## BGS 2016 Orientation Slides

<table>
<thead>
<tr>
<th>Title</th>
<th>Slides</th>
</tr>
</thead>
<tbody>
<tr>
<td>Campus Health</td>
<td>2-9</td>
</tr>
<tr>
<td>CAPS</td>
<td>10</td>
</tr>
<tr>
<td>Dave Manning RCR</td>
<td>11-31</td>
</tr>
<tr>
<td>Dave Manning Career Info</td>
<td>32-48</td>
</tr>
<tr>
<td>Division of Public Safety</td>
<td>49-53</td>
</tr>
<tr>
<td>EE Just Biomedical Society</td>
<td>54-62</td>
</tr>
<tr>
<td>Environmental Health Certificate Program</td>
<td>63-69</td>
</tr>
<tr>
<td>GTMS Certificate Program</td>
<td>70-76</td>
</tr>
<tr>
<td>Jen Myers Surviving Grad School</td>
<td>77-101</td>
</tr>
<tr>
<td>Mike Nusbaum Welcome</td>
<td>102-107</td>
</tr>
<tr>
<td>Mike Nusbaum Intro to Grad School</td>
<td>108-135</td>
</tr>
<tr>
<td>PBG Healthcare Consulting</td>
<td>136-142</td>
</tr>
<tr>
<td>Penn Science Policy Group</td>
<td>143</td>
</tr>
<tr>
<td>PGWise Group</td>
<td>144-152</td>
</tr>
<tr>
<td>Public Health Certificate Program</td>
<td>153-159</td>
</tr>
<tr>
<td>Weingarten Center</td>
<td>160-173</td>
</tr>
</tbody>
</table>
Campus Health and Student Health Service

Ashlee Halbritter
Director, Campus Health
Compliance

University Insurance Requirement

• All full-time, dissertation, or exchange students
• Students can use their own insurance plans BUT.......
  – It must meet requirements
  – Students must fill out and submit a waiver request
  – Students must enroll/waive the PSIP plan each academic year that you chose to use your own insurance
• Dependents are not default enrolled
  – Enrollment for dependent coverage is completed on Aetna Student Health’s website at
    www.aetnastudenthealth.com
  – DUE August 31st
Compliance

1. Login with your Pennkey and Password
2. Click on either Waiver or Enrollment

Enrollment/Waiver Application Site

All full-time, dissertation, and exchange students enrolled for a semester or more must have comprehensive health insurance. You may waive enrollment in the Penn Student Insurance Plan (PSIP) only if your plan meets the minimum criteria.

ATTENTION LAUDER PROGRAM STUDENTS

Lauder program students do not have to meet these requirements for the summer session. However, when submitting a waiver request in the fall, Lauder program students will need to carry health coverage that meets these criteria.

REQUEST A WAIVER

Ensure your waiver request is complete and that the benefits meet these criteria:

- Licensed to do business in the U.S.
- Provides coverage for pre-existing conditions
- Offers an annual maximum benefit of at least $2,000,000
- Provides for inpatient and outpatient medical care in Philadelphia
- Provides for inpatient and outpatient mental health care
- Does not limit coverage in Philadelphia to just emergency or urgent medical or mental health care

LEARN MORE ABOUT THE WAIVER

ENROLL IN PSIP

Student Health Insurance is available to students who do not have health insurance, whose current health plan does not meet the minimum criteria, or whose current health plan does not provide coverage in Philadelphia.

Student Rate 2015-2016: Summer - $820

LEARN MORE ABOUT THE PENN PLAN
Compliance

University Immunization Requirements

- **Hepatitis B**
  - 3 doses OR a positive titer

- **Varicella (Chicken Pox)**
  - 2 doses OR a positive titer OR documented history of disease

- **Tetanus-Diphtheria-Pertussis (Tdap)**
  - one dose since 2005
  - AND TD if >10 years since Tdap

- **Meningococcal**
  - If living on campus, 1 dose since 16 years of age
Compliance

University Immunization Requirements

- Measles, Mumps, Rubella (MMR)
  - 2 doses OR positive titer
- Tuberculosis Screening (if indicated)
- Influenza (recommended)
  - October 25, 26 and 27th
  - Houston Hall, Bodek Lounge 11am-7:30pm
Campus Health

BE WELL
Stress Reduction

BREATHE WELL
Smoking Cessation

BIKE WELL
Bicycle Safety

EAT WELL
Nutrition

FLU CLINIC
Get Vaccinated

MOVE WELL
Exercise & Fitness

SEX WELL
Sexual Wellness

DISEASE PREVENTION
Updates

SLEEP WELL
Sleep Hygiene
Questions?

Contact:
ashleeh@upenn.edu

@healthypenn
CAPS
COUNSELING AND PSYCHOLOGICAL SERVICES
3624 Market St
215-898-7021
FREE & CONFIDENTIAL
William Alexander, Ph.D., Director
RESPONSIBLE CONDUCT OF RESEARCH (RCR)

BIOMEDICAL GRADUATE STUDIES

David R. Manning, PhD
Professor, Systems Pharmacology and Translational Therapeutics
Director, Training Support and Career Development, BGS
From: ORI Introduction to the Responsible Conduct of Research
RESPONSIBLE CONDUCT OF RESEARCH IS...

...A code of ethics and procedures that emanate from this code, as applied to scientific endeavor!
RESPONSIBLE CONDUCT OF RESEARCH
- A STATEMENT OF VALUES

✓ HONESTY — conveying information truthfully and honoring commitments,

✓ ACCURACY — reporting findings precisely and taking care to avoid errors

✓ EFFICIENCY — using resources wisely and avoiding waste, and

✓ OBJECTIVITY — letting the facts speak for themselves and avoiding improper bias

From: ORI Introduction to the Responsible Conduct of Research
RESPONSIBLE CONDUCT OF RESEARCH: SOME IMPORTANT AREAS

- Acquisition and Management of Data
- Collaborative Science
- Conflicts of Interest and Time
- Mentoring
- Peer Review
- Research Misconduct
- Responsible Authorship and Publication
- Scientists as Responsible Members of Society
- Use of Animals in Research
- Use of Humans in Research
RESPONSIBLE CONDUCT OF RESEARCH: SOME IMPORTANT AREAS

- Acquisition and Management of Data
- Collaborative Science
- Conflicts of Interest and Time
- Mentoring
- Peer Review
- Research Misconduct
- Responsible Authorship and Publication
- Scientists as Responsible Members of Society
- Use of Animals in Research
- Use of Humans in Research
TRAINING IN RCR

- NIH requires training in RCR.
- BGS meets requirements for training through the following mechanisms:
  - On-line instruction in Years 1–4 via KnowledgeLink
  - Case study-based workshops in Years 2–4
    - Year 2: Research misconduct and data management
    - Year 3: Mentor/mentee relationships, collaborative science, animal and human subjects
    - Year 4: Conflict of interest, responsible authorship/publication, peer review
  - RCR-focused lab meetings (formally) in Years 3–5
TRAINING IN RIGOROUS EXPERIMENTAL DESIGN AND TRANSPARENCY

• Closely related to RCR but considered distinct
• NIH requires this training.
• BGS meets requirements for training through the following mechanisms:
  • BIOM 611 in Year 1 – ‘Statistical Methods in Experimental Design and Analysis’
  • Lecture in Year 2 – ‘Resource Authentication and Transparency’
  • Candidacy exam in Year 2 – satisfactory incorporation of elements of premise, experimental design, variables, and resources into research proposal
  • Experimental design/transparency-focused lab meetings in (formally) Years 3–5
SPECIFIC RCR GUIDANCE: A FOCUS ON THE 1ST YEAR

• **Website:**
  - http://www.med.upenn.edu/bgs/rcr.shtml

• **Who in BGS can help:**
  - Anne-Cara Apple (annecara@mail.med.upenn.edu)

• **Do now:**
  - Read chapter 5, *At the Bench*.
  - Read through definitions of RCR topics in the BGS handbook Responsible Conduct of Research (download from above website).

• **Complete by the end of the year:**
  - The on-line course Responsible Conduct of Research BGS 1st Year (via KnowledgeLink; we keep track!)
RESPONSIBLE CONDUCT OF RESEARCH: SOME IMPORTANT AREAS

- Acquisition and Management of Data
- Collaborative Science
- Conflicts of Interest and Time
- Mentoring
- Peer Review
- Research Misconduct
- Responsible Authorship and Publication
- Scientists as Responsible Members of Society
- Use of Animals in Research
- Use of Humans in Research
book and page numbers
make indexing your work easier,
just enter the page title and number
in the table of contents

sign and date each entry
using a consistent format
and legible writing for each date,
also have each entry signed
and dated by a witness

pages that are sewn
together are tamper evident

initial and date each insert both on and over
the edge of the insert
to discourage removal
It is imperative to keep a good lab notebook. A good notebook provides:

- A **detailed, day-by-day accounting** of how experiments were performed, which is essential to you and to your principal investigator;
- An **infallible repository of data** for reports, manuscripts, and so on;
- A **means of authentication** of work by outside parties;
- A **record of action** in the event of allegations of research misconduct or other problems;
- And a **record of ownership** of legal claims related to patent and copyrights.

See *Responsible Conduct of Research* (Shamoo & Resnick)
Some guidelines:

- Entries should be made on a daily basis, in chronological order, and dated. No page should be skipped.
- Entries should be clear and legible. They should be made with permanent, non-erasable ink.
- Entries for single experiment should include date, purpose, materials, protocol, results, discussion, and next steps.
- If word-processing is used in place of handwritten entries, printouts should be affixed permanently to pages of the notebook. Printouts from other software programs should be treated likewise.
- If data are deposited in files, physical or electronic, provide clear identification of location in the notebook.

See Responsible Conduct of Research (Shamoo & Resnick) and Scientific Integrity (Macrina)
And finally – very important – **know to**: 

- Document **everything** – you cannot remember it all.
- Document everything **ASAP** – acts and details kept ‘in your head’ are quickly lost.
- Document everything whether it’s ‘good’ or ‘bad’, ‘right’ or ‘wrong’. **Omitting data is dishonest**
- If data are discarded in a subsequent analysis, clearly note the reason for it. Not infrequently this will require statistical validation.
RESEARCH MISCONDUCT

Research misconduct is defined as fabrication, falsification, plagiarism, or other serious deviation from accepted practices in...

- Proposing
- Performing
- Reviewing
- Reporting

...research or research results.
RESEARCH MISCONDUCT CAUSES SERIOUS HARM

- It undermines efforts by scientists to replicate and build sensibly on scientific results.
- It undermines the credibility of the scientific process itself within and beyond the scientific community.
RESEARCH MISCONDUCT: SOME OF THE DETAILS

• Fabrication
  • making up data or results and recording or reporting them

• Falsification
  • manipulating research materials, equipment, or processes
  • changing or omitting data or results such that the research is not accurately represented in the research record
  • includes published material, presentations at conferences, lab group meetings, lab notebooks, etc.

• Plagiarism
  • appropriation of another person's ideas, processes, or results, or works without giving appropriate credit
    • Even internet sources need to be cited.

• Serious deviation from accepted practices
  • includes but is not limited to stealing, destroying, or damaging the research property of others with the intent to alter the research record;
  • directing or encouraging others to engage in fabrication, falsification or plagiarism.
WHAT IS NOT RESEARCH MISCONDUCT?

Research misconduct is not:

• An honest mistake, with no intention of deception.

• A difference of opinion or different interpretation of experimental data
Mike is a 4th-year graduate student whose work is coming along well. But time is pressing, and he’s nervous that the minor data aren’t falling into place, specifically that a few of the controls he knows should work are not working. It’s a matter of time, he thinks, and doesn’t want to bother his advisor or thesis committee with what are really just details. When asked about the controls at a lab meeting, Mike says he’s done them, and that they’ve worked. The advisor is happy that everything is in place and asks that the all the experiments now be incorporated into a poster presentation for a meeting in two weeks. Mike does so, but doesn’t incorporate the (nonexistent) controls. At the meeting, moreover, Mike intentionally steers interested investigators away from any requests for these controls. When Mike returns, he finds that the advisor has incorporated his data into a manuscript just submitted to a journal, with the controls mentioned in the text. It’s time to fess up, Mike realizes, and he does. The advisor requests that the journal’s editorial staff return the manuscript. He asks to review Mike’s notebook, which to his relief he finds doesn’t contain falsified entries. He sits Mike down for a very long conversation regarding research misconduct. Mike returns to work, not entirely happy, but at least his transgressions didn’t go further.

1. Did Mike commit research misconduct? If so, when? If not, why?
2. Were (all) the actions of his advisor correct?
3. What is the sequence of reporting events, if used?
BGS Policies:
- Expectations of Students in Biomedical Graduate Studies
- Responsible Conduct of Research
- Compact Between Students and Research Advisers (AAMC)
- Authorship Policy

University Policies
- Academic integrity
- Procedures Regarding Misconduct in Research for Non-faculty
- Members of Penn
- Sexual Harassment Policy
- Consensual Sexual Relations Between Faculty and Students
CAREER INFORMATION

BIOMEDICAL GRADUATE STUDIES

David R. Manning, PhD
Professor, Systems Pharmacology and Translational Therapeutics
Director, Training Support and Career Development, BGS
BREAKDOWN (APPROXIMATE) OF BGS ALUMS ACCORDING TO PROFESSION

(2002–2011 Grads)

PhD Training

Postdoctoral Training

65% Scientific research-intensive Professions

35% Other (allied) Professions
**CAREER PATHS FOR THOSE WITH A PHD IN THE BIOMEDICAL SCIENCES**

<table>
<thead>
<tr>
<th><strong>Research</strong></th>
<th><strong>Policy</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic</td>
<td>Government</td>
</tr>
<tr>
<td>Industry/Biotech/Private</td>
<td>Industry</td>
</tr>
<tr>
<td>Government</td>
<td>Non-profit</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Clinical Care</strong></th>
<th><strong>Teaching</strong></th>
<th><strong>Communication</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>University</td>
<td>Medical Writing</td>
</tr>
<tr>
<td></td>
<td>Primarily Undergraduate Institutions</td>
<td>Science Writing/Journalism</td>
</tr>
<tr>
<td></td>
<td>Community College</td>
<td>Public Relations</td>
</tr>
<tr>
<td></td>
<td>K–12</td>
<td>Publishing</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Public Health</strong></th>
<th><strong>Commercial Development</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Consulting</td>
</tr>
<tr>
<td></td>
<td>Commercialization</td>
</tr>
<tr>
<td></td>
<td>Entrepreneurship</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Law/Regulatory Affairs</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Patent Law</td>
</tr>
<tr>
<td>Grants Management</td>
</tr>
<tr>
<td>Tech Transfer</td>
</tr>
</tbody>
</table>
WHAT PHD TRAINING PROVIDES IN RELATION TO CAREER SUCCESS

**PhD Training**

- **Skills**
  - *absolute requirements* in any form of research-intensive scientific endeavor
- **Traits**
  - *highly sought* in a variety of other enterprises.
### SKILLS IMPLIED BY ATTAINING A PHD IN BIOMEDICAL SCIENCES

<table>
<thead>
<tr>
<th>Critical Thinking</th>
<th>Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acquiring and processing of information</td>
<td>Time management</td>
</tr>
<tr>
<td>Gauging evidence and arguments</td>
<td>Project management</td>
</tr>
<tr>
<td>Recognizing assumptions</td>
<td>Mentorship</td>
</tr>
<tr>
<td>Recognizing logical relationships</td>
<td>Leading and motivating others</td>
</tr>
<tr>
<td>Drawing warranted conclusions</td>
<td>Networking</td>
</tr>
<tr>
<td>Competence in Mathematical and Computational Practices</td>
<td>Conflict management</td>
</tr>
<tr>
<td>Mathematical reasoning</td>
<td>Work ethic; work/life balance</td>
</tr>
<tr>
<td>Statistical inference</td>
<td></td>
</tr>
<tr>
<td>Systems-level modeling</td>
<td></td>
</tr>
<tr>
<td>Proficiency in Experimental Design</td>
<td>Communication</td>
</tr>
<tr>
<td>Articulating a scientific premise</td>
<td>Clarity, precision, and intent</td>
</tr>
<tr>
<td>Developing a hypothesis</td>
<td>Effective listening and feedback</td>
</tr>
<tr>
<td>Testing hypotheses/Protocol design</td>
<td>Manuscripts</td>
</tr>
<tr>
<td>Reagent validation/Troubleshooting</td>
<td>Grant applications</td>
</tr>
<tr>
<td>Data management</td>
<td>Posters/multimedia</td>
</tr>
<tr>
<td></td>
<td>Speaking to a scientific audience</td>
</tr>
<tr>
<td></td>
<td>Speaking to a lay audience</td>
</tr>
</tbody>
</table>
TRAITS IMPLIED BY ATTAINING A PHD IN BIOMEDICAL SCIENCE

- Persistence; resilience
- Curiosity; a desire for answers, and for the hunt
- Creativity; imagination
- Capacity to balance receptivity and skepticism
- Focus
- Self-motivation
- Competitiveness
- High-level work-ethic

Adapted from Emotional Competency
ALL THE PIECES, IN THE RIGHT MIX

- Skills
- Traits
- Interests
- Values
Focus on cultivating the competencies, i.e. the skills and traits, required to do great \textit{SCIENCE}!
ELEMENTS OF CAREER PREPARATION AND EXPLORATION

- **Focus on developing and/or cultivating research-specific skills and traits.**
- Individual development plans (IDPs).
- Mechanisms of exploration:
  - Career Services
  - Center for Teaching and Learning
  - Penn Center for Innovation
  - Student Groups
  - BGS Certificate programs
  - Course offerings beyond BGS
  - Graduate group and training grant-specific career workshops
  - Mentors
ELEMENTS OF CAREER PREPARATION AND EXPLORATION

• Focus on developing and/or cultivating research-specific skills and traits.

• *Individual development plans (IDPs).*

• Mechanisms of exploration:
  • Career Services
  • Center for Teaching and Learning
  • Penn Center for Innovation
  • Student Groups
  • BGS Certificate programs
  • Course offerings beyond BGS
  • Graduate group and training grant-specific career workshops
  • Mentors
INDIVIDUAL DEVELOPMENT PLAN

• **Goals of an IDP:**
  - To help design, monitor, and measure progress in training.
  - To identify both short- and long-term objectives and professional development activities needed to reach them.
  - To ensure students and mentors are communicating openly with regard to training and objectives.

• **IDPs are (currently) staged according to pre-thesis and thesis levels.**

• **IDPs are required.**
ELEMENTS OF CAREER PREPARATION AND EXPLORATION

• Focus on developing and/or cultivating research-specific skills and traits.
• Individual development plans (IDPs).
• **Mechanisms of exploration:**
  • Career Services
  • Center for Teaching and Learning
  • Penn Center for Innovation
  • Student Groups
  • BGS Certificate programs
  • Course offerings beyond BGS
  • Graduate group and training grant-specific career workshops
  • Mentors
EXPLORATION OPTIONS

- **Career Services** programming: career workshops, Biomed Career Fair, etc.
- **Center for Teaching and Learning**: CTL Teaching Certificate
- **Penn Center for Innovation**: PCI Fellows Program
- **Student groups**:
  - EE Just Biomedical Society
  - Biomedical Graduate Student Association
  - Penn Biotech Group Healthcare Consulting
  - Penn Science Policy Group
  - Penn Science Diplomacy
  - Penn Graduate Women in Science & Engineering
EXPLORATION OPTIONS, CONT’D

• **BGS Certificate programs:**
  - Graduate Training in Medical Sciences
  - Public Health Certification Program
  - Environmental Health Sciences Program
  - Certificate in Translational research

• **Non-BGS course offerings**

• **Graduate group- and training grant-specific career workshops**

• **Interactions with mentors: graduate group chair, thesis advisor, thesis committee**
ELEMENTS OF CAREER PREPARATION AND EXPLORATION

• Focus on developing and/or cultivating research-specific skills and traits.
• Individual development plans (IDPs).
• Mechanisms of exploration:
  • Career Services
  • Center for Teaching and Learning
  • Penn Center for Innovation
  • Student Groups
  • BGS Certificate programs
  • Course offerings beyond BGS
  • Graduate group and training grant-specific career workshops
  • Mentors
CAREER SERVICES

• Programming: career workshops, Biomed Career Fair, etc.

• Job search support:
  • Biomedical job list serve
  • Workshops in CV and résumé preparation and interviewing
  • One-on-one career advising
  • Network of alumni who are willing to talk with current students about opportunities
Our greatest hope is that you leverage your PhD training to have the greatest possible impact on society – *whatever* the career path – cognizant of the skills and traits that make this achievable.
IMPORTANT NUMBERS

Emergency
215-573-3333

Walk
215-898-9255 (walk)

Ride
215-898-7433 (ride)
Penn Patrol Zone

Penn Patrol Zone
Boundaries:

30th Street to 43rd Street

and

Market Street to Baltimore Avenue

Walking Escort Services provided by Public Safety

Available 24 hours a day, 365 days a year, between 30th to 43rd Streets and Market Street to Baltimore Avenue. Escorts are also available from 10:00am until 3:00am between 30th & 50th and Spring Garden Street to Woodland Avenue. (SEAMLESS handoff to the UCD)

- How to Request a Walking Escort:
  - Ask any Public Safety Officer on patrol or inside a building
  - Call 215-898-WALK(9255) or 511 (from campus phone)
  - Use one of the many building and blue-light phones located on and off Penn's Campus

http://www.publicsafety.upenn.edu
Technology

- Emergency Blue Light Phones
  - 400+ cellular & hardwired phones on campus at major intersections, on buildings, in garages and elevators.
  - Directly connected to PennComm Dispatchers

- Closed-Circuit Television Cameras (CCTV):
  - 125+ Pan-Tilt-Zoom throughout Penn Patrol Zone
  - Hundreds of fixed cameras

- 800+ Electronic Access Control Card Readers

- 1300+ Duress Alarms

- Network of Burglar Alarms for intrusion detection
The Department of Special Services offers emotional support, guidance and options counseling to any Penn affiliate who is a victim of a sensitive crime, such as, rape, sexual assault, relationship or domestic violence, harassment and stalking.

- **Contact Special Services for:**
  - Victim and/or survivor support
  - Advocacy and/or crisis intervention
  - Anonymous reporting
  - Sensitive crime investigations
  - Information on RAD self defense courses

- **How to Contact Special Services**
  - You can reach Special Services 24/7, by dialing 215-898-4481 or 215-898-6600 (after business hours)
FOSTERING THE PROFESSIONAL DEVELOPMENT OF POPULATION BIOMEDICAL GRADUATE STUDENTS FROM POPULATIONS THAT ARE TRADITIONALLY UNDERREPRESENTED IN THE BIOMEDICAL SCIENCES.

Presented By:
Brenda Salantes
UPenn EE Just President (2015-16)
BGS New Student Welcome
Aug 29, 2016
EE Just is an Inclusive and Diverse Graduate School Community
EE Just Initiatives

• Academic/Professional
• Social
• Advocacy

EE Just Fall/Spring Seminar Series
EE Just Initiatives

• Academic/Professional

• Social

• Advocacy
EE Just Initiatives

- Academic/Professional
- Social
- Advocacy

#WeStandWithMizzou Solidarity Meeting
EE Just Initiatives

- Academic/Professional
  - Recruitment of underrepresented minorities to BGS and EE Just

- Social

- Advocacy
  - Community Outreach/Science Advocacy
On and Off Campus Recruitment Activities
Science Advocacy & Community Outreach
Fostering an environment for success!

Follow Us!

@UPennEEJust
www.upenneejust.com
How to Apply
The Certificate Program in Environmental Health Sciences (EHS) is a full-time training program offered by the Office of Biomedical Graduate Studies (OBGS). Students who apply for any OBGS PhD program are eligible to apply to the program.

Matriculants receive a fully-funded fellowship including tuition, fees, health insurance, and a competitive stipend regardless of financial need. The training and research base for the EHS Program is the Center of Excellence in Environmental Toxicology (CEET) which is supported by the National Institute of Environmental Health Sciences (NIEHS).

Curriculum
Students take specialized courses in addition to their graduate group requirements and receive a PhD from their graduate group and a Certificate in Environmental Health Sciences. Course work covers molecular toxicology, epidemiology, biostatistics, genome science and occupational and environmental health. All students must complete three laboratory rotations one of which must be a community or population-based research project. Students are expected to attend the CEET seminar series and the annual CEET symposium. Completion of this sequence is sufficient to graduate with the Certificate. Thereafter, students conduct their thesis research (typically three years) to graduate with the PhD degree.

Training Grant Support
Graduate students who complete one year of the Certificate Program and elect to conduct thesis research in the area of environmental health sciences are eligible for additional support from an institutional training grant (T32): “Translational Research Training Program in Environmental Health Sciences” (T32-ES019851).

http://ceet.upenn.edu

For more information
Center of Excellence in Environmental Toxicology
Perelman School of Medicine at the University of Pennsylvania
1316 Biomedical Research Building (BRB) II/III
421 Curie Boulevard
Philadelphia, PA 19104-6160
(215) 746-3030
ceet@mail.med.upenn.edu
http://ceet.upenn.edu

Office of Biomedical Graduate Studies
Perelman School of Medicine at the University of Pennsylvania
160 Biomedical Research Building (BRB) II/III
421 Curie Boulevard
Philadelphia, PA 19104-6064
(215) 898-1030
www.med.upenn.edu/bgs/
To provide training in the link......

Environmental Exposures

Molecular/Cellular Effect

Prevention Intervention Treatment

Community Outreach

Diseases with Environmental Etiology

..........to prepare for careers in EHS
Exposures and Human Health

- Fossil Fuel Combustion & Airway Disease
- Cigarette Smoke & Lung Cancer & E-Cigarettes
- Endocrine Disrupting Chemicals
- Lead Poisoning & Cognition
- Pesticides & Parkinson’s Disease
Certificate Program in Environmental Health Sciences

- Experimental Genome Science (Fall 1st Yr)
- Cell Biology & Biochemistry (Fall 1st Yr) - BGS req
- Molecular Toxicology (Spring 1st Yr)
- Biological Data Analysis (Spring 1st Yr) - BGS req
- Introductory Epidemiology (Summer 1st Yr)
- Occupational and Environmental Medicine (Fall 2nd Yr)
- CEET-Seminar Series and Symposium
- Research in Progress Monthly Meeting
- Teen Research & Education in Environmental Science (TREES)
- Course Requirements for DABT
- T32 Training Grant in EHS (T32-ES019851)
- Three Rotations one EHS – Community Based Environmental Health (45 faculty across BGS)
Interdisciplinary Superfund Research Training Program

- Cross Training in Environmental Sciences (SAS) and Environmental Health Sciences (PSOM)
- Focus on remediation of hazardous waste and adverse health effects (EPA, ATSDR, NTP)
- Introduction to Superfund Sites-PHRM 627 (Fall 1st Yr)
- Research Methods Course-ENVS 533 (Spring 1st Yr)
- Summer Rotation-Field Work or Capstone Project In Ambler Community
- Participation in SRP Research in Progress
- NIEHS SRP Webinar Series
- Externships at US EPA and ATSDR

(“Asbestos, Fate, Exposure, Remediation and Adverse Health Effects”-P42-ES023720)
“natural insecticides from Marigolds” - Mazillum Islami

“testing biodegradable plastics” - Shaneka Dixon

“biodegradable fuels” - Maya Lindsay

“skin protection from UV light using sunscreens” - Aisha Maity

“carbon capture technologies” - Arianne

“arsenic remediation” - Diane Da Hei Ku
How to apply?

Certificate Program in Environmental Health Sciences

- webster@upenn.edu

Interdisciplinary Superfund Research Training Program

- asbestos@upenn.edu
- cshwed@exchange.upenn.edu

http://ceet.upenn.edu/home
Graduate Training in Medical Science

GTMS Program Directors
John P. Lynch, M.D., Ph.D.
Associate Professor of Medicine
lynchj@mail.med.upenn.edu

Hao Shen, Ph.D.
Associate Professor of Microbiology
hshen@mail.med.upenn.edu

GTMS Program Administrator
Anne-Cara Apple
annecara@mail.med.upenn.edu
Graduate Training in Medical Sciences

• Philosophy and Goals of the program

• Originally an HHMI program designed to encourage translational research careers in traditionally-trained PhD biomedical research candidates

• It was recognized that having a textbook understanding of biology is not enough for successful translational scientists.
  • Also relies on an understanding of how to work effectively with clinicians
  • How to identify what problems matter most to medical professionals.
  • An understanding of the language and art of medicine
Graduate Training in Medical Sciences

- Four primary components of the certificate program
- Suggested curriculum that is complimentary to the CAMB requirements
- Monthly Seminar series covering topics not routinely discussed in graduate training programs
- A clinical/translational experience (40 hours)
- Annual multi-center symposium
Graduate Training in Medical Sciences

- Suggested curriculum that is complimentary to the CAMB requirements

- GTMS program currently consists of 6 courses (4 required and 2 electives)

- [http://www.med.upenn.edu/gtms/curriculum.html](http://www.med.upenn.edu/gtms/curriculum.html)
  - BIOM 600: Cell Biology
  - CAMB 510: Immunology for CAMB – OR – GCB 535: Bioinformatics
  - CAMB 532: Human Physiology
  - CAMB 502: Molecular Basis of Disease
Graduate Training in Medical Sciences

- Monthly Seminar series covering topics not routinely discussed in graduate training programs
  - Biotech start-ups
  - Bioethics and human subjects research
  - Medical case conferences
  - Technology transfer and intellectual property
  - How Pharma conducts large trials
Graduate Training in Medical Sciences

- A clinical/translational experience (40 hours)
  - Student designed
  - Broad range of opportunities

- Annual multi-center symposium
  - Originally a HHMI program, and most centers have continued on supporting similar certificate programs
  - Annual symposium run by students at one of four centers (Cornell, Yale, Harvard, and Penn)
Questions?

- http://www.med.upenn.edu/gtms/index.html

Current Students

<table>
<thead>
<tr>
<th>Name</th>
<th>Graduate Group</th>
<th>Year</th>
<th>Email</th>
<th>Thesis Topic or Interest</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dirk Auman</td>
<td>BMB</td>
<td>1</td>
<td><a href="mailto:auman@mail.med.upenn.edu">auman@mail.med.upenn.edu</a></td>
<td>Protein engineering and targeted therapeutics</td>
</tr>
<tr>
<td>Analise Grunewald</td>
<td>NGG</td>
<td>1</td>
<td><a href="mailto:agruen@mail.med.upenn.edu">agruen@mail.med.upenn.edu</a></td>
<td></td>
</tr>
<tr>
<td>Claudia Lanauze</td>
<td>CAMB CBG</td>
<td>1</td>
<td><a href="mailto:clana@mail.med.upenn.edu">clana@mail.med.upenn.edu</a></td>
<td>Pharmacogenetics and psychiatry</td>
</tr>
<tr>
<td>Dylan Marchione</td>
<td>PHRM</td>
<td>1</td>
<td><a href="mailto:dyma@mail.med.upenn.edu">dyma@mail.med.upenn.edu</a></td>
<td></td>
</tr>
<tr>
<td>Robert Norgard</td>
<td>CAMB CBG</td>
<td>1</td>
<td><a href="mailto:morgard@mail.med.upenn.edu">morgard@mail.med.upenn.edu</a></td>
<td>Tumor microenvironment</td>
</tr>
<tr>
<td>Izmire</td>
<td>PHRM</td>
<td>1</td>
<td><a href="mailto:ipov@mail.med.upenn.edu">ipov@mail.med.upenn.edu</a></td>
<td>Targeted drug delivery</td>
</tr>
<tr>
<td>Poventud-Fuentes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emily Fernandez</td>
<td>NGG</td>
<td>1</td>
<td><a href="mailto:fermi@mail.med.upenn.edu">fermi@mail.med.upenn.edu</a></td>
<td>Neurodegenerative diseases</td>
</tr>
<tr>
<td>Garcia</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kevin Alicea</td>
<td>CAMB-GTV</td>
<td>1</td>
<td><a href="mailto:kevinali@mail.med.upenn.edu">kevinali@mail.med.upenn.edu</a></td>
<td>Tumor metabolism and immunotherapy</td>
</tr>
<tr>
<td>Zoe Chen</td>
<td>CAMB-CBG</td>
<td>1</td>
<td><a href="mailto:azechen@mail.med.upenn.edu">azechen@mail.med.upenn.edu</a></td>
<td></td>
</tr>
</tbody>
</table>

Featured Alumni

- Ellen DeObaldia
  IGG, 2014

- Erin Graf
  MVP, 2013

- Steven Tuyishime
  GTV, 2013

- Ben Walters
  BMB, 2013

- Rachel Leskowitz
  GTV, 2014
How to Survive Graduate School

Jennifer Myers, 5th year Ph.D. Candidate

BGS Orientation

8/29/2016
Overview

I. Advice for your first year

II. General Grad School Advice
   I. Lab
   II. Life

III. Resources

IV. Q&A
Disclaimer

No two Ph.D. experiences are exactly alike

http://www.mos.org/discoverycenter/system/files/aotm/snowflakes+fro+web.jpg
Tips for your First Year

http://whatshouldwecallgradschool.tumblr.com/post/93523471620/going-to-lab
Classes: Focus more on **learning**

Two toxic attitudes
- Undergrad
- “This doesn’t apply to me”

Hugh MacLeod

https://twitter.com/hughcartoons/status/423952995240648704
Choosing Rotation Labs: Where to Start

• Be open to fields you might not have previously considered!

• Lab environment
  – Big vs. Small
  – New vs. established PI
  – Funding
  – Previous training record
  – Publication record
Choosing Rotation Labs: Prepare for a meeting

• Dos:
  – Your homework!
    • Read faculty page
    • Read one or more recent papers, or at least abstracts
    • Talk to grad students who rotated or have joined
    • Be prepared to talk about your interests & expectations
    • Update your CV
  – Set up meetings with multiple PIs
Choosing Rotation Labs: Meeting the PI

- Look respectable and show up on time
- Let them know you are WHY you are interested
- Be prepared to tell them about yourself, your schedule, your career goals, etc.
- Ask LOTS OF QUESTIONS
  - Are you looking to take on a thesis student? How many students will you take this year? Have you talked to other students?
  - Do you have space and money available for a Ph.D. student?
    - NIH RePORTER (http://projectreporter.nih.gov/reporter.cfm)
  - Will you be at Penn for the next 5-6 years?
  - What projects are available in your lab?
  - What is your mentoring style? How often do you travel?
  - What are your expectations for your graduate students?
  - What is the lab environment like?
    - Hours, lab jobs, lab meetings?, journal clubs?
  - What have your previous students gone on to do after they graduate?
  - Can I see the lab space and meet your lab members?
Evaluating your meeting

• How did the meeting go?
  – Easy to communicate?
  – Friendly?
  – Excited?
  – Did you feel comfortable during the meeting?
  – Did they answer your questions and listen when you had something to say?
  – Were there any warning signs?
Having a Successful Rotation

• Show up when you say you will
• Write down everything
• Keep an up-to-date and thorough lab notebook
• Work hard
• Know what you are doing and why
  – Read the background papers!
  – Ask questions!

http://lifeperksforhealth.com/diagnostic-direct-2/
General Grad School Advice

http://whatshouldwecallgradschool.tumblr.com/post/96035854196/my-advice-to-incoming-students

stay alive.
Get an external hard drive, cloud storage or both. Use them CONSTANTLY

- 1 terabyte ~50-$60 for an external hard drive
- Amazon Cloud Drive: Unlimited $59.99/year
- Google Drive:
  - 15 GB = free
  - 100 GB = $1.99/month
  - 1 TB = $9.99/month
- Penn+Box
  (www.upenn.edu/computing/box/)
- Dropbox or Box
- Encryption/Security
Know how your assays & kits work

• Read the protocols!
  – Compare company vs lab protocols
• SAVES time in the long run!
• Consult the internet
  – Web forums

BitesizeBio.com

Organizing Samples

- Keep a detailed list of samples generated/collected in your lab notebook
- Create a system for labeling tubes
- Consider keeping a spreadsheet of freezer/fridge boxes and update as you add or remove samples
Read the Literature

• Seriously. Just do it
• Organize your PDFs
  – EndNote, Papers
  – Mendeley, Readcube
• Stay up-to-date
  – PubCrawler
  – Google Scholar Alert
  – Readcube Recommendations

http://whatshouldwecallgradschool.tumblr.com/post/51724403900/after-reviewing-the-literature
Apply for Fellowships

• National Science Foundation (NSF)
• Internal Training Grants (T32s)
• NIH Fellowships (F31 & F30 = NRSA)
• Private and/or Field-Specific Predoctoral Fellowships
Dealing with Criticism

To escape criticism—do nothing, say nothing, be nothing.
—Elbert Hubbard

Dos:
• Listen
• Be respectful
• Take responsibility

Do Nots:
• Don’t be defensive/react aggressively
• Don’t automatically take it personally
• Don’t try to prove the other person wrong
• Don’t concentrate on finding fault in the other person

Making mistakes is an essential part of learning!

Advice: http://www.professional-counselling.com/dealing_with_criticism_rejection.html
http://tinybuddha.com/blog/how-to-deal-with-criticism-well-25-reasons-to-embrace-it/
Social Life
Paying bills
Exercise
Cleaning the apartment
Doctor’s appointments
Car/bike repair
Dealing with Comcast
Roommate conflicts
Weddings/divorce
Vacation
Death in the family
Natural disasters

Classes
Seminars
Meetings
Homework/Studying
Reading the literature
Experiments
Troubleshooting
Collaborations
Presentations
Career Planning
Grant/Fellowship Applications

http://www.ddiversified.com/tips-to-keeping-a-good-work-life-balance/
Time Management

• Get a planner/Google calendar and use it constantly
• Build in extra time
• Prioritize
• Be flexible!
Build a Support Network

Labmates

Significant Other

Friends

Family

Kittens
Eat well and try to exercise

Can’t I just do nothing?!
Give yourself a break

http://whatshouldwecallgradschool.tumblr.com/post/45060315553/dreaming-about-pipetting  Credit: Noddy
Give yourself a break

• Tons of restaurants and bars (Happy Hours, beer gardens)
• Concerts
• Philadelphia Zoo
• Art Museum (Free first Sunday of every month and Wednesday after 5 PM)
• Schuylkill River Trail (free outdoor movies during the summer)
• Professional sports
• Atlantic City (Gambling, shopping, the beach)
• Poconos (Nature and hiking)
Recap

• Choose your mentor/lab wisely
• Be proactive and manage your time
• Keep track of samples and data
• Keep up with the literature
• Maintain a sense of humor
• Make time for FUN
Questions?

Resources:

How to Complete and Survive a Doctoral Dissertation
Sternberg, David
N.Y.: St. Martin's Press, 1981

Getting What You Came For: The Smart Student's Guide to Earning a Master's or Ph.D.
Peters, Robert L.
N.Y.: Farrar, Strauss & Giroux, 1992

http://whatshouldwecallgradschool.tumblr.com

http://phdcomics.com/

Contact info:
jenmyers@mail.med.upenn.edu
Biomedical Graduate Studies
University of Pennsylvania

Michael P. Nusbaum, PhD, Director

• Welcome as the 31st class of students in BGS programs
• More than 2000 BGS students have received their PhD in the past 30 years
Biomedical Graduate Studies

Graduate Groups

- Biochemistry & Molecular Biophysics (BMB)
- Cell & Molecular Biology (CAMB)
  - Microbiology, Virology, Parasitology (MVP)
  - Genetics and Gene Regulation (GGR)
  - Gene Therapy and Vaccines (GTV)
  - Developmental, Stem Cell, Regenerative Biology (DSRB)
  - Cell Biology, Physiology & Metabolism (CPM)
  - Cancer Biology (CB)
- Epidemiology/Biostatistics (GGEB)
- Genomics & Computational Biology (GCB)
- Immunology (IGG)
- Neuroscience (NGG)
- Pharmacology (PGG)
Biomedical Graduate Studies

Graduate Groups

- Biochemistry & Molecular Biophysics (BMB)
- Cell & Molecular Biology (CAMB)
  - Microbiology, Virology, Parasitology (MVP)
  - Genetics and Gene Regulation (GGR)
  - Gene Therapy and Vaccines (GTV)
  - Developmental, Stem Cell, Regenerative Biology (DSRB)
  - Cell Biology, Physiology & Metabolism (CPM)
  - Cancer Biology (CB)
- Epidemiology/Biostatistics (GGEB)
- Genomics & Computational Biology (GCB)
- Immunology (IGG)
- Neuroscience (NGG)
- Pharmacology (PGG)

Wistar Institute
- Institute for Cancer Research/FCCC
- Children’s Hospital of Philadelphia
- NIH Intramural Program (Immunology)

Perelman School of Medicine
- Veterinary Medicine
- Dental Medicine
- Nursing

Arts & Sciences
- Engineering & Applied Sciences
- Wharton
BGS Students and Faculty

- **768 Students**
  - 608 PhD (79%)
  - 132 MD-PhD (17%)
  - 21 VMD-PhD (3%)
  - 7 MS in Biostatistics (<1%)

- **626 Faculty**
  - 77% in the Perelman School of Medicine
  - 23% in other Schools and Institutes
First Year BGS Students

• 91 Different Colleges and Universities

• 64% Female, 36% Male

• 27% Under-Represented Minority

• 9 Different Countries: Bangladesh, Brazil, China, Columbia, India, Japan, Philippines, Trinidad & Tabago, United States
BGS Staff

**Academic Office: 160 BRB II/III**

- **Mike Nusbaum, PhD** – Director and Associate Dean
- **Dave Manning, PhD** – Training and Career Support Director
- **Judy Jackson** – Administrative Director
- **Colleen Dunn** – Curriculum Coordinator
- **Aislinn Wallace** – Admissions Coordinator
- **Anne-Cara Apple** – Student Records Coordinator
- **Mercury Meulman** – Career Coordinator

**Finance Office: 417 Anatomy-Chemistry**

- **Nam Narain** – Director of Financial Operations

**Diversity Programs Office: 267 Anatomy-Chemistry**

- **Arnaldo Diaz, PhD** – Assistant Dean
Introduction to Graduate School (Aug, 2016)

Michael P. Nusbaum
Director & Associate Dean,
Biomedical Graduate Studies
Professor, Dept. of Neuroscience
Member, Neuroscience Graduate Group
Training You Must Do

- Laboratory safety: **EHRS Training – Tomorrow**
- Radiation safety: **Lab Rotation-specific**
- Animal Welfare: **Lab Rotation-specific**
- HIPPA (Health Insurance Portability and Accountability Act): **Online- ASAP**
  
  [http://knowledgelink.upenn.edu/](http://knowledgelink.upenn.edu/)

- Responsible Conduct of Research: **Continually**
Expectations of BGS Students

• Act Professionally
  o Be responsible
  o Be respectful of everyone
  o Don’t delay: Do things in a timely manner
  o Email: Reply without delay
Expectations of BGS Students

• Be Self-Motivated
  o Read journal articles regularly, without prompting
  o Understand the science
  o Ask questions
  o Come prepared to class and lab
  o Learn how things (equipment, techniques) work

• Be Productive
  o Be proactive, not passive: Move your science forward
Expectations of BGS Students

• Be Self-Motivated
  o Read journal articles regularly, without prompting
  o Understand the science
  o Ask questions
  o Come prepared to class and lab
  o Learn how things (equipment, techniques) work

• Be Productive
  o Be proactive, not passive: Move your science forward
Opportunities for BGS Students

• BGS Student = Full-Time Position
  o Travel to meetings.
  o TA opportunities/CTL Certificate.
  o Career considerations (Dave Manning).
  o Certificate programs.
  o Student organizations.
Expectations of BGS Students

- All incoming BGS students must read & sign this document:
  - I. Student Conduct
  - II. Conditions of Fellowship Awards
  - III. Leaves of Absence
  - IV. Academic Requirements
  - V. Grievance Policy
  - VI. Other Policies

Please sign and date the *Expectations of Students in BGS* and the *Patent and Tangible Research Property Policies and Procedures Participation Agreement* (last page of this packet) and return to the staff at orientation.

Thank you.

* Provided as a separate document in orientation folder
Expectations of BGS Students

- All incoming BGS students must read & sign this document:
  - I. Student Conduct
  - II. Conditions of Fellowship Awards
  - III. Leaves of Absence
  - IV. Academic Requirements
  - V. Grievance Policy
  - VI. Other Policies

Please sign and date the Expectations of Students in BGS and the *Patent and Tangible Research Property Policies and Procedures Participation Agreement* (last page of this packet) and return to the staff at orientation.

Thank you.

* Provided as a separate document in orientation folder
Every member of the University community is responsible for upholding the highest standards of honesty at all times. Students, as members of the community, are also responsible for adhering to the principles and spirit of the Code of Academic Integrity.

A. Cheating
B. Plagiarism
C. Fabrication
D. Multiple Submission
E. Misrepresentation of Academic Records
G. Unfair Advantage
F. Facilitating Academic Dishonesty

BGS Academic Information and Policies
Plagiarism

*Always* cite your sources!

Appropriation of another person's ideas, processes, results or works without giving appropriate credit is all considered plagiarism.

Even internet sources need to be cited.

When in doubt, err on the side of caution.
**Downloading Copyrighted Material**

- Penn’s policy states that the following is forbidden:
  - "Intentionally infringing upon the intellectual property rights of others in computer programs or electronic information (including plagiarism and unauthorized use or reproduction)."

- Violation of this policy can lead to loss of system access, employment termination or expulsion. In addition some activities may lead to risk of legal liability, both civil and criminal.

- Penn's policy on Acceptable Use of Electronic Resources can be found here:
  - [http://www.upenn.edu/computing/policy/aup.html](http://www.upenn.edu/computing/policy/aup.html)

- For more information on U.S Copyright law go to:
  - [http://lcweb.loc.gov/copyright/](http://lcweb.loc.gov/copyright/)

- **Do Not Download Copyrighted Material** (including movies, music, etc.) **Without Appropriate Permission.**
Penn’s policy states that the following is forbidden:

- "Intentionally infringing upon the intellectual property rights of others in computer programs or electronic information (including plagiarism and unauthorized use or reproduction)."

Violation of this policy can lead to loss of system access, employment termination or expulsion. In addition some activities may lead to risk of legal liability, both civil and criminal.

Penn's policy on Acceptable Use of Electronic Resources can be found here:

- [http://www.upenn.edu/computing/policy/aup.html](http://www.upenn.edu/computing/policy/aup.html)

For more information on U.S Copyright law go to:

- [http://lcweb.loc.gov/copyright/](http://lcweb.loc.gov/copyright/)

**Do Not Download Copyrighted Material** (including movies, music, etc.) Without Appropriate Permission.
Penn’s policy states that the following is forbidden:
- "Intentionally infringing upon the intellectual property rights of others in computer programs or electronic information (including plagiarism and unauthorized use or reproduction)."

Violation of this policy can lead to loss of system access, employment termination or expulsion. In addition some activities may lead to risk of legal liability, both civil and criminal.

Penn's policy on Acceptable Use of Electronic Resources can be found here:
- [http://www.upenn.edu/computing/policy/aup.html](http://www.upenn.edu/computing/policy/aup.html)

For more information on U.S Copyright law go to:
- [http://lcweb.loc.gov/copyright/](http://lcweb.loc.gov/copyright/)

**Do Not Download Copyrighted Material** (including movies, music, etc.) **Without Appropriate Permission.**
Penn’s policy states that the following is forbidden:

- "Intentionally infringing upon the intellectual property rights of others in computer programs or electronic information (including plagiarism and unauthorized use or reproduction)."

Violation of this policy can lead to loss of system access, employment termination or expulsion. In addition some activities may lead to risk of legal liability, both civil and criminal.

Penn's policy on Acceptable Use of Electronic Resources can be found here:
- [http://www.upenn.edu/computing/policy/aup.html](http://www.upenn.edu/computing/policy/aup.html)

For more information on U.S Copyright law go to:
- [http://lcweb.loc.gov/copyright/](http://lcweb.loc.gov/copyright/)

**Do Not Download Copyrighted Material** (including movies, music, etc.) **Without Appropriate Permission.**
Who Owns the Data?

http://www.med.upenn.edu/postdoc/documents/patent.policy.02.22.05.pdf
Who Owns the Data?

• Faculty, graduate students, postdoctoral fellows or staff performing research in a university do not own the data collected.
  • Employees work for hire for the university, which, in most cases, owns the rights to the data;
  • Students and postdoctoral fellows sign a participation agreement that governs Research Property.

http://www.med.upenn.edu/postdoc/documents/patent.policy.02.22.05.pdf
Who Owns the Data?

- Faculty, graduate students, postdoctoral fellows or staff performing research in a university do not own the data collected.
  - Employees work for hire for the university, which, in most cases, owns the rights to the data;
  - Students and postdoctoral fellows sign a participation agreement that governs Research Property.

- Data and data books collected by undergraduates, post-baccalaureate students, graduate students, and postdoctoral fellows on a research project belong to the grantee institution.
  - Students may not take their data when they leave without making appropriate arrangements.
  - Retaining copies of data is allowed with permission and is usually good practice.
  - When faculty members leave an institution, they have to negotiate with the university to keep their grants and data.

http://www.med.upenn.edu/postdoc/documents/patent.policy.02.22.05.pdf
Respectful Workplace

BGS students are also expected to treat other individuals in their environment with respect (PennViolencePrevention).

Respectful Workplace Rules
(from Creating a Respectful Work Environment in a Research Laboratory, OAA/EOP)

Think and Be Sensible Before You Act: Ask yourself these questions-
• Is the joke, behavior or conversation appropriate to the relationship?
• Would my colleagues consider my behavior as unprofessional behavior?
• Could the comment/behavior be misunderstood by people who don’t know the situation?
• Do you think about the impact of your communication with others, and do you notice how other people react to what you say and do?
• Are you treating others with respect and identifying how they want to be treated?
Respectful Workplace

BGS students are also expected to treat other individuals in their environment with respect (PennViolencePrevention).

Respectful Workplace Rules
(from Creating a Respectful Work Environment in a Research Laboratory, OAA/EOP)

Think and Be Sensible Before You Act: Ask yourself these questions-
• Is the joke, behavior or conversation appropriate to the relationship?
• Would my colleagues consider my behavior as unprofessional behavior?
• Could the comment/behavior be misunderstood by people who don’t know the situation?
• Do you think about the impact of your communication with others, and do you notice how other people react to what you say and do?
• Are you treating others with respect and identifying how they want to be treated?
Respectful Workplace

BGS students are also expected to treat other individuals in their environment with respect (PennViolencePrevention).

Respectful Workplace Rules
(from Creating a Respectful Work Environment in a Research Laboratory, OAA/EOP)

Think and Be Sensible Before You Act: Ask yourself these questions-
• Is the joke, behavior or conversation appropriate to the relationship?
• Would my colleagues consider my behavior as unprofessional behavior?
• Could the comment/behavior be misunderstood by people who don’t know the situation?
• Do you think about the impact of your communication with others, and do you notice how other people react to what you say and do?
• Are you treating others with respect and identifying how they want to be treated?
Course Evaluations

Course evaluations are an important aspect of teaching and learning. They are used to:

- **Strengthen teaching at Penn**
  - Instructors use the course evaluations to improve their teaching.
  - Each instructor receives a compilation of the responses and comments to use in evaluating their own teaching and planning future courses.

- **Assess instruction**
  - Colleagues, Department Chairs, Deans, and the Provost use student reviews as a part of the tenure and promotion process.
  - Teaching excellence matters in deciding whether a professor gets promoted and student evaluations are an important part of evaluating a professor’s teaching abilities.
Course Evaluations

Course evaluations are an important aspect of teaching and learning. They are used to:

- **Strengthen teaching at Penn**
  - Instructors use the course evaluations to improve their teaching.
  - Each instructor receives a compilation of the responses and comments to use in evaluating their own teaching and planning future courses.

- **Assess instruction**
  - Colleagues, Department Chairs, Deans, and the Provost use student reviews as a part of the tenure and promotion process.
  - **Teaching excellence matters** in deciding whether a professor gets promoted and student evaluations are an important part of evaluating a professor’s teaching abilities.
Course Evaluations

Course evaluations are an important aspect of teaching and learning:

• Treat as a professional evaluation process. It is part of your professional training.
• Ensure that all comments use a constructive, professional tone.
Course Evaluations

Course evaluations are an important aspect of teaching and learning:

• Treat as a professional evaluation process. It is part of your professional training.
• Ensure that all comments use a constructive, professional tone.

• Was the course content useful/interesting?
• Did you learn new material/consolidate previous knowledge?
• Was the course format effective? What worked? What could be improved?
• Did assignments and exams challenge your use of new knowledge? Did they cover relevant material?
• For individual lectures/lecturers, was the information appropriate and accessible? Did you learn effectively?
Sample of BGS Course Evaluation Form (for on-line evaluation)

Please rate the questions on a scale of P=Poor, G=Good, VG=Very Good, E=Excellent (0-4 scale)

<table>
<thead>
<tr>
<th></th>
<th>P</th>
<th>F</th>
<th>G</th>
<th>VG</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Overall quality of course</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>2. Mike Nusbaum - Overall quality of instructor</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>
*(note: some courses will have a separate evaluation for additional lecturers in addition to the overall course evaluation)*

3. Strengths of the course

4. Weaknesses of the course

5. Additional Comments
<table>
<thead>
<tr>
<th>You Will Be Reminded.....</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Initial Email – send 7 days before course ends</strong></td>
</tr>
<tr>
<td>Biomedical Graduate Studies – Penn Course Evaluations</td>
</tr>
<tr>
<td>Dear Student:</td>
</tr>
<tr>
<td>Below is the link for the on line evaluation of Biomedical Graduate Studies classes. Please access <em>(link to evaluations here)</em> to evaluate the following course(s) in which you are enrolled for this semester:</td>
</tr>
<tr>
<td><em>(courses listed here)</em></td>
</tr>
<tr>
<td>Please remember that your answers will remain confidential and will not be reported in a way that could compromise your anonymity. Thank you for taking the time to complete these important evaluations.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Reminder Email – 14 days after initial email</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Biomedical Graduate Studies – Reminder for Penn Course Evaluations</td>
</tr>
<tr>
<td>Dear Student:</td>
</tr>
<tr>
<td>Below is the link for the on line evaluation of Biomedical Graduate Studies classes. Please access <em>(link to evaluations here)</em> to evaluate the following course(s) in which you are enrolled for this semester:</td>
</tr>
<tr>
<td><em>(courses listed here)</em></td>
</tr>
<tr>
<td>Please remember that your answers will remain confidential and will not be reported in a way that could compromise your anonymity. Thank you for taking the time to complete these important evaluations.</td>
</tr>
</tbody>
</table>
Final Reminder – 27 days after initial email

Biomedical Graduate Studies – Final Reminder for Penn Course Evaluations

Dear Student:

Our records indicate you have not completed your course evaluations online. Please access ______________________________ to evaluate the following course(s) in which you are enrolled for this semester:

(courses listed here)

This is your final reminder. You have 2 more days to complete these evaluations.

Please remember that your answers will remain confidential and will not be reported in a way that would compromise your anonymity. Thank you for taking the time to complete these important evaluations.

Please make sure that your comments are helpful and professional!
Policies

http://www.med.upenn.edu/bgs/current_students_policies.shtml

BGS Policies
- Expectations of Students in Biomedical Graduate Studies
- Conditions of Fellowship Awards
- Matters of Conduct and Academic Integrity
- Authorship Policy
- Leaves of Absence (including Parental Leave)
- Procedures for Managing Visiting Students

University Policies
- Academic Integrity
- University Policies Relevant to Graduate Education
- Graduate Rules and Regulations
- The Penn Book (Penn Resources, Policies, and Procedures)
- Procedures Regarding Misconduct in Research for Non Faculty Members of the Penn Community
- Sexual Harassment Policy
- Consensual Sexual Relations Between Faculty and Students
We are a cross-disciplinary, graduate student run organization at the University of Pennsylvania, aspiring to address the challenges and obstacles facing the extended healthcare industry. Our multidisciplinary teams have successfully conducted consulting projects for both start-up and Fortune 500 companies, solving real-life business problems from Strategy to Marketing, from Investment to IP.
Meet the PBG E-board!

Toby AuWerter  
Co-President  
MBA Candidate

Brad Herbig  
Co-President  
Ph.D. Candidate

Randolph Lyde  
Co-President  
Ph.D. Candidate

Ian Johnston  
VP of Consulting  
Ph.D. Candidate

Kelly Rome  
VP of Business Development  
Ph.D. Candidate

Kaitlyn Maier  
VP of Career Development  
Ph.D. Candidate

Aaron Kornetze  
VP of Finance  
MBA Candidate

Silvia Lourenco  
VP of Operations  
Ph.D. Candidate

Brian Cole  
VP of Knowledge Management  
Post-Doc

Ian McLaughlin  
VP of Sponsorships  
Ph.D. Candidate

Chris Bialas  
VP of Social  
Ph.D. Candidate

Stella Chen  
VP of Alumni Relations  
Ph.D. Candidate

Sneha Ramesh Mani  
VP of Communications  
Post-Doc
Who We Are: Our 250+ members come from 45+ Penn graduate programs across multiple disciplines.

2014-2015 Academic Year

- Medicine 58%
- Nursing 1%
- Wharton 8%
- Engineering 24%
- Other 1%

2014-2015 Academic Year

- Other 5%
- Postdocs 15%
- Ph.D. 51%
- MBA 8%
- Masters 21%
- Other 1%
What We Do: Consulting projects are our core activity.

Overview

• We conduct **real life** consulting projects for the extended healthcare industry, including biopharma, medical device, payers, providers, venture capital, global health, healthcare IT

• Consulting projects are typically **8-10 weeks** in length, and staffed with a multi-disciplinary team of graduate students at Penn

• We have **successfully delivered** 300+ projects over the past ten years, for organizations ranging from start-ups to Fortune 500 companies

Selected Past Clients

- BD
- gsk
- GlaxoSmithKline
- NeuroPhage
- SR-one™
- GE Healthcare
- HUMANA
- Medtronic
- Integral molecular
- The Children’s Hospital of Philadelphia
Why Join Us: We provide unparalleled personal and professional development opportunities.

- Strong brand presence in major consulting firms, and broad connections in healthcare industry
- Wide range of events, from career workshops with real consulting professionals, to club happy hours

- In a member survey, 90% of project participants would recommend us to their friends or colleagues
- Based on their project experience, 88% would have volunteered to be a team member again
Next Steps: Join a PBG project!

1. PBG Fall Kick-Off and Cock-Tail Hour on September 15th, 6:00PM. Huntsman, JMHH 360.

2. Project applications open tomorrow; Deadlines for Team Members and PMs on September 29th, 5:00PM

3. Team member trainings will occur on October 14th at 5:00PM. Project manager training will occur on October 7th at 6:00PM. Director training will occur on October 7th at 5:00PM.

4. Expect projects to kickoff in the first 2 weeks of October.
What’s next?

Get Connected!
Sign up: [http://groups.wharton.upenn.edu/login](http://groups.wharton.upenn.edu/login)
Google Calendar: PBG Google Calendar
Join to make sure you get all our emails.

Project manager & team applications
Application: [http://groups.wharton.upenn.edu/login](http://groups.wharton.upenn.edu/login) (Opens on January 21st)
Deadline: **5:00pm Thursday September 29th, 2016**
E-mail: info.pbgconsulting@gmail.com
Website: [www.pbgconsulting.org](http://www.pbgconsulting.org)

Directors applications
Application: [http://groups.wharton.upenn.edu/login](http://groups.wharton.upenn.edu/login) (Opens on January 21st)
Deadline: **5:00pm Friday September 23rd, 2016**
E-mail: info.pbgconsulting@gmail.com
Website: [www.pbgconsulting.org](http://www.pbgconsulting.org)

Dues & Deposits
Dues of $25/year upon sign-up, $45 for 2 years
Deposit of $100 for team members, $200 for project managers before project starts
PSPG and PSDG 2016 Kickoff Meeting

When: Tuesday, September 20th, 2016
Where: JMEC 0515 EW
Time: 6:00-7:30pm

penn.science.policy@gmail.com
Penn Graduate Women in Science & Engineering

pgwise.upenn@gmail.com
https://pgwise-upenn.squarespace.com
@pgwise_upenn
Our mission
Increase representation of women in Outreach
Community Outreach

Migrant Education Summer Science Carnival
Professional Development
Programs & How To Get Involved!

MOELIS ACCESS SCIENCE: Science Fair Competition

Fridays 9-10 am
September through February (High school freshmen and sophomores)

YOU choose 3 dates (can come to as many classes as you want!)

FREE TRANSPORTATION TO AND FROM SAYRE HIGH SCHOOL
Meet at 40th and Locust

EAGR (Early Access to Graduate Research)

Workshop for high school students at The Franklin Institute

Women in Science, historical overview with demos. WATCH YOUR EMAILS!
Programs & How To Get Involved!

Lattes with the Ladies

= 8 grad students + 1 speaker + lots of

Past speakers include:
- GlaxoSmithKline
- Incyte Pharmaceutical Research
- USDA Forest Service
- Rowan University
- Pfizer
- American Association for Cancer Research
- Janssen
- Novartis
- Genentech
- First Quality Baby Products
- Ursinus College
Programs & How To Get Involved!

Fall workshop series:

• Presentation Anxiety with Sue Weber: October

• Negotiation workshop with Career Services: December
PGWISE Social Calendar

• GA meeting (9/7, 5:30-6:30pm, BRB 252). We will be serving Han Dynasty

• Happy hour at Spruce Street Harbor Park (9/9). Check out our website for tickets!

• Fall kick-off event and happy hour: Featuring Dr. Wendy Henderson of the NIH (9/29, 4:30-6:30pm, Wistar Auditorium and Lobby)
Penn Graduate Women in Science & Engineering

pgwise.upenn@gmail.com
https://pgwise-upenn.squarespace.com
@pgwise_upenn
Public Health Certificate Program (PHCP)

• What is public health?
  ➢ “Public health is the science of protecting and improving the health of families and communities through promotion of healthy lifestyles, research for disease and injury prevention and detection and control of infectious diseases.”

  http://www.cdcfoundation.org/content/what-public-health

• Why public health?
  ➢ “NIH’s mission is to seek fundamental knowledge about the nature and behavior of living systems and the application of that knowledge to enhance health, lengthen life, and reduce illness and disability.”

Public Health Certificate Program (PHCP)

- **Goal:** To add public health training to the doctoral curriculum

- **Mechanism:**
  - Formal Coursework in Public Health
  - Public Health Project
  - PHCP Seminar Series

**Co-Directors:**
- Hillary Nelson, PhD MPH
- Mike Z. Levy, PhD
Public Health Certificate Program (PHCP)

- What are PHCP alumni doing now?
  - Faculty positions
  - Postdoctoral fellow positions
  - Lead Molecular Biologist for the Newborn Screening Program at the New Jersey Department of Health (this followed an ASPL/CDC Emerging Infectious Disease fellowship)
  - Officer, Biomedical Programs at The Pew Charitable Trusts (this followed a position at ETHOS Communications)
  - NIH CPEP Accredited Microbiology Fellow
Public Health Certificate Program (PHCP)

- Formal Coursework in Public Health:
  - Biostatistics (through BGS)
  - Epidemiology (required)
  - Three electives, such as:
    - Introduction to Public Health
    - Issues in Global Health
    - Public Health Law
    - Methods for Public Health Practice
    - Media, Advocacy, and Public Health
    - Public Health Theories and Frameworks
    - Achieving Evidence-Based Health Policy
    - Epidemiology of Infectious Disease
Public Health Certificate Program (PHCP)

- Public Health Project (recent examples):
  - “Energize the Chain: Impact Assessment Framework”
  - “Trends in Antibiotic Resistance of Staphylococcal Veterinary Isolates”
  - “Throughput Analysis of an Expanded Dual-Model Second-Visit Mass Prophylaxis Functional Exercise”
  - “Utilizing Philadelphia STD Clinic Data to Analyze the Status of Chlamydia in MSM”
Public Health Certificate Program (PHCP)

• Public Health Seminar Series (all welcome!):
  – Tuesdays (bi-weekly) at 8:30 am in the Fall
  – Wednesdays (bi-weekly) at 8:30 am in the Spring
  – Fall 2016 speakers include:
    • Chris Vinnard (Professor, Rutgers)
    • Shelley Rankin (Professor, Penn Vet)
    • Kendra Viner (BGS Alum; Philadelphia Dept of Public Health)
    • Jamie Lemon (PHCP alum; NIH CPEP fellowship)
    • Nate Snyder (PHCP alum; Professor, Drexel University)
Public Health Certificate Program (PHCP)

- **Contact:**
  - Hillary Nelson, PhD MPH
    - hnelson@mail.med.upenn.edu
  - Mike Levy, PhD
    - mzlevy@mail.med.upenn.edu
  - Anne-Cara Apple (PHCP Coordinator)
    - annecara@mail.med.upenn.edu
- **Current BGS students in PHCP:**
  - IMMUN: Sarah Sneed, Andrew Hart, Sophia Reed
  - PHARM: Yuxiang Zhang
  - BMB: Jamie DeNizio, Enrique Lin Shiao, Rina Fujiwara
Learning Resources at Penn

Ryan Miller, Director, Office of Learning Resources

Weingarten Center, University of Pennsylvania
Learning Instructors assist students with:

- Time Management
- Exam Preparation
- Exam Taking Strategies
- Note-Taking in Class
- Critical Reading
- Research Skills
- Academic Writing
- Concentration
- Adjusting to Academic Culture
- And More!
What do you anticipate will be most challenging about your academic life this semester?
How will you effectively manage your time?
To-Do

Add an item...

- Write Dissertation

4 COMPLETED ITEMS

- Do dishes
  Today by Ryan Miller

- Send an email
  Today by Ryan Miller

- Call Mom
  Today by Ryan Miller

- Plan for tomorrow
  Today by Ryan Miller
Long-Term & Short-Term Plans
How will you stay on top of new information and concepts?
Concept Mapping
Concept Mapping
Visit the Weingarten Center!
Study in our student lounge!
To Make an Appointment

Call 215-573-9235

Visit

www.vpul.upenn.edu/lrc

Follow us @WeingartenLRC