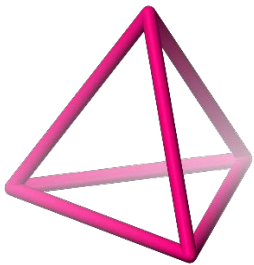


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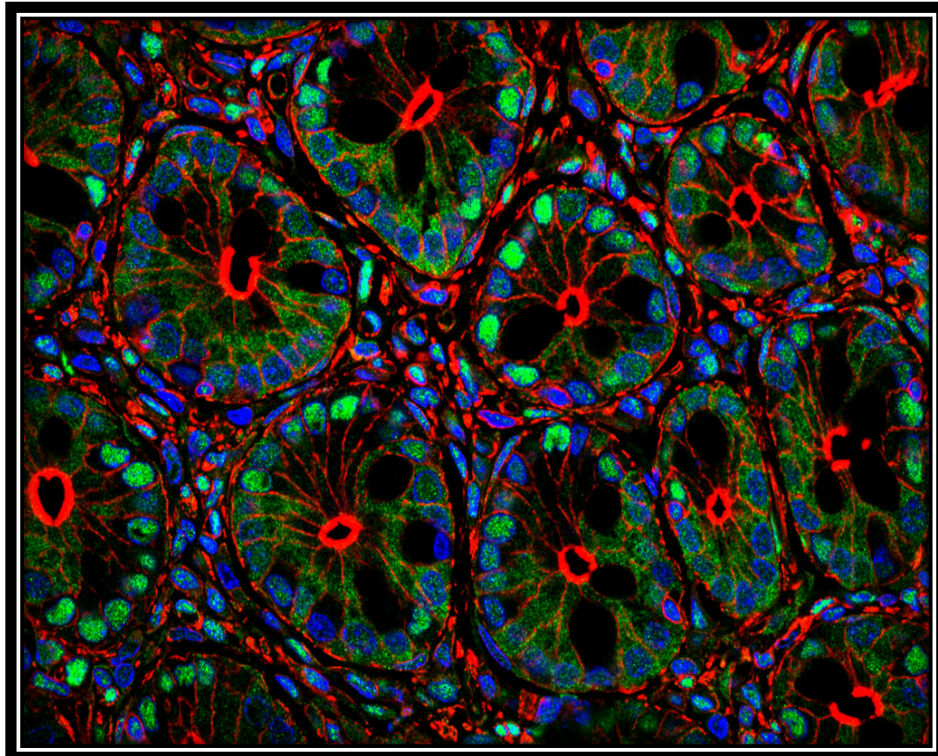
# INTERDISCIPLINARY BIOMEDICAL GRADUATE PROGRAM (IBGP)

STUDENT HANDBOOK  
2019-2020 ACADEMIC YEAR  
(August 2019)



Research training  
connecting key  
disciplines

- *Cell Biology & Molecular Physiology*
- *Cellular & Molecular Pathology*
- *Molecular Genetics & Developmental Biology*
- *Molecular Pharmacology*



## FORWARD

Welcome to the Interdisciplinary Biomedical Graduate Program of the University of Pittsburgh School of Medicine. This handbook provides useful information pertaining to the Interdisciplinary Program and progress toward your degree. The material contained within the handbook is as current as possible; however, many areas change and material may become outdated or inaccurate within a year. Please read any future memos and/or e-mails you might receive to remain abreast of such changes.

Direct all questions and/or suggestions concerning your handbook to:

Office of Graduate Studies  
University of Pittsburgh School of Medicine  
M240 Scaife Hall  
412-648-8957 (phone)  
412-648-1077 (fax)  
[gradstudies@medschool.pitt.edu](mailto:gradstudies@medschool.pitt.edu)

A copy of the handbook will be posted on the website [www.gradbiomed.pitt.edu](http://www.gradbiomed.pitt.edu).



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**INTERDISCIPLINARY BIOMEDICAL GRADUATE PROGRAM**

**UNIVERSITY OF PITTSBURGH SCHOOL OF MEDICINE**

**GRADUATE STUDENT HANDBOOK**

**2019-2020 ACADEMIC YEAR**

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**Interdisciplinary Biomedical Graduate Program (IBGP)  
Degree Granting Programs**

**Cell Biology & Molecular Physiology Graduate Training Program (CBMP):**

Director: Michael Butterworth, PhD	S314 Biomedical Science Tower <a href="mailto:Michael7@pitt.edu">Michael7@pitt.edu</a>	412-383-8591
Associate Director: Adam Kwiatkowski, PhD	S324 Biomedical Science Tower <a href="mailto:adamkwi@pitt.edu">adamkwi@pitt.edu</a>	412-383-8139
Program Coordinator: Sarah Biancardi	S362 Biomedical Science Tower <a href="mailto:Sab181@pitt.edu">Sab181@pitt.edu</a>	412-624-3177

**Cellular & Molecular Pathology Graduate Training Program (CMP):**

Director: Wendy Mars, PhD	S407 Biomedical Science Tower <a href="mailto:wmars@pitt.edu">wmars@pitt.edu</a>	412-648-9690
Associate Director: Alejandro Soto-Gutierrez, PhD	S423 Biomedical Science Tower <a href="mailto:als208@pitt.edu">als208@pitt.edu</a>	412-648-0064
Program Coordinator: Amanda Bytzura	S417 Biomedical Science Tower <a href="mailto:amb430@pitt.edu">amb430@pitt.edu</a>	412-624-3507

**Molecular Genetics and Developmental Biology Graduate Training Program (MGDB):**

Director: Kara Bernstein, PhD	2.42e Hillman Cancer Center <a href="mailto:karab@pitt.edu">karab@pitt.edu</a>	412-623-3227
Associate Director: Arjumand Ghazi, PhD	7129 Rangos Research Center <a href="mailto:ghazia@pitt.edu">ghazia@pitt.edu</a>	412-692-9433
Program Coordinator: Kristin DiGiacomo	523 Bridge Side Point II <a href="mailto:kmd78@pitt.edu">kmd78@pitt.edu</a>	412-624-5981

**Molecular Pharmacology Graduate Training Program (MPHL):**

Director: Tija Jacob, PhD	W1351 Biomedical Science Tower <a href="mailto:tcj11@pitt.edu">tcj11@pitt.edu</a>	412-648-8136
Vice Director: Patrick Pagano	E1247 Biomedical Science Tower <a href="mailto:pagano@pitt.edu">pagano@pitt.edu</a>	412-383-6505
Vice Director: Guillermo Romero, PhD	E1355 Biomedical Science Tower <a href="mailto:ggr@pitt.edu">ggr@pitt.edu</a>	412-648-9408
Program Coordinator: Shannon Granahan	W1340 Biomedical Science Tower <a href="mailto:granahan@pitt.edu">granahan@pitt.edu</a>	412-648-9321

**IBGP Committee Chairs:**

**Admissions:**

Gerald Hammond, PhD

S327 Biomedical Science Tower  
[ghammond@pitt.edu](mailto:ghammond@pitt.edu)

412-383-2215

**Curriculum:**

John P. Horn, PhD

M240 Scaife Hall  
[jph@pitt.edu](mailto:jph@pitt.edu)

412-648-8957

**Steering Committee**

John P. Horn, PhD

M240 Scaife Hall  
[jph@pitt.edu](mailto:jph@pitt.edu)

412-648-8957



SCHOOL OF MEDICINE

# Interdisciplinary Biomedical Graduate Program

*Training tomorrow's science professionals*

## Summary of Interdisciplinary PhD Programs & Course Catalog

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## Interdisciplinary Biomedical Graduate Program

Core Requirements (19 credits completed during year one)

INTBP 2000 **Foundations of Biomedical Science** (Fall) 8 Credits

INTBP 2005 **Foundations Conference** (Fall) 4 Credits

INTBP 2290 **Scientific Ethics and the Responsible Conduct of Research** (Summer) 1 Credit

INTBP 2013 **D2K: From Data to Knowledge – Biomedical Experimental Design and Analysis** (Summer) 3 Credits

INTBP 2010 **Laboratory Research Rotation** (Fall, Spring, Summer) 1 Credit (3 Rotations Required)

After preliminary evaluation at end of year one, students transfer into one of the four specialized PhD programs

Program-specific Requirements (6 - 11 credits during years one and two)

See Table on pp. 6-7 for course listings

Electives (typically 3 – 9 credits during years one and two)

INTBP 3240 (F) 2 Cr **Grant Writing for Graduate Studies**

See Table on pp. 6-7 for additional details

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**32 credits of course work required for PhD**

Comprehensive Exam

See individual programs for details

Teaching Practicum

See individual programs for details

PhD Thesis Proposal

See individual programs for details

PhD Dissertation Research (Every term, 1-14 credits)

**40 credits of research required for PhD**

**72 total credits required for PhD**



PhD Program	<b>CBMP</b> Cell Biology & Molecular Physiology	<b>CMP</b> Cellular & Molecular Pathology	<b>MGDB</b> Molecular Genetics and Developmental Biology	<b>MPHL</b> Molecular Pharmacology
<b>Program Requirements</b>	<p>MSCBMP 2880 (Sp) 3 Cr. <b>Cell Biology of Normal and Disease States</b></p> <p>MSCBMP 2885 (Sp) 3 Cr. <b>Imaging Cell Biology in Living Systems</b> <u>OR</u></p> <p>MSCBMP 2860 (Su) 3 Cr. <b>Multiparametric Microscopic Imaging</b></p> <p>MSCBMP 2851-56 (A) 1 Cr. <b>Research Seminars</b></p> <p>MSCBMP 2875 (A) 1 Cr. <b>Experiments and Logic In Cell Biology</b></p> <p>INTBP 3240 (F) 2 Cr. <b>Grant Writing for Graduate Studies</b></p>	<p>MSCMP 2730 (Sp) 3 Cr. <b>Molecular Mechanisms of Tissue Growth &amp; Differentiation</b></p> <p>MSCMP 2750 (F &amp; Sp) 1 Cr. (5 semesters required) <b>Pathology Research Seminar</b></p> <p>INTBP3240 (F) 2 Cr. <b>Grant Writing for Graduate Studies</b></p> <p>MSCMP 2740 (Sp) 3 Cr. <b>Molecular Pathobiology</b> <u>OR</u></p> <p>MSCMP 3710 (F) 3 Cr. <b>Cancer Biology &amp; Therapeutics</b> <u>OR</u></p> <p>MSCMP 3790 (F) 3 Cr. <b>Basics of Personalized Medicine</b></p>	<p>MSMGDB 2525 (Sp) 2 Cr. <b>Developmental Mechanisms of Human Disease</b></p> <p>MSMGDB 2535 (Sp) 2 Cr. <b>Model Organisms</b></p> <p>MSMGDB 2550 (F &amp; Sp) 1 Cr. <b>Research Seminar</b></p> <p>INTBP 3240 (F) 2 Cr. <b>Grant Writing for Graduate Studies</b></p>	<p>MSMPHL 2310 (Sp) 3 Cr. <b>Principles of Pharmacology</b></p> <p>MSMPHL 2350 (F &amp; Sp) 1 Cr. <b>Research Seminar</b></p> <p>MSMPHL 2360 (Sp) 3 Cr. <b>Biology of Signal Transduction</b></p> <p>MSMPHL 3360 (F) 2 Cr. <b>Molecular Pharmacology</b></p> <p>MSMPHL 3340 (F) 1 Cr. <b>Foundations of Successful Career Planning and Development Part 1</b></p> <p>MSMPHL 3340 (Sp) 1 Cr. <b>Foundations of Successful Career Planning and Development Part 2</b></p>
<b>Electives</b>  Students may take electives from their program and from others. They should consult with their advisor and program director in designing their plan of study.	<p>MSCBMP 2840 (Su) 1 Cr <b>Regulation of Membrane Traffic</b></p> <p>MSCBMP 2855 (F &amp; Sp) 1 Cr. <b>Membrane Transport Journal Club</b></p> <p>MSCBMP 2860 (Su) 3 Cr <b>Multiparametric Microscopic Imaging</b></p> <p>MSCBMP 2870 (Sp) 5 Cr <b>Histology</b></p> <p>MSCBMP 2885 (Sp) 3 Cr. <b>Imaging Cell Biology in Living Systems</b></p> <p>MSCBMP 2895 (Su) 2 Cr. <b>Cellular Physiology of the Kidney</b></p>	<p>MSCMP 2760 (Sp) 3 Cr. <b>Introduction to Tissue Engineering</b></p> <p>MSCMP 2770 (Sp) 3 Cr. <b>Biomaterials &amp; Biocompatibility</b></p> <p>MSCMP 3730 (F &amp; Sp) 1 Cr. <b>Topics in Experimental Neuropathology</b></p> <p>MSCMP 3735 (F) 3 Cr. <b>Extracellular matrix in Tissue Biology and Engineering</b></p> <p>MSCMP 3740 (F) 3 Cr. <b>Stem Cells</b></p> <p>MSCMP 3750 (Sp) 3 Cr. <b>Angiogenesis</b></p> <p>MSCMP 3760 (F &amp; Sp) 1 Cr. <b>Research Seminar in Regenerative Medicine</b></p> <p>MSCMP 3770 (Sp) 3 Cr. <b>Cell Therapy</b></p>	<p>MSMGDB 3530 (Sp) 3 Cr. <b>Genome Instability and Human Disease</b> (only offered in even years- i.e. 2020, 2022)</p> <p>MSMGDB 3510 (Alt F) 3 Cr. <b>Advanced Topics in Gene Expression</b> (only offered in even years- i.e. 2020, 2022)</p> <p>MSMGDB 3540 (Alt F) 3 Cr. <b>Reproductive Development from Model Organisms to Humans</b> (only offered in odd years- i.e. 2019, 2021)</p> <p>MSMGDB 3550 (F) 3 Cr. <b>Stem Cells</b></p>	<p>MSMPHL 3330 (Sp) 3 Cr. <b>Genome Instability and Human Disease</b> (only offered in even years- i.e. 2020, 2022)</p> <p>MSMPHL 3750 (Sp) 3 Cr. <b>Angiogenesis</b></p> <p>MSMPHL 3310 (F) 3 Cr. <b>Cancer Biology &amp; Therapeutics</b> <u>OR</u></p> <p>MSPHL 3375 (Sp) 3 Cr. <b>Neuropharmacology</b> <u>OR</u></p> <p>MSMPHL 2370 (Sp) 3 Cr. <b>Drug Discovery</b> (only offered in even years – i.e. 2020, 2022)</p> <p>*Other electives from across the IBGP as deemed appropriate by mentor, student and program director.</p> <p>INTBP 3240 (F) 2 Cr. <b>Grant Writing for Graduate Studies</b></p>

<u>Electives continued</u>		MSCMP 3780 (F) 2 Cr <b>Systems Approaches to Inflammation</b>		
<u>Teaching Practicum</u>	Optional	Optional	Optional	Optional
<u>Comprehensive Examination</u>	<b>Format: Research Grant</b> <b>Topic: Student's thesis research</b> <b>When: Before the end of third year.</b>	<b>Format:</b> Grant Application <b>Topic:</b> Student's anticipated thesis Research; feedback from exam will be used to finalize thesis proposal <b>When:</b> Before the end of the third semester (F) in CMP	<b>Format:</b> Research Grant <b>Topic:</b> Student's thesis research <b>When:</b> Spring of second year	<b>Format:</b> Research Proposal <b>Topic:</b> May be derived from anticipated thesis, but must be distinct from any funded or recently submitted grant proposal of the thesis advisor. <b>When:</b> Before end of Spring term of second year.
<u>Thesis Proposal</u>	Required	Required	Required	Required

## **INTERDISCIPLINARY BIOMEDICAL SCIENCES (INTBP)**

### **2000 Foundations of Biomedical Science (Fall) 8 Credits**

*Course Directors: Patrick Thibodeau, Adam Straub, Hunway Hwang, Yang Hong*

Primary objectives of the course are to explore mechanisms controlling cell, tissue and organ function, and to develop an understanding of the experimental evidence supporting these concepts through an integrated presentation of material from biochemistry, cell biology, genetics, immunology, microbiology, neurobiology, pathology, pharmacology, and physiology. The development of critical thinking skills will be emphasized through an evaluation of experimental evidence and reading of the primary literature.

### **2005 Foundations Conference (Fall) 4 Credits**

*Course Director: Wendy Mars*

Contemporary approaches to problem solving in biology, as well as principles underlying modern methods of biomedical research will be integrated with the lecture component of the course through an analysis of mechanisms underlying biological phenomena. Students will present papers, critically analyze data and devise experimental approaches to biomedical problems considered in lecture.

### **2010 Laboratory Research Rotation (All) 1 Credit**

*Course Director: John Horn*

This lab is designed to introduce the student to relevant laboratory methods as well as the layout and conceptualization of experiments. The course will serve to acquaint the student with the laboratory process, and to facilitate his/her selection of a lab for dissertation research. Students are required to register for and complete rotations through three different laboratories, thereby ensuring broad exposure to method and practice.

### **2011 Lab Research Rotation Supplement (All) 2 to 4 Credits**

*Course Director: John Horn*

Course supplement to INTBP 2010 for those students initiating their first rotation in summer.

### **2013 D2K: From Data to Knowledge-Biomedical Experimental Design & Analysis (Summer) 3 Credits**

*Course Director: John Horn*

Experimental biologists formulate hypothesis and models, design experiments, collect data and conduct analysis to draw conclusions. Deep understanding of biological principles requires D2K-The translation of DATA INTO KNOWLEDGE that transcends first-order conclusions. This course for first year PhD Students in the biomedical sciences will examine basic principles of experimental design, together with measurement and sources of experimental error. The course will provide a practical 'hands on' introduction to the quantitative tools required for experimental research using cellular, molecular and systems based methods. Topics will include: goals of experimental design, making measurements, principles of parametric and non-parametric statistical inference, use of MS Excel, GraphPad PRISM and R, design of publication graphics and a brief introduction to big data approaches. Students will work in small groups to construct capstone projects by making 'YouTube' style videos to illustrate key principles of experimental design and analysis.

### **2090 Directed Study (All) 1 to 9 Credits**

*Course Director: John Horn*

This course provides the student an opportunity to carry out a specific laboratory project in any area of interest in degree-granting programs under the Interdisciplinary Biomedical Graduate Program.

### **2290 Scientific Ethics and the Responsible Conduct of Research (Summer) 1 Credit**

*Course Director: John Horn*

The course is an introduction to the basic ethical issues that arise in the course of conducting scientific research. It is intended for graduate students and fellows in the biomedical sciences who have completed at least one year of graduate work. The course will be composed of informal lecture presentations followed by discussion of issues in small groups.

**3240 Graduate Student Writing Seminar (Fall) 2 Credits**

*Course Director: Daniel Devor*

This course will give students hands-on grant writing experience, as they will prepare an F31 pre-doctoral NRSA grant application. NIH-produced videos will explain the process of grant approval and provide practical tips for successful applications. Students will learn to present their scientific ideas and data in a clear, concise, and objective manner for the reader through faculty and student feedback. Three small-group presentations are required and include a specific aims proposal, the approach portion of the grant application, and changes made following feedback.

## **CELL BIOLOGY AND MOLECULAR PHYSIOLOGY (MSCBMP)**

### **2800 MS Thesis Research (All) 1 to 14 Credits**

*Course Director: Michael Butterworth*

A directed research project, which results in a thesis for a master's degree.

### **2840 Regulation of Membrane Traffic**

(Summer) 2 Credits

*Course Directors: Gerard Apodaca & Ora Weisz*

Course analyzes membrane/protein traffic along both the biosynthetic & endocytic pathways. Emphasis placed on how this traffic is regulated. Topics include the role of G-proteins (both heterotrimeric & small), coat proteins (coatamer 1 & 2 & adaptations), signal transduction cascades (PKC, PKA, IP3, etc.), & snare complexes in protein trafficking. Also, we will discuss the role of the cytoskeleton in transporting cargo & signal transduction. Membrane traffic in several specialized cell types will be covered including polarized epithelial cells, cells of the immune system, & neurons. \*\*Note: CBMP Students are required to take either Cell & Molecular Physiology OR Regulation of Membrane Traffic.

### **2852 Research Seminar/Membrane Trafficking (Fall & Spring) 1 Credit**

*Course Director: Gerard Apodaca*

Advanced research seminar with journal club format specializing in current aspects of membrane trafficking.

### **2853 Research Seminar/Reproductive Physiology (Fall & Spring) 1 Credit**

*Course Director: William Walker*

Advanced research seminar with journal club format specializing in current aspects of reproductive physiology.

### **2855 Research Seminar/Molecular Physiology (Fall & Spring) 1 Credit**

*Course Director: Tom Kleyman*

Advanced research seminar with journal club format specializing in current aspects of molecular and cellular physiology.

### **2860 Multiparametric Microscopic Imaging (Summer) 3 Credits**

*Course Directors: Donna Beer Stolz & Claudette St. Croix*

A lecture/hands-on lab survey course that immerses students in the theory and practical aspects of modern microscopic imaging. The fields will cover the theory and implementation of all types of light and electron microscopy and computer aided imaging and analysis. Students will be expected to reach a functional capability in a selected technology and write a paper using one of more imaging technologies to answer a research question.

### **2870 Histology (Spring) 5 Credits**

*Course Director: Georgia Duker*

The objective of this lecture/lab course is student comprehension of the relationship between cell structure and organ function, and the application of the knowledge to the identification of light and electron microscopic images of cells and organs. All the major organ systems of the body are included.

### **2875 Experiments and Logic in Cell Biology (Fall & Spring) 1 Credit**

*Course Directors: Michael Butterworth & Donna Beer Stolz*

In this course students will review and critique data presented by their colleagues using an internet chat room and physical meetings to be held monthly. Students will independently critically evaluate and provide constructive suggestions on the experimental data and design, in terms of alternative rationales, interpretations, and next experiments.

### **2880 Cell Biology of Normal & Disease States (Spring) 4 Credits**

*Course Director: Daniel Devor*

The semester-long course in cell biology and physiology of normal and disease states will explore three exciting topics in current day cell biology and physiology. The course, which meets twice a week (1.5 h each session), will be taught through both lectures and in class discussions of primary literature and will cover basic biology, the cellular basis of disease processes, and recent advances in translational research that may lead to cures for common disease processes. The section on stem cell biology, diabetes, and translational research will focus on understanding how cells divide and how all of the body's different tissues stem from a master cell with the potential to generate all of the different cell types present in the body. In addition to understanding normal stem cell biology, the potential for use of stem cells to regenerate organs and to cure ailments such as diabetes will be explored. The section on cellular polarity will explore early events in polarity establishment including endocytic signaling and establishment of specialized membrane domains in epithelia and neurons. Further discussion will focus on disease processes such as autosomal dominant kidney disease, an ailment characterized by altered and dysfunctional polarity. The third section will examine ion channels and disease: CFTR and cystic fibrosis. This section will explore the role of RAD in protein quality control, the traffic and transport of CFTR, the functional role of CFTR and the epithelial sodium channel in the lung, and promising new therapies to alleviate the morbidity and mortality associated with CFTR mutations.

### **2885 Imaging Cell Biology in Living Systems (Spring) 3 Credits**

*Course Director: Simon Watkins*

The focus of this course will be to study relevant problems in Cell Biology, Immunology, Developmental Biology and Neurobiology and how they have been solved using imaging approaches. The use of techniques such as TIRF and high speed confocal microscopy to address basic problems in endocytosis will be discussed at the organism level. Multiphoton, confocal, FRET, and other approaches will be discussed to understand aspects of cell biology in cell polarity, respiration and organ development in *c. elegans*, *drosophila*, zebra fish and mice. In each case, the application will focus on how imaging tools are used to study defined problems in living systems. The course will follow Lecture/Demo/Journal Club format. Lectures will be two part, the first 1/3 will be a description of the technology, how it was developed and how it works (10-15 minutes) followed by description of the scientific problem and how it was solved. This will be followed by lab demonstrations showing the approach in action. Lectures will be interspersed with a journal club discussion of a relevant paper on each technology. Students will prepare the Journal Club presentations in an alternating fashion. Examination will be a combination of class participation, journal club and written exam.

### **2890 Directed Study (All) 1 to 9 Credits**

*Course Director: Michael Butterworth*

This course provides the students an opportunity to carry out a specific laboratory project in any area of interest in cell biology and physiology.

### **2895 Cellular Physiology of the Kidney (Summer) 2 credits**

*Course Director: Gerard L. Apodaca*

This summer course will provide an introduction to the kidney and lower urinary tract, with emphasis on kidney structure and function. The course, which meets once a week (two hours each session), will be taught through both lecture and in class discussion of the primary literature. Discussion of how bench top findings can be translated to treatments in the clinic will be facilitated by a diverse faculty that includes both basic and physician scientists. You will first learn about the specialized cell types that comprise the kidney and lower urinary tract. Subsequently, you will be introduced to renal stem cells and how they lead to kidney development. Next, you will learn the functions of the kidney, including regulation of water and ion balance. This will be followed by a discussion of the lower urinary tract. Finally, you will learn how drugs can be used to treat kidney dysfunction and how kidney transplants can be used to treat those patients with end-stage renal disease. Summer semesters.

### **3800 PhD Dissertation Research (All) 1 to 14 Credits**

*Course Director: Michael Butterworth*

After advancement to candidacy for the PhD degree, students enroll in this course to pursue original experimental laboratory research, the results of which will provide the substance of their doctoral dissertation. A minimum of 40 credits of this course are required for the PhD degree in the School of Medicine.

## **CELLULAR AND MOLECULAR PATHOLOGY (MSCMP)**

### **2700 MS Thesis Research (All) 1 to 14 Credits**

*Course Director: Wendy Mars*

A directed research project, which results in a thesis for a master's degree.

### **2730 Molecular Mechanisms Tissue Growth & Differentiation (Spring) 3 Credits**

*Course Directors: Aaron Bell & Eric Lagasse*

The course covers the anatomy, embryology, histology, function, and growth regulation (growth factors, receptors, and signaling pathways) of various differentiated tissues (central nervous system, lung, liver, pancreas, urinary and reproductive systems, breast, endocrine system, skin, bone, skeletal muscle, bone marrow). Multidisciplinary lectures are given by the members of the various departments including pathology, cell biology and physiology, medicine, and surgery who have ongoing research in these areas. The course is designed to offer detailed information on specific tissues, tissue-tissue interactions, and overlapping cellular and molecular pathways that exist in multiple tissues.

**\*\*Note:** This is a required course for CMP students.

### **2740 Molecular Pathobiology (Spring) 3 Credits**

*Course Directors: Tim Oury & Joe Locker*

This course is structured to introduce students to the integration between basic and clinical research on the molecular pathogenesis of relevant human diseases. The course will provide students with an overview of the natural history of selected diseases, their diagnosis and clinical management. This will be followed by in-depth discussions concerning the pathologic substrate of the disease, with particular attention focused on the molecular mechanisms of disease progression. In addition to current basic science research, students will be exposed to the clinical impact of basic science discoveries upon the development of new therapeutic interventions. Discussions of current research trends and factors that enhance fundability of research projects will ensue. Each disease module will contain lectures from the faculty followed by presentations of current research papers by the students. These research presentations/discussions will be peer reviewed by fellow students and the faculty, and form the basis of the final grade. **\*\*Note:** CMP students are required to take Molecular Pathobiology, Cancer Biology and Therapeutics, or Basics of Personalized Medicine.

### **2750 Research Seminar (Fall & Spring) 1 Credit**

*Course Directors: Alejandro Soto-Gutierrez & Wendy M. Mars*

Students present their research (allowed one time) or a recent research article from a broad range of topics selected by the student in consultation with a faculty advisor. The course meets weekly. Emphasis is placed on a careful analysis and critical evaluation of the manuscript as well as the development of teaching and speaking skills needed for scientific presentation. The student is expected to elucidate issues relevant to the topic and to answer questions from other graduate students and faculty. **\*\*Note:** CMP students are required to take this a minimum of 5 semesters.

### **2760 Introduction to Tissue Engineering (Spring) 3 Credits**

*Course Director: Kacey Marra*

The purpose of this course is to introduce students to tissue engineering. Tissue engineering is defined as the development and manipulation of laboratory-grown molecular, cells, tissues, or organs to replace and/or support the function of injured body parts. Tissue engineering is highly interdisciplinary and therefore crosses numerous engineering and medical specialties. Upon completing this course, the graduate and undergraduate students should: understand the basic principles behind human cell and tissue biology; be familiar with the general types of biomaterials used in tissue engineering; understand techniques utilized to design, fabricate, and functionally assess tissue engineering systems; be able to apply the combined knowledge of tissue organization and tissue engineering strategies to design a unique, reasonable tissue engineering solution. This five-part course covers cell and tissue biology, biomaterials, drug delivery, engineering methods and design, and clinical implementation.

### **2770 Biomaterials & Biocompatibility (Spring) 3 Credits**

*Course Director: William Wagner*

This course serves as an introduction to biomaterials and biocompatibility and assumes some background in organic chemistry and biology. The first half of the course connects biomaterial applications. The second part of the course introduces biocompatibility issues as they follow from protein adsorption, thrombosis, inflammation and infections. Throughout the course ties are made between the topics of students and clinically relevant materials and device performance.

### **2780 Special Topics (Fall & Spring) 3 Credits**

*Course Director: Wendy M. Mars*

One or more student(s) will focus on a selected topic (usually defined by the students) in cellular and molecular pathology and discuss the primary literature pertaining to the topic. Students will be evaluated on their discussions and presentations, and write a paper under the direction of a faculty advisor.

### **2790 Directed Study (All) 1 to 9 Credits**

*Course Director: Wendy M. Mars*

This course provides the students an opportunity to carry out a specific laboratory project in any area of interest in cellular and molecular pathology.

### **3700 PhD Dissertation Research (All) 1 to 14 Credits**

*Course Director: Wendy M. Mars*

After advancement to candidacy for the PhD degree, students enroll in this course to pursue original experimental laboratory research, the results of which will provide the substance of their doctoral dissertation. A minimum of 40 credits of this course are required for the PhD degree in CMP from the School of Medicine.

### **3710 Cancer Biology and Therapeutics (Fall) 3 Credits**

*Course Directors: Joseph Locker, Laura Stabile, and Roderick O'Sullivan*

This course presents biochemical and clinical aspects of cancer biology and therapy, and is designed for graduate students training in the basic sciences or medicine. The lectures cover: the biology of normal and neoplastic cells; mechanisms of neoplastic transformation; chemical and environmental carcinogenesis; viral oncogenesis; breast and prostate cancer; chemotherapy; radiotherapy; gene therapy; tumor immunology; and nutrition and cancer.

**\*\*Note:** CMP students are required to take Molecular Pathobiology, Cancer Biology and Therapeutics, or Basics of Personalized Medicine.

### **3730 Topics in Experimental Neuropathology (Fall & Spring) 1 Credit**

*Course Director: Clayton Wiley*

This course critically evaluates the latest scientific literature concerning diseases of the central nervous system. Emphasis will be placed on methodologies as they are applied to the study of human neurologic diseases. Participants will present scientific papers and lead the classroom discussions. This course is open to students of all levels and will include both basic scientists and clinicians (residents, faculty).

### **3740 Stem Cells (Fall) 3 Credits**

*Course Directors: Kari Nejak-Bowen & Paul Monga*

The course entitled "Stem Cells" will provide a comprehensive overview on this intriguing and highly debated topic. The course will focus on the biology of stem cells and their role in health and disease with emphasis on development, carcinogenesis and tissue engineering. Lectures on various aspects of stem cells from renowned experts will cover both embryonic and adult stem cells. Specific lectures will include stems cells in the blood, liver, brain, muscle, kidney, pancreas, prostate, lung, gut, skin and eye. Students will also be educated on therapeutic cloning as well as bio-ethical issues and existing laws governing stem cell research. Letter grades will be based on midterm and final exams as well as on the attendance in the lectures.

### **3735 ECM in Tissue Biology and Bioengineering (Fall) 3 Credits**

*Course Directors: Bryan Brown & George K. Michalopoulos*

This course presents a comprehensive overview of the biochemical composition of tissue matrix, the receptors that bind and signal through the matrix, and how these matrix interactions are important for basic biology and tissue engineering. Topics include gene expression, mechanistic interactions and cellular interaction/communication.

### **3750 Angiogenesis (Spring) 3 Credits**

*Course Directors: Wendy M. Mars & Donna Beer Stolz*

This course will provide extensive basic knowledge of developmental, cellular, molecular biology of angiogenesis and most recent advancements in its clinical applications. Topics include: 1. Angiogenesis in physiological and pathological processes; 2. Molecular and cellular regulation of angiogenesis; 3. Current advance in angiogenic therapies. Recent outstanding research publications will also be discussed.



### **3760 Research Seminar: Regenerative Medicine (Fall & Spring) 1 Credit**

*Course Director: Paul Monga & Andy Duncan*

Research seminar in regenerative medicine is geared towards providing updated information on topics in the field of regenerative medicine, tissue engineering and stem cell applications. Through biweekly seminars, the students will be acquainted to the recent advances in the ever-growing field of regenerative medicine. Experienced faculty will deliver lectures in this seminar series.

### **3770 Cell Therapy (Spring) 3 Credits**

*Course Directors: Alejandro Soto-Gutierrez and Diane Metes*

This course is meant to be unlike any other graduate course. This course showcases cell therapy from theory to practice, from the bench to the bed-side. In each area of cell transplantation lectures are provided by those who have implemented cell transplantation techniques and have moved it to a clinical therapy. Most of the lectures in the course are given by those who actually do the patient transplants. Immunology and pharmacology and cellular engineering&Edition will be addressed as it directly relates to cellular therapy. Stem cell biology will not be addressed individually, but will be raised in the context of specific applications. It is expected that students will be independently exposed to these related areas in other courses.

Course meetings will consist of lectures, presenting the basic research going into a particular cell therapy area such as animal models used for preclinical studies and the identification on the cell type(s) which are most relevant for the transplants. The lecture(s) in each topic area focuses on the clinical application of that particular cell type for cell therapy for specific disease(s) and covers how the cells are transplanted into patients, the disease states being targeted and the results of the cell therapy. The grade for the course results from attendance at lectures and the submission of a paper in an area relevant to Cell Transplantation / Cell Therapy & Engineering.

### **3780 Systems Approach to Inflammation (Fall) 2 Credits**

*Course Director: Yoram Vodovotz*

This course is focused on particular topics of great biologic complexity in critical illness, where modeling has the potential to translate in improved patient care. Lectures are provided by basic (biological and mathematical sciences) and clinical faculty, in conjunction with members of industry and speakers from outside institutions. This information will be communicated within the framework of defined themes that describe the complexity of inflammation in acute and chronic illnesses. Grading is based on participation in discussions students who are more facile with mathematics and/or simulation. This project therefore requires the students to work with others from outside of their main discipline, to learn about and from interdisciplinary exchange, and gain practical experience in team-based modeling of biological processes.

### **3790 Basics of Personalized Medicine (Fall) 3 Credits**

*Course Directors: Wendy M. Mars & Marie DeFrances*

Rapid and ongoing discoveries in basic biomedical research are leading to a world where there is a demand for personalized medicine. Never the less, on a practical level, it is complicated to translate the findings from the basic scientific arena into clinical practice. This course will show students how findings from basic research can be translated into clinically relevant tests for the diagnosis and treatment of patients. The course will provide an overview of the past, present, and future of basic biomedical research as it relates to this subject.

**\*\*Note:** CMP students are required to take Molecular Pathobiology, Cancer Biology and Therapeutics, or Basics of Personalized Medicine.

## **MOLECULAR GENETICS AND DEVELOPMENTAL BIOLOGY (MSMGDB)**

### **2500 MS Thesis Research (All) 1 to 14 Credits**

*Course Director: Kara Bernstein*

A directed research project, which results in a thesis for a master's degree.

### **2525 Developmental Mechanisms of Human Disease\_(Spring) 2 Credits**

*Course Directors: Mei Zhang & Staff*

This course covers principles of developmental biology and how embryonic developmental pathways impinge on human disease. Topics include congenital organ related disease, stem cell based reproductive events relating to disease. Prerequisites: Foundations of Biomedical Science or permission of the course director.

### **2535 Model Organisms (Spring) 2 Credits**

*Course Directors: Donghun Shin & Michael Tsang*

This course covers the use of vertebrate and invertebrate model organisms in biomedical research. Topics include the use of several models including: mouse, rat, zebrafish, xenopus, C. elegans, and Drosophila. Special emphasis will be placed on the strengths that specialized techniques of each organism provide to the research community in understanding the etiology of disease.

### **2550 Research Seminar (Fall & Spring) 1 Credit**

*Course Director: Arjumand Ghazi*

A weekly Research In Progress Seminar presented by students and post-doctoral fellows. Weekly attendance and participation by all MGDB students is required.

### **2590 Directed Study (All) 1 to 9 Credits**

*Course Director: Kara Bernstein*

This course provides the students an opportunity to carry out a specific laboratory project in any area of interest in biochemistry and molecular genetics.

### **3500 PhD Dissertation Study (All) 1 to 14 Credits**

*Course Director: Kara Bernstein*

After advancement to candidacy for the PhD degree, students enroll in this course to pursue original experimental laboratory research, the results of which will provide the substance of their doctoral dissertation. A minimum of 40 credits of this course are required for the PhD degree in the School of Medicine.

### **3510 Advanced Topics in Gene Expression (Every other Fall) 3 Credits**

*Course Directors: Xiangyun Wei & Staff*

This course consists of lectures and class presentations on recent advances in molecular genetics. The emphasis of the course is on the regulation of gene expression at the DNA, RNA and protein levels. Regulation in eukaryotes is emphasized, including yeast, protozoan, and mammalian systems.

### **3530 Genome Instability and Human Disease (Spring) 3 Credits**

*Course Directors: Patricia Opresko, Ben Van Houten, Christopher Bakkenist*

This course will emphasize the molecular biology and biochemistry of DNA repair (Nobel Prize in Chemistry in 2015), placing these mechanisms into the context of other cellular processes as they pertain to health and disease. More than 40 distinct human diseases are caused by defects in DNA repair, including syndromes of impaired development, immunodeficiency, cancer predisposition, neurodegeneration, and premature aging. Environmental, clinical and endogenous sources of DNA damage will be discussed. An understanding of the fundamental role of DNA repair mechanisms in immunology, oncology, neurology, and aging will be central to all lectures.

**3540 Reproductive Development from Model Organisms to Humans** (Every other Fall) 3 Credits

*Course Director: Judy Yanowitz*

This course focuses on the molecular aspects of the transition from gamete to a reproductive organism. The course progresses through the building of germ cells, fertilization and stem cell participation to sex determination, gonad morphogenesis, puberty, menopause and pregnancy. This course highlights both human and model organisms to bring together diverse aspects of the cell and developmental biology of reproductive tissues and their impact on disease pathology.

**3550 Stem Cells** (Fall) 3 Credits

*Course Directors: S. Paul Monga & Staff*

The course entitled "Stem Cells" will provide a comprehensive overview on this intriguing and highly debated topic. The course will focus on the biology of stem cells and their role in health and disease with emphasis on development, carcinogenesis and tissue engineering. Lectures on various aspects of stem cells from renowned experts will cover both embryonic and adult stem cells. Specific lectures will include stems cells in the blood, liver, brain, muscle, kidney, pancreas, prostate, lung, gut, skin and eye. Students will also be educated on therapeutic cloning as well as bio-ethical issues and existing laws governing stem cell research. Letter grades will be based on midterm and final exams as well as on the attendance in the lectures.

## **MOLECULAR PHARMACOLOGY (MSMPHL)**

### **2310 Principles of Pharmacology (Spring) 3 Credits**

*Course Directors: Yu Jiang & Alessandro Bisello*

This course consists of a series of lectures and tutorial sessions that focus on the general principles of pharmacology. Major topics are principles of pharmacokinetics (including drug absorption, distribution, and metabolism), pharmacodynamics (quantitation of drug-receptor interactions) and mechanisms of action of cardiovascular and autonomic drugs. In addition, this course will include both animal laboratory and human simulator demonstrations that illustrate important pharmacological principles discussed in class.

### **2350 Research Seminar (Fall and Spring) 1 Credit**

*Course Director: Patrick Pagano*

Beginning in the second year of the program students will be required to attend the Departmental Seminar Series. These seminars are held approximately once a week throughout the fall and spring semesters and include presentations by nationally and internationally recognized visiting researchers in pharmacology and related fields. In order to receive credit for the course, students must attend a minimum of 80% of the seminars.

### **2355 Pharmacology Summer Seminar (Summer) 1 Credit**

*Course Director: Patrick Pagano*

Beginning in the summer of the second year, students will be required to participate annually in the Departmental Summer Research Seminar Series. These seminars will be held once a week throughout the summer and will be focused on the students' research plans and recent results. This presentation will be made to an audience with diverse research interests and should therefore include a brief summary of general background information. Each student will be required to present once each summer and attend a minimum of 80% of the summer seminars in order to receive credit for the course. Scheduling conflicts should be resolved well in advance as attendance and presentation are necessary.

### **2360 Biology of Signal Transduction (Spring) 3 Credits**

*Course Director: Guillermo Romero*

This course will explore different types of signaling pathways activated by receptor-ligand interactions. Topics to be covered include, but are not limited to: G-protein linked receptors, adenylate cyclases, small GTPases, kinases and phosphatases, nitric oxide, phospholipases, steroid hormone signaling, and pharmacological applications of signaling pathways.

### **2370 Drug Discovery (Spring) 3 Credits**

*Course Directors: Mark Schurdak, Lans Taylor, Bruce Freeman, Barry Gold and Ivet Bahar (Only offered in even years-i.e. 2020, 2022)*

Drug discovery is an interdisciplinary science that seeks to identify small molecular and/or biologic probes and to understand at the molecular level how these probes affect macromolecular processes. This course will discuss various topics that are relevant to current approaches and principles in drug discovery including target validation, drug origins, cell-based screening, high throughput screening, proteomic approaches to drug discovery, computational biological aspects of drug discovery and pharmacoinformatics as well as topics in preclinical drug development and intellectual property. The course will include case studies intended to aid students in a full understanding of the drug discovery process.

### **2390 Directed Study (All) 1 to 9 Credits**

*Course Director: Patrick Pagano*

This course provides an opportunity for students to carry out a specific laboratory project in any area of interest in pharmacology.

### **3300 PhD Dissertation Research (All) 1 to 14 Credits**

*Course Director: Patrick Pagano*

After advancement to candidacy for the PhD degree, students enroll in this course to pursue original experimental laboratory research, the results of which will provide the substance of their doctoral dissertation. A minimum of 40 credits of this course are required for the PhD degree in the School of Medicine.

### **3310 Cancer Biology and Therapeutics (Fall) 3 Credits**

*Course Directors: Reza Zarnegar, Laura Stabile, & Roderick O'Sullivan*

This course presents biochemical and clinical aspects of cancer biology and therapy and is designed for graduate students training in the basic sciences or medicine. The lectures cover the biology of normal and neoplastic cells, mechanisms of neoplastic transformation, chemical and environmental carcinogenesis, viral oncogenesis, breast and prostate cancer, radiotherapy, tumor immunology chemotherapy and chemoprevention.

### **3320 Journal Club (Fall & Spring) 1 Credit**

*Course Director: Patrick Pagano*

Beginning in the second year of the program students will participate in the Departmental Journal Club. Presentations will be held each week that the Department hosts a seminar speaker (i.e. 2-3 times/month) during the Fall and Spring semester. Students entering their fifth year of study may petition the Program Director to be excused from the Spring Session of the Journal Club. Sixth year students and beyond are not required to enroll in Journal Club although their attendance is encouraged. A log-in sheet will be available at all Journal Club meetings. All students in attendance are required to complete an anonymous peer-evaluation sheet that will be provided to the presenter. Students must inform the Program Director in advance if they are unable to attend a specific Journal Club. Excusable absences from Journal Club include individual or family illness or presentation (i.e. poster, platform talk) at a major scientific conference. Students are allowed two unexcused absence/semester.

### **3330 Genome Instability and Human Disease (Spring) 3 Credits**

*Course Directors: Bennett Van Houten, Christopher Bakkenist, & Patty Opresko (only offered in even years-i.e. 2020, 2022)*

Mechanisms that maintain genome stability allowed the origin of species. DNA damage is omnipresent and DNA repair and DNA damage tolerance mechanisms are interwoven in systems that control transcription, replication, cell division, signal transduction, cell death and evolution. More than 40 distinct human diseases are caused by defects in DNA repair, including syndromes of impaired development, immunodeficiency, cancer predisposition, neurodegeneration and premature aging. This course will emphasize the molecular biology and biochemistry of DNA repair, placing these mechanisms into the context of other cellular processes as they pertain to health and disease. Environmental, clinical and endogenous sources of DNA damage will mechanisms in immunology, oncology, neurology and aging will be central to all lectures.

The course comprises twenty-nine lectures that will be taught twice a week. Lectures will be fashioned around selected manuscripts and the recent text book: "DNA Repair, Mutagenesis and Other Responses to DNA Damage (2014) Errol C. Friedberg, Stephen J. Elledge, Alan R. Lehmann, Tomas Lindahl & Marco Muzi-Falconi. Lecturers will include faculty from the Universities of Pittsburgh and Carnegie Mellon who are engaged in laboratory and clinical research at the forefront of the DNA damage and repair fields, as well as distinguished Professors visiting Pittsburgh from other Institutions.

### **MSMPHL 3335 DNA Repair Journal Club (Fall & Spring) 1 Credit**

*Course Directors: Bennett Van Houten & Christopher Bakkenist*

The course is a journal club on current topics in DNA repair as it relates to human disease, DNA damage processing, genome stability, telomere biology, cancer and aging. Primarily designed for students in the second year of their graduate program and beyond. Presentations will be held twice per month during the fall and spring semester. In order to receive credit for the course, students must attend a minimum of 80% of the sessions, present once per semester, participate in class discussion and complete anonymous peer-evaluations for each presenter. One week prior to presentation, presenters will identify a recent publication in the field and distribute it to their classmates. Presenters must define the hypothesis of the paper, provide background and significance, describe experimental methods used, interpret the data, conclude whether the data support the authors' conclusions and propose future experiments. Grades will be determined by attendance (10%), class participation (20%) and quality of presentation (70%).

### **3340 Foundations of Successful Career Planning and Development Part 1 (Fall)** 1 Credits

*Course Director: Steven Wendell*

The goals of the fall and spring consecutive courses are to enhance the career development capacity and foster the life-long career management habits of graduate students and postdocs to maximize their scholarly training success and facilitate personal career outcomes. The courses will provide foundational background through experiential learning and small-group discussions while facilitating peer mentoring. These approaches support the self-construction of individually relevant understandings of career development that is consistent with similar independence in scholarly expertise. The areas of focus include self-assessments, career exploration, goal setting, professional development, career planning and management, career adaptability and additional topics identified by students. Participation in the subsequent spring course is expected for those enrolled in the fall prerequisite course.

### **3341 Foundations of Successful Career Planning and Development Part 2 (Spring)** 1 Credits *PREQ: MSMPHL 3340*

*Course Director: Steven Wendell*

The goals of the fall and spring consecutive courses are to enhance the career development capacity and foster the life-long career management habits of graduate students and postdocs to maximize their scholarly training success and facilitate personal career outcomes. The courses will provide foundational background through experiential learning and small-group discussions while facilitating peer mentoring. These approaches support the self-construction of individually relevant understandings of career development that is consistent with similar independence in scholarly expertise. The areas of focus include self-assessments, career exploration, goal setting, professional development, career planning and management, career adaptability and additional topics identified by students. Participation in the subsequent spring course is expected for those enrolled in the fall prerequisite course.

### **3360 Molecular Pharmacology (Fall)** 2 Credits

*Course Director: Ferruccio Galbiati*

This course examines molecular mechanisms of drug interactions with an emphasis on drugs that modulate cell signaling, cellular responses to drugs and drug discovery. The course will include student participation through presentations and discussion of relevant contemporary scientific literature. Topics include: cell cycle checkpoints and anti-cancer drugs, therapeutic control of ion channels and blood glucose, anti-inflammatory agents and nuclear receptor signaling and molecular mechanisms of drugs used for the treatment of cardiovascular diseases.

### **3375 Neuropharmacology (Spring)** 3 Credits

*Course Director: Michael Palladino*

This course will broadly review neuropharmacology and neurobiology, study monoamine, cholinergic and GPCR biology, and explore the blood-brain barrier and its significance to neuropharmacology. The course will focus on the molecular mechanisms of drug action for different classes of compounds including but not limited to; antidepressants, antipsychotics, anti-epileptics, anesthetics, weight loss, stimulants, neuroprotective, addiction, pain and migraine drugs. In addition to the formal lectures the course will emphasize critical reading of the primary literature through journal-club style discussions and cover the most recent treatment and therapeutic avenues being developed for a broad range of neurologic and psychiatric disorders. The course is ideally suited for Molecular Pharmacology and Neuroscience graduate students or any other graduate student with interest in neurological diseases and their treatments. The course is also appropriate for senior undergraduates who have completed 4 semesters of chemistry, 2 semesters of biology, and other relevant upper division course work (e.g. Cell Biology, Physiology or Biochemistry) will provide the substance of their doctoral dissertation.

### **3750 ANGIOGENESIS (Spring)** 3 Credits

*Course Directors: Donna Stolz, Wendy Mars*

Angiogenesis/vasculogenesis is one of the important research areas in biomedical sciences. This course will provide extensive basic knowledge of the developmental, cellular, and molecular biology of angiogenesis and most recent advances in its clinical applications. Topics include 1. Angiogenesis in physiological and pathological process; 2. Molecular and cellular regulation of angiogenesis; 3. Current advances in angiogenic therapies. Recent outstanding research publications will also be discussed.

## **Academic Policies and Procedures**

### **The Interdisciplinary Biomedical Graduate Program**

As a new student, you are admitted to the Interdisciplinary Biomedical Graduate Program (IBGP) for your first year of study. The IBGP is designed to assist you in identifying a research laboratory, and to encourage your timely progression through the process of obtaining a PhD. The activities of the IBGP are governed by the Steering Committee (comprised of the Associate Dean for Graduate Studies and the program directors). The operation of the Steering Committee is assisted by subcommittees which are responsible for admissions, curriculum and recruiting. These committees evaluate applications for admissions and recruit new students into the program, coordinate the first-year curriculum, oversee your research rotations, administer the Preliminary Evaluation, and supervise your transfer to a specialized degree-granting program.

### **Advising and Evaluation**

You are assigned a first-year mentor upon admission to the IBGP. The mentor is a member of the Steering Committee selected by the Associate Dean for Graduate Studies. The first-year mentor will help you to identify individuals who can provide specialized advice on research rotations, will advise you of the various milestones that are a part of the IBGP, will assist you in decisions regarding second and third term classes, and will sign all of your registration forms until you formally transfer to one of the PhD granting programs. Your mentor will represent your interests at meetings of the Steering Committee should there be concerns about your academic progress, and will present any requests you may have for waivers of stated requirements. The mentor's role essentially terminates when you move from the IBGP to a specialized PhD granting program.

You will be evaluated by the Steering Committee over the course of the year. At the conclusion of your first year, you will undergo the Preliminary Evaluation which incorporates several elements including class performance and laboratory rotations, with equal weight applied to each. A successful Preliminary Evaluation will allow you to transfer into a specialized degree-granting program.

If you are not performing at a satisfactory level, remedial action or consideration for dismissal from the program may be initiated by the Steering Committee.

### **Curriculum**

Four courses in the curriculum are required of all students, while other courses are electives. The *Foundations of Biomedical Science Lecture* (INTBP 2000) and *Foundations Conference* (INTBP 2005) are the required Interdisciplinary core courses. They meet Monday, Tuesday, Thursday and Friday for two hours each morning of the first (Fall) term, and are supplemented with biweekly small group sessions which meet Tuesday and Friday afternoons. These courses are designed to provide a fundamental overview of the elements of contemporary biomedical science that should be mastered by all students, regardless of their scientific interests. The third course required of all students is *D2K: From Data to Knowledge-Biomedical Experimental Design and Analysis* (INTBP 2013) which is offered during the Summer term of the first academic year. Finally, all students are required to take *Scientific Ethics and Responsible Conduct of Research* (INTBP 2290) which is also scheduled in the Summer term.

After the first (Fall) term, students enjoy more flexibility in the choice of courses. Each of the degree granting programs offers one or more courses in the second (Spring) term. Students should choose Spring classes based on their own interests and the requirements of the program(s) they are interested in joining. Thus, during the Fall, students should begin to consider which program(s) are of most interest to them, and determine which, if any, classes are offered by that program(s) in the Spring term. First-year mentors will help students plan a Spring schedule of classes. There are a wide range of graduate courses offered by the School of Medicine. The most current list is available at <http://www.gradbiomed.pitt.edu/current-students/course-information>.

The Office of Academic Career Development is dedicated to providing professionals in the schools of the health sciences with the tools, resources, and support they need to achieve their full potential as leaders in biomedical research, education, and clinical practice. <http://www.oacd.health.pitt.edu/>

A minimum of 32 credits of formal course work and 40 credits of dissertation research are required to earn the PhD degree from the School of Medicine. If you have completed all credit requirements for the degree, and are working full-time on a dissertation, you may register, with permission of the Dean, for the *Full-Time Dissertation Study* (FTDS 0000) course. However, it must be the only course to appear on your registration for that term; you may register for no other courses.

Students with a Master's degree may receive advanced standing of up to 30 credits of course work in some circumstances. Such determinations shall be made by the Associate Dean in consultation with the Director of the program in which you decide to pursue a degree.

All students are expected to maintain a minimum cumulative grade point average of 3.00. Please be advised that a grade of B- or lower is not considered a passing grade in core courses. If the cumulative GPA falls below 3.00, the student will be placed on academic probation for the next term of registration. If the deficiency is not corrected or vastly improved in this subsequent term, the student may be dismissed at the discretion of the program. A program also may require a student to retake a major/core course in which a grade below a B is earned.

## **Registration**

All students in the IBGP register with their first-year mentor after their first term. (In their first term, new students are registered at orientation to avoid any late fees and/or complications.) The University is on a trimester calendar: Fall, Spring, and Summer Terms. To maintain your appointment as a full-time Graduate Student Assistant or Researcher requires 9-15 credits in the Fall and Spring Terms and 3 credits in the Summer Term. (Note: if you are deferring undergraduate loans, please check with your lender for minimum credit requirements particularly for the Summer Term.) After officially transferring to a specialized degree-granting program, all students will register with their respective program director and/or program designee.

All completed and signed registration forms for first-year students in the IBGP should be submitted to the Graduate Studies Office. During subsequent years, your enrollment form should be signed by your Program Director and given to the Program Coordinator so they can remove the advising hold that will be placed on your account each term. Once the hold is removed, you can proceed to self-register. Instructions and a tutorial can be found at [www.my.pitt.edu](http://www.my.pitt.edu) under "Student Services".



## Research Rotations

Laboratory research is the major component of our PhD programs. Research rotations should be considered an essential resource for learning broad-based skills at the bench as well as an opportunity to focus your scientific interests. Prior to choosing a laboratory, you should speak with your first-year mentor and examine the list of faculty who are interested in having a student in their laboratory by checking the website under Current Lab Rotation Opportunities at: <http://www.gradbiomed.pitt.edu/current-lab-rotation-opportunities>.

The Associate Dean and First Year Mentors supervise the selection of laboratory research rotations. Students are expected to complete three (3) research rotations during their first year. A “Laboratory Research Rotation Form” must be completed, signed and returned to the Graduate Studies Office within one week of beginning a rotation. At the end of each rotation, you are required to complete a written report that is prepared in the style of a scientific paper. It is recognized that some rotation projects emphasize concepts and techniques rather than generating a large volume of data. Thus, considerable flexibility in the style and content of the report is possible. The main goal is to generate a written, scholarly account of the scientific principles, questions, and activities undertaken during the rotation period. Rotation advisors will read, comment upon, and discuss changes to the rotation report with the student. When the written report is complete, the rotation supervisor will review the performance of the student and assign a letter grade for the rotation on the evaluation form provided by the Graduate Studies Office.

It is expected that the three rotations will be performed in three different laboratories headed by training faculty of the IBGP. This will provide students with an opportunity to identify an area of research interest, to establish a relationship with a potential dissertation advisor, and to learn various laboratory techniques. In rare instances, it is possible to petition the IBGP director for permission to take a fourth rotation if necessary. If a student has completed a master’s degree thesis based on original research, a report of this project may be submitted in place of a rotation report upon approval. Requests to modify the rotation schedule must be made, in writing, to the Associate Dean for Graduate Studies. All rotations shall take place in accordance with the following schedule unless a waiver is granted upon petition to the Associate Dean:

<b>Rotation Begins</b>	<b>Rotation Ends &amp; Report Due</b>	<b>Evaluation Form Due</b>
July 1, 2019	September 13, 2019	September 20, 2019
September 16, 2019	December 6, 2019	December 13, 2019
January 2, 2020	March 20, 2020	March 27, 2020
March 23, 2020	May 22, 2020	May 29, 2020

NOTE: Reports submitted after each due date will lose 1/3<sup>rd</sup> of a grade for each day the report is late. Research Rotation Evaluation forms are due from the rotation advisor, in the Graduate Studies Office, within two weeks after the report due date.

## Transferring from the IBGP to a Specialized Degree Granting Program

Upon successful completion of your Preliminary Evaluation, you will transfer into one of the specialized, degree granting programs. The choice of program is likely to be dictated by the choice of dissertation advisor. The process of moving into a specialized degree-granting program should occur as follows:

- i) Identify a dissertation advisor. This will come about as the result of your rotation experiences, from exposure to faculty during classes, and from talking to other graduate students. (See *Suggestions on Choosing a Dissertation Advisor* which follows). It is expected that most of the training faculty will welcome students into their laboratories. However, there are some practical realities that may be encountered. If a laboratory is already full, or if there is not sufficient funding available to support an additional student, a faculty member may not be able to take you.
- ii) Identify the appropriate program. Many of the training faculty have appointments in two programs, so the choice of program can be influenced by your choice of the class requirements that best align with your goals.
- iii) Petition the Program Director for admission into that program. The Program Director will determine whether you have met the course requirements for the program, or may suggest second year classes to take. Once the Preliminary Evaluation has been completed and the curricular requirements met, the transfer will formally take place.

Clearly, this process will begin before the end of the first year. Students are strongly encouraged to meet with the Program Director of the degree granting program in which you are interested prior to the end of the Fall semester to determine which classes would be most appropriate in the Spring semester.

Please do not hesitate to direct any questions relating to the IBGP or any of the above described procedures to your first-year mentor or to the Graduate Studies Office.

The most important decision you will make at the University of Pittsburgh is the selection of a dissertation advisor. Please consider the following which were prepared under the auspices of the University Council on Graduate Study [www.pitt.edu/~graduate/advisor.html](http://www.pitt.edu/~graduate/advisor.html).

### ***Suggestions on Choosing a Dissertation Advisor for Doctoral Students at the University of Pittsburgh***

Before starting dissertation research, you must have a major advisor who agrees to supervise your work. In addition, you must form a complete doctoral committee, subject to approval by the program chair and the dean, and be admitted to doctoral candidacy. But the first step is the choice of your major advisor.

You and your advisor must mutually agree on the advising arrangement and the research topic. Both of you should enter the relationship as well informed as possible about the other. In advising relationships, "divorces" are possible, but they upset the timely progress toward degree and are emotionally draining.

Trade-offs and compromises are to be expected in selecting an advisor. For instance, it might be preferable to choose an advisor whose students take a slightly longer time to complete their degrees if they usually gain better jobs than those of a different faculty member. While some students may be eager to work with a famous full professor, others might fear that the busiest advisors would have the least time for their students. Finally, be aware that procedures for matching students and advisors may vary by program.

To select the best advisor, you might meet with all the faculty members of your program and talk with other graduate students in the program about the qualities of the faculty members eligible to direct dissertations. Be cautious about making assumptions, and ask questions covering a range of topics. Some questions should best be discussed with the faculty member in question, others might better be asked of advanced graduate students. To help you, consider the following list of questions in selecting a dissertation advisor; the list is not intended to be a list of mandatory qualities that advisors should possess. Some items pertain more to specific disciplines than to others. Remember, too, that faculty members will have a number of questions to ask about you.

### ***Questions To Consider In Selecting A Dissertation Advisor***

These questions have been adapted from a document prepared by the Graduate School, State University of New York at Stony Brook, and are put forth by the Office of the Provost.

- Is the advisor an expert in the area of research or scholarship that you intend to pursue? Is his/her critical or theoretical orientation consistent with yours?
- How much freedom will you have in your choice of dissertation topic with this advisor?
- What is the reputation of the advisor within the discipline?
- How responsive is the advisor? How long does it take him/her to return written material with comments?
- How accessible is the advisor for discussion?
- Is the advisor likely to remain on the faculty for the duration of your degree work?
- How many students does he/she advise? If none, why? If a large number, does this affect the attention that he/she pays to individual students?
- How much time does he/she spend away from campus? Is he/she available during the summer?
- How long do students take to complete their degrees with this advisor?
- What proportion of this advisor's students successfully complete the program?
- What is the placement record of this advisor's students? Where do they get jobs?
- Does the advisor publish with his/her students as first author?
- How many publications does the typical student accumulate with this advisor?
- Do the advisor's students go to disciplinary or professional conferences?
- Do the advisor's students make presentations of their own work at conferences? Do they make presentations of joint work with the advisor?
- How much interaction is there with other advisees of this faculty member? Does he/she direct a research group or rather a series of individuals?
- How much of the research is collaborative with the advisor and/or other advisees?
- How much involvement is expected in "group" research projects that are not appropriate for inclusion in your dissertation? How much of this contributes to your professional development and marketability?
- How is credit for collaborative work assigned?
- Is the advisor engaged in patentable or saleable work? If so, how does he/she assign credit to the student? Does this work get published promptly?
- Is the advisor's work funded? What are the guarantees of funding for the advisor's students? Do the advisor's students get summer support?
- Does the advisor assist his/her students in obtaining their own funding from outside sources such as fellowship programs?
- Does the advisor have good relations with other faculty in the program?
- Does the advisor have a reputation for ethical behavior?
- Are the advisor's work habits compatible with your own?

## Graduate Milestones

The University tracks your progress toward the degree by means of a series of Graduate Milestones. Successfully completing each milestone is a University requirement for the PhD degree. The following are the School of Medicine milestones. Full descriptions follow under the subsequent section, University Regulations Pertaining to Doctor of Philosophy Degrees.

- I. *The Preliminary Evaluation.* Conducted by the Steering Committee at the conclusion of your first year of study.
- II. *The Comprehensive Examination.* An oral and/or written examination usually conducted at the end of the second year of study by the student's specialized training program.

After or at the time of passing the Comprehensive Exam, the student, in consultation with his/her advisor, chooses and nominates a dissertation advisory committee according to the following guidelines passed by Steering Committee:

- a. There shall be a minimum of four members on the dissertation committee in addition to the thesis advisor, thereby requiring a minimum of five committee members.
  - b. The dissertation advisor may or may not serve as the chair of the examination committee, and it shall be at the discretion of the training program. This must, however, clearly be stated as the program policy and uniformly applied to all students within the training program.
  - c. A majority of the committee, including the advisor, must have graduate faculty status, and must be from the student's training program.
  - d. A minimum of one graduate faculty member from the university community who is not a member of the student's training program must participate on the committee as an external member. The external member cannot serve as the committee chair.
  - e. The dissertation committee must be approved by the director of the student's training program prior to seeking approval from the Associate Dean for Graduate Studies. This is achieved by completing the Nomination of a Doctoral Dissertation Advisory Committee. Only upon these approvals may the student convene an Overview/Prospectus meeting and then petition for Admission to Candidacy.
- III. *The Prospectus/Overview Meeting.* The student's dissertation advisory committee, pending approval of the Associate Dean for Graduate Studies, meets and approves the dissertation proposal at this meeting.
  - IV. *Admission to PhD Candidacy.* This is the formal petition from a student permitting him/her to study toward the PhD degree at the University of Pittsburgh. It must be approved by the Associate Dean for Graduate Studies.

After being Admitted to Candidacy, the University requires students to meet with their dissertation committee yearly, at a minimum, and report the results in the form of a summary and action plan to the Graduate Studies Office in writing. Individual programs may require dissertation committees to meet more than once a year.

- V. *Dissertation Defense.* When the dissertation work and write-up are completed, a public defense is held. The Dissertation Defense Report is signed and submitted to the Graduate Studies Office following the defense.

VI. *Dissertation Approval.* The Dissertation Approval Report is signed by your committee and submitted to the Graduate Studies Office upon completion and approval of all revisions.

**University Regulations Pertaining to Doctor of Philosophy Degrees (as taken from the following webpage)** <http://www.pitt.edu/~graduate/regphd.html>

### **Admission to Doctoral Study**

In some departments, the requirements for admission to graduate study and for admission to doctoral study are identical, while other departments require the completion of a master's degree or its equivalent as a prerequisite for admission to doctoral study. Admission to doctoral study does not include any implication concerning "admission to candidacy for the Doctor of Philosophy degree."

### **Programs of Study**

All PhD programs offered at the University of Pittsburgh should provide a coherent series of courses, seminars, and discussions designed to develop in the student a mature understanding of the content, methods, theories, and values of a field of knowledge and its relation to other fields. Each program should train the student in the methods of independent research appropriate to the discipline and provide an advisor and a committee to guide the student in an extended investigation of an original and independent research project of significance in the field.

The overall form and content of each student's program is the responsibility of the Graduate Faculty of the department or program. To carry out this responsibility, departments or programs must ensure that each student has a major advisor who, in consultation with the student, plans a program of study and research in accord with school and departmental guidelines. The advisor may prescribe additional courses both within and outside the department or program that are essential and/or appropriate to the student's program.

Some doctoral programs may include approved areas of concentration used to define and describe the students' training and expertise within the broader discipline. Such an area of concentration is added to the transcript upon the granting of the degree.

Doctoral level courses are numbered in the 3000 series, but courses numbered in the 2000 series may also be appropriate for doctoral study. Normally, courses numbered below 2000 do not meet the minimum requirements for doctoral study, although they may be taken to supplement a doctoral program.

Students must maintain a minimum cumulative GPA of 3.00 in courses to be eligible to take the preliminary and comprehensive examinations, as well as to be graduated.

The requirement of proficiency in the use of foreign languages or other tools of research is at the discretion of individual departments or schools.

Departments or programs are expected to provide students with a copy of school and departmental regulations appropriate for their program and, in turn, students are expected to become familiar with these and to satisfy all prescribed degree requirements.

## **Credit Requirements**

The minimum credit requirement for the PhD degree is met by six terms of registration as a graduate student for 12 or more credits per term or the equivalent number of credits in a reduced load. If the school requires completion of its master's degree program prior to admission into its doctoral program, at least four terms of registration for 12 or more credits per term or the equivalent number of credits in a reduced load are required as a minimum for the PhD degree. No more than 30 credits may be accepted for a master's degree awarded by another institution to meet the minimum credit requirement. In recognition of graduate study beyond the master's degree successfully completed elsewhere, no more than 12 additional credits may be accepted at the time of admission to meet the minimum credit requirement. (See Acceptance of Transfer Credits at <http://www.pitt.edu/~graduate/regphd.html>). No more than 30 credits may be accepted for a previously earned PhD degree in recognition of master's degree work.

Graduate students already enrolled may, when approved in advance by their department or programs and the dean, spend a term or more at another graduate institution to obtain training or experience not available at the University of Pittsburgh and transfer those credits toward the requirements for an advanced degree at the University of Pittsburgh. In all cases, at least three terms, or 36 credits, of full-time doctoral study or the equivalent in part-time study must be successfully completed at the University of Pittsburgh.

Students must register each term for the number of credits of course work, independent study, or research equivalent to the anticipated use of faculty time and University facilities. A student who has not registered for at least one credit during a 12-month period will be transferred automatically to inactive status and must file an application for readmission to graduate study (and pay the application fee) before being permitted to register again.

## **Residency Requirement**

Students seeking the PhD degree are required to engage in a minimum of one term of full-time doctoral study, which excludes any other employment except as approved by their departments.

## **Preliminary Evaluation**

The preliminary evaluation should be designed to assess the breadth of the student's knowledge of the discipline, the student's achievement during the first year of graduate study, and the potential to apply research methods independently. The form and nature of the evaluation should be approved at the school level and described in the school bulletin. It should be conducted at approximately the end of the first year of full-time graduate study. The evaluation is used to identify those students who may be expected to complete a doctoral program successfully and also to reveal areas of weakness in the student's preparation. Evaluation results must be reported promptly to the graduate studies office, but no later than the last day of the term in which the evaluation occurs.

## **Comprehensive Examination**

The Comprehensive Examination should be designed to assess the student's mastery of the general field of doctoral study, the student's acquisition of both depth and breadth in the area of specialization within the general field, and the ability to use the research methods of the discipline. In some programs, the comprehensive examination is combined with the overview or prospectus meeting. It should be administered at approximately the time of the completion of the formal course requirements and should be passed at least eight months before the scheduling of the final oral examination and dissertation defense. In no case may the comprehensive examination be taken in the same term in which the student is graduated. Examination results must be reported promptly to the graduate studies office, but no later than the last day of the term in which the examination is administered. A student who is unable to complete all degree requirements within a five-year period after passing the comprehensive examination may be re-examined at the discretion of the department, program, or school.

## **Doctoral Committee**

Before admission to candidacy for the PhD degree, the student's major advisor proposes for the approval of the doctoral program director and the dean a committee of four or more persons, including at least one from another department in the University of Pittsburgh or from an appropriate graduate program at another academic institution, to serve as the doctoral committee. The majority of the committee, including the major advisor, must be full or adjunct members of the Graduate Faculty. This committee must review and approve the proposed research project before the student may be admitted to candidacy.

This doctoral committee has the responsibility to advise the student during the progress of the candidate's research and has the authority to require high quality research and/or the rewriting of any portion or all of the dissertation. It conducts the final oral examination and determines whether the dissertation meets acceptable standards.

Meetings of the doctoral candidate and his/her dissertation committee must occur at least annually from the time the student gains Admission to Doctoral Candidacy. During these meetings, the committee should assess the student's progress toward degree and discuss objectives for the following year and a timetable for completing degree requirements. It is the responsibility of the dean of each school to determine a mechanism for monitoring the occurrence of these annual reviews.

The membership of the doctoral committee may be changed whenever it is appropriate or necessary, subject to the approval of the department chair or program director and the dean.

When a doctoral committee member leaves the University, he or she must be replaced unless the dissertation is almost complete or the member has an essential role on the committee. In the latter case, the dean's approval should be obtained. When the chair of a committee leaves and cannot be conveniently replaced, a co-chair must be appointed from within the department, and the restructured committee requires the approval of the department chair or director of the school's doctoral program and the dean. If the defense takes place within a few months of the chair's departure, the requirement of the co-chair is usually waived.

A retired faculty member may remain as a member or chair of a committee if he or she is spending considerable time in Pittsburgh or its vicinity and is still professionally active. Retired faculty who meet these criteria may also be appointed as a member or as a co-chair (but not chair) of a newly-formed committee. Retired faculty who leave the Pittsburgh area and/or do not remain professionally active should be replaced on committees and the revised committee approved by the department chair or the school's director of doctoral programs and the dean.

### **Overview or Prospectus Meeting**

Each student must prepare a dissertation proposal for presentation to the doctoral committee at a formal dissertation overview or prospectus meeting. The overview requires the student to carefully formulate a plan and permits the doctoral committee members to provide guidance in shaping the conceptualization and methodology of that plan. The doctoral committee must unanimously approve the dissertation topic and research plan before the student may be admitted to candidacy for the doctoral degree. Approval of the proposal does not imply either the acceptance of a dissertation prepared in accord with the proposal or the restriction of the dissertation to this original proposal. The student is responsible for ensuring that all appropriate regulatory approvals are obtained for the proposed research. For example, if the research proposed in the overview or prospectus involves human subjects, that proposed research must be approved by the University Institutional Review Board (IRB) before it may be carried out.

### **Admission to Candidacy for the Doctor of Philosophy Degree**

Admission to candidacy for the Doctor of Philosophy degree constitutes a promotion of the student to the most advanced stage of graduate study, and provides formal approval to devote essentially exclusive attention to the research and the writing of the dissertation. To qualify for admission to candidacy, students must be in full graduate status, have satisfied the requirement of the preliminary evaluation, have completed formal course work with a minimum grade point average of 3.00, have passed the comprehensive examination, and have received approval of the proposed subject and plan of the dissertation from the doctoral committee following an overview or prospectus meeting of the committee. In some schools, admission to candidacy is a prerequisite to registration for dissertation credits. Students are informed of admission to candidacy by written notification from the dean, who also states the approved doctoral committee's composition.

### **Dissertation and Abstract**

Each student must write a dissertation that presents the results of a research project carried out by the student. An appropriate research project involves a substantive piece of original and independent research grounded in an appropriate body of literature. It is relevant to an identifiable field as it is currently practiced. It presents a hypothesis tested by data and analysis and provides a significant contribution or advancement in that field. It is the responsibility of the student's doctoral committee to evaluate the dissertation in these terms, and to recommend the awarding of the doctoral degree only if the dissertation is judged to demonstrate these qualities.



Characteristics which a dissertation should demonstrate are: the establishment of a historical context for the presentation of an innovative and creative approach to the problem analysis and solution; a clear understanding of the problem area as revealed by analysis and synthesis of a broad literature base; a well-defined research design; clarity in composition and careful documentation; results of sufficient merit to be published in refereed journals or to form the basis of a book or monograph; sufficient detail so that other scholars can build on it in subsequent work; the preparation of the author to assume a position within the profession.

If the dissertation is the result of a collaborative research effort, the project should be structured in such a way that the student's dissertation results from one, clearly identified piece of work in which the student has supplied the unquestionably major effort. The contributions of the student and the other collaborators must be clearly identified.

Published articles authored by the student and based on research conducted for the dissertation study may be included in the dissertation, if the student's department and school have a written policy that this is acceptable. In any case, the published work must be logically connected and integrated into the dissertation in a coherent manner, and sufficient detail must be presented to satisfy the characteristics of a dissertation. The student should be the sole or primary author of the published work. If the published articles were co-authored, the contribution of the student must be clearly delineated in the introduction so the committee can ascertain that the student's own work satisfies the requirements of a dissertation. Instructions on incorporating articles into the dissertation are provided in the Format Guidelines for Electronic Thesis and Dissertation Preparation at the University of Pittsburgh. [www.pitt.edu/~graduate/etd/pdf/ETDformat.pdf](http://www.pitt.edu/~graduate/etd/pdf/ETDformat.pdf).

Candidates for the doctoral degree must provide a suitable number of copies of the dissertation, as determined by the doctoral committee and school policy, for review and use during the final oral examination. The general format of the dissertation and the abstract is determined by the Office of the Provost and is set forth in the Format Guidelines for Electronic Thesis and Dissertation Preparation at the University of Pittsburgh. Specific instructions should be available in the office of the dean of the school. After the final oral examination is successfully completed, the candidate must electronically submit the approved complete dissertation and abstract in final form. The candidate must submit a dissertation approval form, the required agreement with University Microfilms Inc. for the publication of the dissertation on microfilm and for the publication of the abstract in Dissertation Abstracts, and any appropriate fees to the designated student services representative in the dean's office of the candidate's school.

### **Language of the Doctoral Dissertation**

The language in which doctoral dissertations are written shall normally be English. Exceptions may be granted by the student's dean with the approval of the dissertation advisor and committee, but only for sound reasons of scholarship. Permission shall never be granted on the ground of inadequate command of English.

### **Final Oral Examination**

The final oral examination in defense of the doctoral dissertation is conducted by the doctoral committee and need not be confined to materials in and related to the dissertation. Any member of the Graduate Faculty of the University may attend and participate in the examination. The date, place, and time of the examination should be published well in advance in the University Times. Other qualified individuals may be invited by the committee to participate in the examination.

Only members of the doctoral committee may be present during the final deliberations and may vote on the passing of the candidate. A report of this examination, signed by all the members of the doctoral committee, must be sent to the dean. If the decision of the committee is not unanimous, the case is referred to the dean for resolution. The chair of the doctoral committee should ensure that the dissertation is in final form before requesting signatures of the members of the committee.

## **Leaves of Absence**

Under special conditions, graduate students may be granted one leave of absence. A maximum leave of two years may be granted to doctoral students or one year to master's students. The length and rationale for the leave of absence must be stated in advance, recommended to the Associate Dean by the Program Director, and approved by the Associate Dean. If approved, the time of the leave shall not count against the total time allowed for the degree being sought by the student. Readmission following an approved leave of absence is a formality.

## **Financial Aid**

### **Stipends**

There are two primary forms of financial aid in the School of Medicine. These are the Dean's Stipend Awards and the Graduate Student Researcher appointments. It is School of Medicine policy that all graduate students in the Interdisciplinary Biomedical Graduate Program receive the same amount of stipend, regardless of educational background or program of study.

#### **I. Dean's Stipend Awards**

These scholarships are awarded to entering students for their first year before choosing a dissertation advisor and joining a degree-granting program. To retain the award students must maintain a minimum grade point average of 3.00 while taking a full-time course load (9-15 credits in the Fall and Spring Terms; 3 credits in the Summer Term). No supplementation of funds from other sources is permitted for recipients of the Dean's Stipend.

Students receiving Dean's Stipend awards are appointed as Graduate Student Assistants (GSAs) and are governed by all policies pertaining to the award. The full policy statement is presented at <http://www.pitt.edu/~graduate/tapolicyrev.htm>.

#### **Termination of Appointment**

Termination may result from unsatisfactory academic performance or from unsatisfactory professional conduct or performance. Examples of the latter include failure to attend classes regularly, failure to carry out assignments, or violation of the University Honor Code.

Termination proceedings may be initiated only if the TA/TF/GSA has been evaluated on a regular basis and has received an appropriate written warning with respect to his or her performance, or has violated one or more of the major canons of institutional responsibility or University policy.

The TA/TF/GSA must be informed in writing by the Associate Dean of the reason(s) for termination. The appeals procedure must be included with this correspondence.

### **Appeals Procedure**

1. The TA/TF/GSA may appeal, in writing, within one week of notice of termination, to the Provost, who will convene an appeals committee.
2. The Provost or Provost's designee will serve as chair of an appeals committee and will appoint to the committee two faculty members from the University Council on Graduate Study and two graduate students, who must be TAs, TFs, or GSAs and who are recommended by the Graduate and Professional Student Association. No one from the involved academic program shall be on the appeals committee, and involved parties shall represent themselves before the committee.
3. Within 21 days from notice of termination, the appealing TA/TF/GSA shall be provided an appeals hearing, and he/she shall be notified of the appeals committee decision as soon as is possible.

## **II. Graduate Student Researchers**

Fellowship support for students is awarded based on satisfactory academic performance in the first year. Following the first year, students traditionally receive support through their advisor's research grants as Graduate Student Researchers (GSRs) or through training program Fellowships. GSRs are governed by all policies pertaining to the award. (See the full policy statement at [www.pitt.edu/~graduate/gsr.html](http://www.pitt.edu/~graduate/gsr.html))

### **Early Termination**

Early termination refers to the dismissal of the GSR before the end of the contractual period of appointment. Early termination may be initiated *only if* the GSR has received an appropriate and timely written warning with respect to his or her performance, *or has clearly violated* one or more of the major canons of institutional responsibility or University Policy. The GSR must be informed in writing by the Program Director and/or Associate Dean of the reasons for termination. The appeals procedure must be included with this correspondence.

### **Appeals Procedure**

1. The GSR may appeal the termination, in writing, within two weeks of notice of termination, to the dean, who will mediate the dispute and, if necessary, convene an appeals committee.
2. The dean or his or her designee will serve as chair of an appeals committee and will appoint to the committee two faculty members and two graduate students, who must be GSRs and are recommended by the school's graduate student association. No one from the involved academic department shall be on the appeals committee, and involved parties shall represent themselves before the committee.
3. Within six weeks, the appealing GSR shall be provided an appeals hearing, and he or she shall be notified of the appeals committee's recommendation and the dean's decision as soon as possible thereafter.

### **Educational Enrichment Account**

A \$2,000 educational enrichment account also is provided to each first-year student. Funds may only be used to support the purchase of items or services that will enrich your graduate education. These include educational books, subscriptions to scientific journals, and expenses incurred to attend a scientific meeting. Funds may be used to purchase **one** computer or computer-like device. Examples include: laptop, desktop, iPad, tablets, etc. See the Graduate Studies Office for a complete set of guidelines and forms to access the account.

### **External Scholarships**

External fellowships are available to those students interested in applying for such funds. All students are encouraged to apply for scholarships because they distinguish promising students who have successfully competed for funding. Opportunities may be found at the websites of the National Institutes for Health <https://www.nih.gov/grants-funding> and the National Science Foundation <http://www.nsf.gov/funding/>. Other opportunities may also be found at the website for University's Office of Research, Health Sciences website <http://www.oorhs.pitt.edu/>. Students awarded a competitive fellowship whose award is greater than the program stipend may receive the larger stipend. Awards with a stipend that is less than the program stipend must be supplemented up to the full program level.

### **Loans**

Graduate students are eligible for and permitted to receive student loans. You must complete a *Free Application for Federal Student Aid (FAFSA)*, obtainable from the Office of Financial Aid located in Alumni Hall. The FAFSA does not serve as the actual application for a loan or scholarship; however, it is required in order to be eligible for a loan. All information regarding student loans is handled by the Office of Financial Aid, 1st floor Alumni Hall, 624-7488. <https://oafa.pitt.edu/financialaid/applying-for-aid/aid-eligibility-requirements/>.

Graduate Students who are enrolled at least half-time basis are generally eligible for the [Federal Direct Unsubsidized Loan](#) (graduate students are not eligible for Direct Subsidized funds), the [Federal Direct Graduate Plus Loan](#), and/or the [Private Educational Loan](#).

Emergency student loans of up to \$300 are available for educational purposes to students who are registered for six or more credits from the Student Organization Resource Center (SORC), room 119 William Pitt Union. <https://www.studentaffairs.pitt.edu/sorc/services/emergency-student-loans-esl/>

### **Tuition Remission & Invoices**

Each term of registration will generate a tuition invoice. As a student with an eligible academic appointment, you will receive full tuition remission which includes the tuition, Student Health Service, Security & Transportation, and Network Service fees. However, you are responsible for the Student Activity Fee and any fees resulting from late registration or late payment of the activity fee. Each semester, the Graduate Office automatically pre-pays your tuition and fees. It is the student's responsibility to check and make sure the tuition has been paid in a timely fashion.

## **Guidelines for Submission of Requests for Travel Funds**

The Graduate Studies Office offers \$500 travel awards for students to attend scientific meetings. This section describes the procedures that shall be followed when applying for an award.

### **Goals of the Program**

The goal of this program is to give students the opportunity to present data and begin to develop contacts with scientists beyond the University of Pittsburgh. The opportunity to meet potential post-doctoral advisors or employers emphasizes the value of meeting attendance to more senior students. The opportunities to meet and interact with senior scientists are much greater at smaller meetings than at large gatherings like the Experimental Biology meetings. Gordon Conferences, which are a week in duration and typically have 1-200 attendees, represent the prototype of meetings that we would prefer to support. There are many other meetings that fall into this general category.

The following conditions apply to this award:

1. An application must be submitted at least one month before the event.
2. The applicant must be presenting a poster or talk at the meeting. This must be documented with an abstract in which the applicant is the first author.
3. Preference will be given to advanced students who have been admitted to candidacy for the PhD and are close to graduation.
4. Availability of funds from the mentor.
5. No more than one travel fellowship will be awarded per student per twelve-month period.
6. No more than one travel fellowship per laboratory will be awarded for any given meeting.

### **Application Procedure**

Application for a travel award must be submitted in writing to the Associate Dean at least one month before the event. The following information must be provided in the application:

- 1) Your name, program, advisors name, the date you passed your Comprehensive Exam, and your expected date of graduation.
- 2) The title, location and date of the meeting you wish to attend.
- 3) A letter from your advisor which briefly describes the nature of the meeting and the anticipated attendance, the benefits to you of attending, and the expected total cost of the meeting. The advisor should also indicate whether other travel fellowships are available for the meeting. This will not preclude support by this mechanism, but is necessary to ensure that support does not overlap.

- 4) A copy of the abstract of the presentation that you will make at the meeting.

Applications will be approved by the Associate Dean. We expect to be able to award eight fellowships each year. Submission of applications that are incomplete or late will greatly reduce the chance of success of the application.

### **Biomedical Graduate Student Association**

The Biomedical Graduate Student Association (BGSA) is an organization which represents all graduate students in the School of Medicine. Its purpose is to foster academic and social interactions among graduate students within training programs and with other members of the University community. It functions as a support network for all biomedical graduate students, and facilitates communication between students, faculty, and administration.

Please go to our website for up to date information and a calendar of events.  
[www.bgsa.pitt.edu/index.html](http://www.bgsa.pitt.edu/index.html).

### **The Pitt Promise, Code of Conduct, and Judicial Procedures**

#### **University Honor Code / Code of Conduct**

The faculty and the students of the School of Medicine recognize the importance of personal integrity and honor. To achieve this end, each student accepting an offer of admission to the School of Medicine Graduate Division of Biomedical Sciences will accept the obligations of the Honor Code/Code of Conduct, and will expect to apply the code to all aspects of his or her professional life regardless of the level of training. Students and faculty of the School of Medicine shall be honor bound to enforce the Honor Code/Code of Conduct and to report violations of it.

The Honor Code/Code of Conduct emphasizes the individual's involvement in and responsibility for the corporate well-being of the community of the Medical School. In keeping with the latter, it is incumbent upon every member of the community to promote the climate which this code seeks to establish. This involves not only counseling with fellow members of the school concerning their actions, but also bringing the sanctions of the School's disciplinary procedures to bear upon those whose conduct is in violation of the Code.

## **Mission**

The mission of Student Conduct is to process violations of the Student Code of Conduct. By processing these violations, we seek to provide a safe learning environment and opportunities for students to learn from their own behavior and the behavior of others. Student Conduct supports this mission, the values identified in the Pitt Promise, and the educational mission of the University of Pittsburgh by:

- Developing, disseminating, and enforcing campus regulations
- Providing a fair and consistent conduct process
- Assessment as normative practice
- Mentoring students through meaningful interactions
- Educating students about the effects of their behavior on themselves and those around them
- Promoting healthy decisions
- Fostering safe and inclusive communities both on and off campus
- Connecting students with support services in order to encourage their personal, social, and academic growth
- Collaborating with faculty, staff, students, and the campus community to manage and address conduct matters

The website of the Office of Student Affairs addresses all issues regarding student conduct. The link to University of Pittsburgh Student Code of Conduct and Judicial Procedures:: <http://www.studentaffairs.pitt.edu/conduct/> (Revised Sep 2015).

## **Guidelines on Academic Integrity**

Effective  
September 2005  
Reprinted  
August 2009

### **Academic Integrity**

This document contains a set of principles which shall be applicable to each of the academic units\* throughout the University. A student desiring information about an academic unit's specific procedures and the makeup of its Academic Integrity Hearing Board may obtain a copy of the procedures and other necessary information from the Office of the Dean, either in the academic unit in which he or she is registered or in the academic unit in which a particular course is taught. Additional information or guidance may be obtained from the Office of the Provost. Copies of this document and guidelines for academic units should be distributed by the deans to all instructional staff in each academic unit.

\*“Academic unit” is used to refer to a college, academic unit, or regional campus.

### **Preface**

Provided here are Academic Integrity Policy Guidelines based on the 1983-86 document which was initially approved by the Board of Trustees on the recommendation of the University Senate Council. The original document evolved from and represented careful deliberation among staff, Senate committees, and student leaders of the University. The purpose of this document is to clarify and codify the rights and responsibilities that are inherent in traditional faculty-student relationships and to reflect procedural modifications that were approved, effective January 1, 1989, by the Chancellor.

In following the Guidelines, the faculty members of each academic unit of the University are expected to adapt them to the circumstances of their own academic unit. The Guidelines are designed to assure due process, equity, and prompt and objective review by third parties, with appropriate appeals procedures. There is a general intent to maintain confidentiality, to avoid unnecessary formality, and to resolve issues at the lowest possible level. Faculty have a particular interest and responsibility in assuring that the Guidelines are adhered to, by virtue of their profession and their role as academic officials of the University. Any failure to follow these Guidelines would be harmful to the whole University community. All members of the University community have access to advice and interpretation regarding these Guidelines. Students may consult with the Campus Judicial Coordinator. Faculty may consult with their dean or academic unit hearing officer, and any individual may ask for any other guidance they need from the Office of the Provost. In general, we seek to preserve the traditional freedoms and duties associated with academic endeavors. The University should work to preserve the rights and responsibilities of faculty and students in their relationships with one another. Just as faculty and students must be free to seek truth and to search for knowledge with open minds, they must also accept the responsibility that these activities entail, maintaining the highest standards of integrity, mutual respect, and honest inquiry. The full document is available at: <http://www.provost.pitt.edu/info/ai1.html>.

## **Research Integrity Policy**

Revised: February 20, 2017

### **Preface**

The University of Pittsburgh seeks excellence in the discovery and dissemination of knowledge. Excellence in scholarship requires all members of the University community to adhere strictly to the highest standards of integrity with regard to research, instruction and evaluation. The principle of academic integrity is integral to membership in the University community. Each such member is deemed to recognize the value and special importance of this responsibility, which is linked to accepting an appointment at the University.

As scholars and citizens of the University community, all parties must be ever cognizant of the axiom that every increment of authority and discretion brings with it corollary responsibilities to colleagues, staff, students, the University as a whole, the community, and society at large. In addition, federal regulations impose policies and procedures on the University for dealing with possible misconduct in science.<sup>1</sup>

All those engaged in research should be cognizant of the value to the University of calling attention to research misconduct, and of the importance of bona fide challenges in assuring and maintaining the integrity of scholarly investigation and of this institution.

Should the conduct of research or the collection or reporting of research data and information be challenged on the ground of misconduct, whether by a faculty member, student, staff member, research associate or fellow, or a person outside the University, the framework for resolution of the grievance shall involve the dean<sup>2</sup> and the Research Integrity Officer working within a process of peer and administrative review. Throughout, responsible and honest discourse, the protection of academic freedom, and protection of the individual against unnecessary public dissemination of unproven allegations are essential ingredients in the process.



Research misconduct, as defined below, carries potential for serious harm to the University community, to the integrity of research, and to society as a whole. Accordingly, it is incumbent upon faculty members to exercise active leadership in their supervisory roles in mentoring, collaborating with, or directing junior colleagues, staff, or students.

First, faculty must be fully cognizant of the quality of work being done for which they assume responsibility and, second, they must seek to avoid undue pressure placed upon more junior faculty, staff, or students which could lead to the publication or other report of any inaccurate, incomplete, or falsified data or information. In judging whether misconduct has occurred, it is important to distinguish fraud from honest error and ambiguities that are inherent in the process of scholarly investigation and are normally corrected by further research.

This policy shall be followed in responding to all allegations of research misconduct on the part of faculty, research associates, and staff. In the case of students involved in alleged misconduct, this policy shall apply in those instances where the research in question is supported by federal agencies or where the relevant dean requests that the Research Integrity Officer invoke the policy. Student matters may also, as appropriate, be handled under the relevant Academic Integrity Guidelines.

The procedures described below are steps in an academic peer review and fact-finding process and are not intended or designed to represent rules of a judiciary. Principles of basic fairness and confidentiality shall be observed in these peer-review procedures. Any allegations of misconduct must be treated on an individual-case basis.

Safeguards give the individual accused of misconduct the confidence that his or her rights are protected and that the mere filing of an allegation of research misconduct will not bring the research to a halt or be the basis for other disciplinary or adverse action absent other compelling reasons. Safeguards for a complainant or a witness in any proceeding described in this document include protection against retaliation for making good-faith allegations or providing testimony, fair and objective procedures for the examination and resolution of the allegations, and diligence in protecting the position and reputation of one who makes allegations or gives testimony in good faith.

Both the person bringing an allegation and the one against whom the allegation is made in any of the procedures described below may seek the advice of the Senate Committee on Tenure and Academic Freedom, as may any administrator. A dean, in initiating any of the procedures described below, shall advise the principals that they may seek such advice.

The University's Research Integrity Officer, who is appointed by the Chancellor, shall work closely with the relevant academic administrators, inquiry panels, and investigative boards. In consultation with the General Counsel, he/she shall ensure procedural compliance with applicable law, government regulations, University policy, and principles of fairness in each stage of the proceedings set out in this policy. Academic administrators and inquiry panels or investigative boards shall keep the Research Integrity Officer fully informed of their activities and shall consult him/her as to process before making any final recommendations or decisions. The Research Integrity Officer shall monitor compliance with all procedures and time schedules described in this policy and shall inform the Provost of any failures to comply with such time schedules. The Research Integrity Officer shall not have decision-making responsibility regarding the substance of any allegations. He or she may, at the request of a panel or administrator in a research misconduct proceeding, assist in drafting the recommendations arrived at by that panel or administrator. The Research Integrity Officer shall make or supervise all relevant contacts with government agencies or other outside parties, and shall maintain the record of all proceedings. In the case of short absences from the campus, the Research Integrity Officer may designate an Acting Research Integrity Officer.

The Provost shall have oversight responsibility to ensure compliance with the policy. Only the Research Integrity Officer or the Provost has the authority to modify the various time limits specified in the procedures. (All subsequent references to the number of days for particular stages in the process refer to calendar days.)

Even if a respondent leaves the University before a case is resolved or does not participate in the proceedings, the University has a responsibility to follow the procedures described in this policy and reach a conclusion.

This policy shall be administered in compliance with regulations of any agency (the sponsoring agency) sponsoring the research in question and shall be subject to appropriate modifications, if necessary. The full document may be accessed here:

<https://www.cfo.pitt.edu/policies/policy/11/11-01-01.html>

## University Units Supporting Research

### 1. Safety

The **University Radiation Safety Office** is responsible for ensuring that all sources of licensed radioactive material and ionizing radiation producing equipment, which fall under its responsibility, are used optimally and safely. The office also ensures that these sources of ionizing radiation are used in compliance with applicable federal and state regulations and with institutional licenses. The University of Pittsburgh Radiation Safety Program covers all of the main and regional campuses in addition to UPMC Presbyterian/Shadyside, Children's Hospital of Pittsburgh of UPMC, and Magee-Womens Hospital of UPMC.

The Radiation Safety Office is responsible for developing and implementing the policies and procedures of the radiation safety program as approved by the University's Radiation Safety Committee. The responsibilities and functions of the Radiation Safety Office include, maintenance of radioactive materials and accelerator licenses and X-Ray machine registrations, radiation safety training, personnel radiation monitoring, receipt and inventory of radioactive materials, radiation surveys and compliance audits, clinical radiation physics support, radiation safety procedure design and review, radioactive waste disposal.

Located in 3500 Fifth Avenue, Suite 400.

412-624-2728

[radsafe@pitt.edu](mailto:radsafe@pitt.edu)

The Director of Environmental Health and Safety (412-624-9505) should be consulted about proper use, storage, and disposal of hazardous materials, including bloodborne pathogens.

[Safety@ehs.pitt.edu](mailto:Safety@ehs.pitt.edu)

**IBC** - All proposals for work involving recombinant DNA or gene therapy must be submitted to the Institutional Biosafety Committee (IBC). 412-383-1768 [ibo@pitt.edu](mailto:ibo@pitt.edu).

The IBC Office is responsible for implementing policies and procedures of the IBC in order to help ensure compliance with the *NIH Guidelines for Research Involving Recombinant or Synthetic Nucleic Acid Molecules*. The office staff also provides guidance and IBC oversight support for the research community.

The IBC is the federally required review board responsible for oversight of research involving recombinant or synthetic nucleic acid molecules conducted at or sponsored by the University of Pittsburgh. The IBC oversight program covers all research at the main and regional campuses in addition to UPMC Presbyterian/Shadyside, Children's Hospital of Pittsburgh of UPMC, and Magee-Women's Hospital of UPMC.

## **2. Intellectual Property and Technology Management – Innovation Institute**

Investigators may have occasion to protect their research findings, both for themselves and for the University, through copyrights or patents. The Innovation Institute Management is the University's hub for activities that promote and foster innovation and entrepreneurship on campus and throughout the Pittsburgh region. The Innovation Institute is built on a foundation supported by education, collaboration, communication, and economic development.

The goals of the Institute are to encourage and support innovation and entrepreneurship on campus and in the community, and to foster a culture of innovation and entrepreneurship at Pitt among faculty, staff and students. <http://www.innovation.pitt.edu/>, 1<sup>st</sup> Floor Gardner Steel Conference Center, 130 Thackeray Avenue, 412-383-7670.

## **3. Office of Research**

The Office of Research (OR), a central office reporting to the Senior Vice Chancellor for Research, is charged with assisting faculty, staff, and students in their efforts to promote and secure sponsored research funding. The OR reviews, negotiates, endorses, and provides administrative oversight related to proposals and awards in accordance with all applicable laws, policies and regulations. The Vice Chancellor for Research Operations of the Office of Research serves as the designated University Officer empowered for all sponsored research activities. <http://www.research.pitt.edu/>, 412-624-7400.

## **4. Office of Research, Health Sciences**

The mission of the Office of Research, Health Sciences (OORHS), is to foster both the emerging and the established research enterprises within and across the six schools of the Health Sciences at the University of Pittsburgh. <http://oorhs.pitt.edu/>, 412-648-2232.

## **5. Office of Clinical Research**

The mission of the Office of Clinical Research, Health Sciences (OCR), is to promote the growth of clinical research within and across the six schools of the Health Sciences at the University of Pittsburgh. The OCR's mission is to facilitate promotion of an interdisciplinary collaborative environment that fosters the translation of research to the community. A successful collaborative environment will increase the institution's competitiveness for clinical and translational research initiatives, promote the development of junior clinical investigators, facilitate participant recruitment into clinical research studies, and improve health in the community by increasing access to university-based and medical system-wide clinical research. <https://www.oorhs.pitt.edu/resources/office-clinical-research-health-sciences>, 401 Scaife Hall 412-648-2332.

## 6. Recombinant DNA Office

The Pittsburgh Area Institutional Biosafety Committee (IBC) was first registered with the USG in June 1991. A decade later, the IBC was organizationally placed under the [Research Conduct and Compliance Office \(RCCO\)](#), and the committee was provided with administrative support with the establishment of the IBC office. Currently, three full-time personnel for the committee and research community, staff the IBC Office.

The IBC is charged with the following responsibilities: Review of ALL research proposals involving recombinant or synthetic nucleic acid molecules, Notifying the Principal Investigator of the outcome of review and committee recommendation(s), Determination of reducing ("Downgrade Request") or increasing the biosafety containment levels (BSL), Conducting periodic reviews ensuring compliance with the [NIH Guidelines](#), Approving emergency plans covering accidental spills and/or personnel contamination developed and recommended by University Biosafety Officer(s) and the Department of Environmental Health and Safety, Reporting significant problems or violations of the [NIH Guidelines](#) to the appropriate federal agencies, The IBC may not authorize research experiments involving recombinant or synthetic **nucleic acid molecules that are not covered by the [NIH Guidelines](#) until the NIH establishes the standard of containment, Performance of other functions as deemed necessary.**

For more information, please visit <http://www.ibc.pitt.edu/about>.  
The IBC office is located at: Hieber Building, 3500 Fifth Avenue, Suite 202.

## 7. Research Conduct and Compliance Office

The Research Conduct and Compliance Office of the University of Pittsburgh will oversee and facilitate the conduct of ethical and regulation-compliant research through an integrated system of research review, audit and educational programs. <http://www.rcco.pitt.edu/>, RCCO Learning Resource Center, 3<sup>rd</sup> Floor, Room 305 3500 Fifth Avenue.

## Diversity and Inclusion

The Office of Diversity and Inclusion (ODI) was established in 2015 to help build the University into a world-class model of diversity and inclusion defined by inclusive excellence and an environment that allows everyone to thrive.

ODI is committed to fostering diversity and celebrating differences, educating the community on the benefits of diversity, promoting equity, eliminating discrimination, and advancing equal access to all opportunities at the University.

The Division of Student Affairs is committed to supporting an equitable learning and working environment that values human dignity and quality of opportunity. We are committed to fostering a culture of inclusion in which diversity can thrive for all members within the University community. <http://www.studentaffairs.pitt.edu/dean/diversity/>.

All University Policies & Procedures are available on-line at the following web site: [www.diversity.pitt.edu](http://www.diversity.pitt.edu).

Any student, faculty or staff member who believes that they have been discriminated against or harassed has both formal and informal avenues to address the situation. For additional information or to file a complaint one can contact:

Office of Diversity and Inclusion (412) 648-7860  
2<sup>nd</sup> Floor Webster Hall, 4415 Fifth Avenue  
University of Pittsburgh

## **Title IX**

Title IX is landmark federal civil rights legislation that prohibits sex discrimination in education. Title IX includes sexual harassment, gender-based discrimination, and sexual violence. It encompasses attempted or completed rape or sexual assault, as well as sexual harassment, stalking, voyeurism, exhibitionism, verbal or physical sexuality-based threats or abuse, and intimate partner violence. The Title IX Office at Pitt is here to answer questions and assist any member of the campus community.

Title IX protects all members of the University community: students, staff and faculty from sexual or gender based misconduct, including discrimination, harassment, and assault.

For more information about Title IX, please visit their website at <https://www.titleix.pitt.edu>.

## **Drug and Alcohol Policies and Resources**

### **Drug-free Workplace/Drug-free Schools Policy**

The University of Pittsburgh prohibits the unlawful manufacture, distribution, dispensation, possession, or use of a controlled substance on University property or as part of any University activity. Faculty, staff, and students of the University must also comply with the laws of the Commonwealth of Pennsylvania on the possession and consumption of alcohol.

Violation of this policy will result in disciplinary action, including, but not limited to a warning, written reprimand, suspension (with or without pay), dismissal, expulsion, and/or mandatory participation and successful completion of a drug abuse assistance or rehabilitation program approved by an appropriate health or law enforcement agency.

Any University employee paid from federally funded grants or contracts, or any student participating in any federally funded or guaranteed Student Loan Program, must notify the University of any criminal drug statute conviction for a violation occurring at the University while engaged in University activities.

### **Information and Assistance for Alcohol And/or Drug Abuse:**

An important step in overcoming any problem is to know where to turn for assistance. Information, counseling, and treatment for alcohol and/or drug problems is available through resources in the community and costs may be covered by health care benefits. Confidential support services are available for those with abuse problems who individually pursue treatment and counseling. Some of those resources include:

**University of Pittsburgh Student Health Service**

Wellness Center  
Nordenberg Hall  
119 University Place  
Pittsburgh, PA 15260  
(412) 383-1800  
[www.studentaffairs.pitt.edu/shs/](http://www.studentaffairs.pitt.edu/shs/)

**University of Pittsburgh Counseling Center**

Wellness Center  
Nordenberg Hall  
119 University Place  
Pittsburgh, PA 15260  
(412) 648-7930  
[www.studentaffairs.pitt.edu/cc/](http://www.studentaffairs.pitt.edu/cc/)

**Gateway Rehabilitation Center**

100 Moffett Run Road  
Aliquippa, PA 15001  
800-472-1177

**Mercy Behavioral Health Center**

412 East Commons  
Pittsburgh, PA 15212  
(412) 323-4500

**Western Psychiatric Institute & Clinic**

3811 O'Hara Street  
Pittsburgh, PA 15213  
(412) 624-2100

**24-Hour Hotlines:**

- 1) Allegheny County Crisis Emergency Center 1-888-424-2287
- 2) DRUG CONNECTION: (412-854-0700)
- 3) CONTACT PITTSBURGH: (412-782-4023)

This hotline deals with all types of problems in addition to substance abuse, e.g. depression and suicide. Will also make referrals to appropriate long-term counseling services.

**Local Chapters of National Support Organizations:**

- 1) AA (Alcoholic Anonymous): (412-471-7472) 24 hours  
Both crisis and long term help for individuals with alcohol abuse problems.
- 2) NA (Narcotics Anonymous) (412-391-5247) 24 hours  
Both crisis and long term help and support for individuals with problems resulting from drug abuse other than alcohol.

**NOTE:** AA groups are often comprised of older people, while NA groups often are comprised of younger individuals and those who have mixed a lot of chemicals during their period of dependency.

- 3) AL ANON (1-800-628-8920) This is a support group for concerned families, friends and employers, etc. of alcoholics.
- 4) ALA TEEN (1-800-628-8920) Support group for teenage children of alcoholics.
- 5) OA (Overeaters Anonymous) (412-765-3004) 24 hours. Crisis and long term help and support for individuals with eating disorders.
- 6) CONTACT Pittsburgh, Inc. (412-820-HELP) - Offers immediate emotional support by telephone volunteers trained to help people of all ages who may be suicidal, in emotional distress or in need of reassurance, information or referral service.

**Additional Resources:**

Additional resources may be found in the blue pages of the telephone book under *Guide to Human Services*.

## **Graduate Student Parental Accommodation Guidelines**

**Purpose:** Consistent with the University’s efforts to strive to be inclusive and to support academic-personal life balance, the University believes it is important to provide accommodation for graduate students who become new parents, whether by childbirth or adoption, so that they may contribute to their family responsibilities while continuing to make progress towards their degree. This practice will help develop students who can successfully integrate their academic and personal pursuits. In recognition of the challenges of balancing the demands of graduate study and parenting a new child, these guidelines aim to improve the academic environment for student parents. The Graduate Student Parental Accommodation Guidelines assists graduate students immediately following the birth or adoption of a young child. The purpose of these guidelines is to make it possible for a student to maintain registered full-time student status, along with all the benefits of such status, while facilitating the return to full participation in courses, research and teaching.

**Eligibility:** The Parental Accommodation Guidelines apply only to full-time students enrolled in graduate programs who are in good academic standing and who are making satisfactory progress toward completion of a graduate degree. These guidelines do not cover students in professional programs. Students must have completed at least one full-time semester of their degree program to become eligible for coverage under these guidelines. The guidelines cover the situation of students who experience a child birth, who adopt a child who is unable to be enrolled in full-day public school due to age or other developmental reasons, or who is a partner of someone who has experienced a child birth or an adoption for whom the student has parental responsibilities. These eligibility requirements cover all provisions of the guidelines.

### **I. Parental Accommodation Period**

All eligible students will be granted a Parental Accommodation Period six weeks immediately following the birth of a child or the adoption of a child for whom the student has parental responsibilities. During this period of accommodation, the student will continue to be enrolled as a full-time student. Because the student remains enrolled as a full-time student and continues to pay tuition, this is not a formal BGSA. It is instead a modification of deadlines and academic expectations to accommodate the student’s new parental responsibilities.

The student will be able to postpone completion of course assignments, examinations, academic milestones and other academic requirements for the six-week Accommodation Period. However, the Accommodation Period does not extend the University's academic Statute of Limitations.

Because the Accommodation Period needs to be tailored to the student's individual circumstances and the timing of the student's academic responsibilities, the student should consult in advance with the program advisor, research advisor or office of student services about how the student will meet academic goals and requirements. The student is responsible for ensuring that this consultation takes place as far in advance of the Accommodation Period as possible. Students enrolled in programs characterized by sequential courses must anticipate potential consequences associated with accommodation, and in consultation with the advisor, should plan how best to complete their program following the Accommodation Period.

The student must complete the accommodation period within six weeks of the birth or adoption. The student may not divide the time period of parental accommodation for use past this time limit. If both parents are eligible graduate students, both may take the six week accommodation period. The total accommodation period for each birth or adoption is limited to six weeks; in the event of a multiple birth or adoption, the length of the accommodation period is limited to six weeks.

After the end of the Parental Accommodation Period, students are expected to return to graduate study and resume progress toward completing their degrees. Faculty are encouraged to remain flexible in their expectations of students who become new parents, so that students can meet the demands of graduate study at the same time that they face new demands in their parental roles. Nothing in these guidelines can or should replace communication and cooperation between student and advisor, and the good-faith efforts of both to accommodate the birth or adoption of a child. It is the intent of these guidelines to reinforce the importance of that cooperation and to provide support to make that accommodation possible.

Special Notice to International Students: Students who are attending the University of Pittsburgh with a F-1 student visa or J-1 Exchange Visitor visa are strongly encouraged to consult in advance with the Office of International Studies about their plans during the period of Parental Accommodation.

## **II. Student Funding During the Parental Accommodation Period**

### **A. Teaching Assistants, Teaching Fellows, Graduate Student Assistants, or Graduate Student Researchers**

With advance planning, TA, TF, GSA and GSR assignments can be adapted for modifications of schedule that new student parents need during a Parental Accommodation Period. Faculty advisors and students with TA, TF, GSA and GSR appointments are encouraged to work out the necessary adjustments preferably one semester before the anticipated birth.

**Eligible Students:** Faculty members who supervise TAs, TFs, GSAs and GSRs who assume new roles as parents (see below for accommodations for birth mothers) should offer flexibility to allow students to take advantage of the Parental Accommodation Period. During this period the students will continue to receive their stipend, benefits, and associated tuition support.

**Birth Mothers:** The situation is more difficult for mothers who give birth, and must cope with the health consequences of childbirth and recovery in addition to new parental roles. Eligible graduate students with TA, TF, GSA and GSR appointments who experience the health consequences of pregnancy will be excused from their regular duties for a period of time to be determined by a health care provider not to exceed the student's appointment period.



During this period, they will continue to receive their stipend, benefits, and associated tuition support. In most cases, students who have been funded by external grants will receive their parental accommodation stipend and benefits through their specific grant, provided that the granting agency permits such action. If the funding agency has terms and conditions which do not permit funding pursuant to this guideline, the department or school will fund the parental accommodation period.

### **B. Fellowship Recipients**

Eligible students who are supported by University of Pittsburgh fellowships will experience no change in their funding arrangements during the Parental Accommodation Period; they will continue to receive their fellowship support and benefits during the Parental Accommodation period. Eligible students who are supported by fellowships external to the University must adhere to the rules of the granting agency with respect to absences from academic and research work.

### **III. Approval**

An eligible student must submit a Request for Graduate Student Parental Accommodation, after appropriate consultation with her/his advisor, principal investigator, and graduate chair. The request, with appropriate documentation of the anticipated birth or adoption (a letter from the student's medical provider with an estimate of delivery date or from the adoption agency with an estimate of adoption date), will be submitted to the student's graduate program office for approval. **(The request form can be obtained from the Graduate Studies Office, M240 Scaife Hall)**

Any student who believes that he or she has been treated unfairly or has been denied eligibility according to these guidelines should first discuss the situation with their program advisor, research advisor or office of student services. If a resolution cannot be reached at the departmental level, the student should present the grievance to the dean for informal evaluation, adjudication, and, if necessary, advice on additional, formal grievance procedures.

## **Bloodborne Pathogens Policy**

It is the policy of the University of Pittsburgh to limit or prevent occupational or student exposure to blood and other potentially infectious materials and to provide certain treatment following any such exposure. This document serves to clarify the University program for education, prevention, post-exposure medical treatment and follow-up\* provided for employees and students who have been exposed to bloodborne pathogens as a part of workplace or other programmed activity.

\*Post-exposure medical treatment and follow-up as defined in the OSHA Standard.

<https://www.cfo.pitt.edu/policies/policy/06/06-01-03.html>

## **Building Emergency or Inclement Weather Policy for Students**

*Scenario 1: The University is closed; the School of Medicine is closed.*

*Scenario 2: The University cancels classes; the School of Medicine cancels classes.*

1. Only the Chancellor may officially close the Pittsburgh campus of the University.

2. The University will remain open in all but the most extreme circumstances. However, University employees and students are urged to use their own discretion in deciding whether they can safely commute to work.
3. When a State of Emergency is declared by the Governor or other local governing official, school personnel are expected to abide by those directives and there will be no classes.

## University Resources

### Graduate Student Resources

<http://www.gradstudents.pitt.edu/>

### Health Sciences Library System

<http://www.hsls.pitt.edu/about>

### Panther Central

<https://www.pc.pitt.edu/>

Instructions on how to get a new or replacement Panther Card (student ID) can be found here.

### Pitt's Information Technology

Accounts are automatically created for students. You can activate your University Computing Accounts through an online account activation tool at My Pitt ([my.pitt.edu](http://my.pitt.edu)). Account usernames are used as University email addresses. A University username with the *@pitt.edu* designation is the official email address for University students and employees.

All students, faculty, and staff have unlimited cloud storage space through [pitt.box.com](http://pitt.box.com) (in My Pitt).

Students are able to print documents by various means. See the info page from the IT website <http://technology.pitt.edu/service/printing>.

### Housing

When searching for housing it is common for students to use [Craigslist.org](http://craigslist.org)., rental companies as well as private owners advertise on this site. You should not wire funds to a landlord prior to a meeting and seeing the property and signing a lease agreement. Contacting current graduate students is also a reliable source of information for finding available housing. International students may also contact the Office of International Services which will connect new students coming from outside the U.S. with a current student from their home country.

Craigslist website <http://pittsburgh.craigslist.org/>

## **Student Organization Resource Center (SORC)**

833 William Pitt Union – 412-624-7115

The SORC supports the activities of Pitt's 600+ certified student organizations. It provides computer accounts, mail, fax, copy and notary service, and production support for printed materials. Student groups may obtain assistance in recruitment, financial management, facilities utilization, program planning, and community service.

The SORC also administers emergency loans of up to \$300 for educational purposes to students who are registered for six or more credits. At the heart of the SORC is the Student Activities Business Office which administers all activity fee funded organization accounts amounting to over \$1,000,000 annually.

## **Parking**

City parking permits may be obtained by city residents from the Parking Authority located at 232 Boulevard of the Allies. Permits cost \$20 per annum (check or money order) and you must supply your driver's license, vehicle registration, and proof of residency (utility bill with name and city address).

Information regarding daily parking and monthly permits is available on the University Parking, Transportation & Services website: <http://www.pts.pitt.edu/>.

Parking permits for the UPMC Towerview Garage may be available for a monthly fee. Apply in person at the UPMC Parking Operations Office.

## **Port Authority Transit (PAT)**

All University of Pittsburgh students, staff and faculty may ride all Port Authority buses, trolleys and inclines within Allegheny County FARE-FREE 24 hours a day, seven days a week, 365 days a year. All that you have to do is show the driver a valid and current Pitt ID. Family members and guests must pay the full fare.

For schedule information [www.portauthority.org/schedule-finder/](http://www.portauthority.org/schedule-finder/).

Live bus tracking can be done by using the website [www.pitlivebus.com](http://www.pitlivebus.com) to let you know exactly where the buses are up to the minute.

## **University Shuttle Services**

[www.pc.pitt.edu/transportation/routes.php](http://www.pc.pitt.edu/transportation/routes.php)

Pitt Students: Find Bus Times by Ride Systems GPS

Ride Systems GPS ([www.pittshuttles.com](http://www.pittshuttles.com)) provides transit riders with next bus times by smartphone applications. Find stops and scheduled arrival times for your desired route.

## **Smartphone Apps For iPhone & Android OS**

- Download our GPS App for your Apple or Android Phone
- Search "Ride Systems" in your App Store or Market
- Select "University of Pittsburgh"
- Select "route" tab
- Select "Arrival" tab for times

## **SafeRider**

SafeRider provides complimentary transportation during the evening and early morning hours when special, nonemergency needs arise for students, faculty, and staff.

Call 412-648-CALL (2255) for your safe ride.

## **Shuttle Service For Passengers With Disabilities**

Transportation arrangements for passengers with disabilities may be made by contacting 412-648-7890. A van with a wheelchair/cart lift and standard passenger seating operates between the hours of 8:30 a.m. and 7:00 p.m. Monday through Sunday when classes are in session. The On-Call shuttle is also equipped with the wheelchair/cart lift service and is available after 7:00 p.m.

## **Dining Facilities**

Students may purchase meals within the Medical Center at the Presbyterian Hospital Cafeteria on the 11th floor of Scaife Hall or the Montefiore Cafeteria on the 4<sup>th</sup> floor of Montefiore Hospital.

## **Lost and Found**

Lost and Found for all of Scaife Hall is located in the UPMC Security Office. Anyone finding or losing an item in Scaife Hall may check there during office hours.

## **University Store on Fifth**

[www.pittuniversitystore.com/](http://www.pittuniversitystore.com/)

4000 Fifth Avenue

412-648-1455

Shop here to purchase textbooks, technology, clothing, supplies, etc.

## **Bicycle Racks**

There are bicycle racks on the second and fourth floor entrances to Scaife Hall, the fifth floor of the Biomedical Science Tower Parking Garage, and the bottom level of the School of Public Health parking garage. You may register your bicycle with the Parking Office by calling 624-4034, or emailing them at [parking@bc.pitt.edu](mailto:parking@bc.pitt.edu)

## **Healthy Ride**

Healthy Ride is the latest mode of transit in Pittsburgh, PA. With 50 stations and 500 bikes to rent, located throughout the city, Healthy Ride provides affordable active transportation options for all! Healthy Ride takes advantage of the latest advances in technology and policy in order to create a system that is convenient, affordable, and fun. <https://healthyridepgh.com/>

**Notary Public**

William Pitt Union, Room 833

Phone: 412-624-7115

Students may have documents notarized for a fee, by a notary public in the William Pitt Union.

**News Publications**

PITTWIRE <https://www.pittwire.pitt.edu/>

*Pittwire* is the University of Pittsburgh's official news service, highlighting stories about Pitt that are of broad public interest.

THE PITT NEWS <http://pittnews.com/>

The *Pitt News* is published by undergraduate students and contains campus news, features, sports, TV listings, calendar of events and classified ads. It is distributed three times a week in the Summer and daily in the Fall & Spring Terms.

THE UNIVERSITY TIMES <http://www.utimes.pitt.edu/>

The *University Times* is the publication of record for the major policy-making and influencing bodies of the University. It carries news of the campus as well as off-campus news which might have a bearing on University policy. The *Times* is published bi-monthly during the academic year by the Department of News and Publications and is staffed by permanent university employees. These newspapers, all of which are free can be found in stacks throughout the University. The most convenient spot to pick up these newspapers is in the fourth floor lobby of Scaife Hall.

**Athletic Facilities**

Pitt has well-equipped athletic facilities for use by students. Various fitness centers are available to you with your student ID. For facilities and hours of operation see the Student Affairs website.

<http://www.studentaffairs.pitt.edu/ir/facilities-and-hours/>

**Petersen Events Center**

The John M. and Gertrude E. Petersen Events Center provides unprecedented recreational opportunities for University of Pittsburgh students. From Pitt Panthers Division I basketball, to space for concerts, commencement, and other sports, the Petersen Events Center has it all.

<http://web-smg.athletics.pitt.edu/directions.html>

**Intramural Sports**

The intramural program is very active. The medical school competes in the Graduate/Faculty, Women's, or Independent Divisions, in the past having fielded teams in soccer, softball, basketball, women's basketball, football, co-ed volleyball, and other sports. To enter intramural competition sports, a team member should create an account and register at [www.imleagues.com](http://www.imleagues.com); please use your Pitt email address when signing up.

**Student Health Service**

Nordenberg Hall - Wellness Center

119 University Place

412-383-1800

<https://www.studentaffairs.pitt.edu/shs/>

### Business Hours

Fall and Spring Terms:

Monday, Wednesday & Thursday - 8:30 a.m.-7:00 p.m.

Tuesday & Friday - 8:30 a.m.-5:00 p.m.

Saturday - 10:00 a.m.-3:00 p.m.

Summer Term (May thru Aug.): Monday – Friday, 8:30 a.m.-5:00 p.m.

### **University Counseling Center**

Nordenberg Hall - Wellness Center

119 University Place

412-648-7930

<https://www.studentaffairs.pitt.edu/cc/>

### **Allegheny County Health Department**

542 Fourth Ave.

Pittsburgh, PA 15219

412-687-2243

<https://www.alleghenycounty.us/healthdepartment/index.aspx>

Free health-related screenings and immunizations are offered at the Allegheny County Health Department.