



GW *Biomedical PhD Programs*

Welcome

Institute for Biomedical Sciences PhD Program Overview 2020

Institute for
Biomedical Sciences

THE GEORGE WASHINGTON UNIVERSITY



PhD Programs organized in the Institute for Biomedical Sciences (IBS)

- Explore new areas & approaches
- Present & publish discoveries
- Become trusted colleagues



Alison K Hall PhD
Associate Dean
Research Workforce Development
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knowledge, research training & career skills for the future

THE
RESEARCH CENTER
FOR NEGLECTED
DISEASES OF POVERTY

TRANSFORMING
HEALTH CARE EDUCATION
And
EXPANDING RESEARCH
To IMPROVE LIVES

School of Medicine
& Health Sciences
THE GEORGE WASHINGTON UNIVERSITY

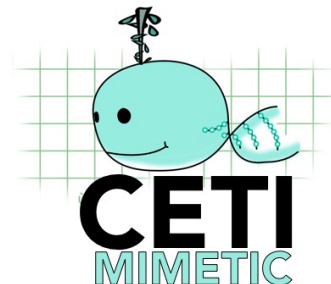
A Strategic Plan
for SMHS
2015 - 2018



CORE FACILITIES
Bio-repository
Biostatistics Center
Flow Cytometry
Genomics Center
Nanofabr & Imaging
Pathology

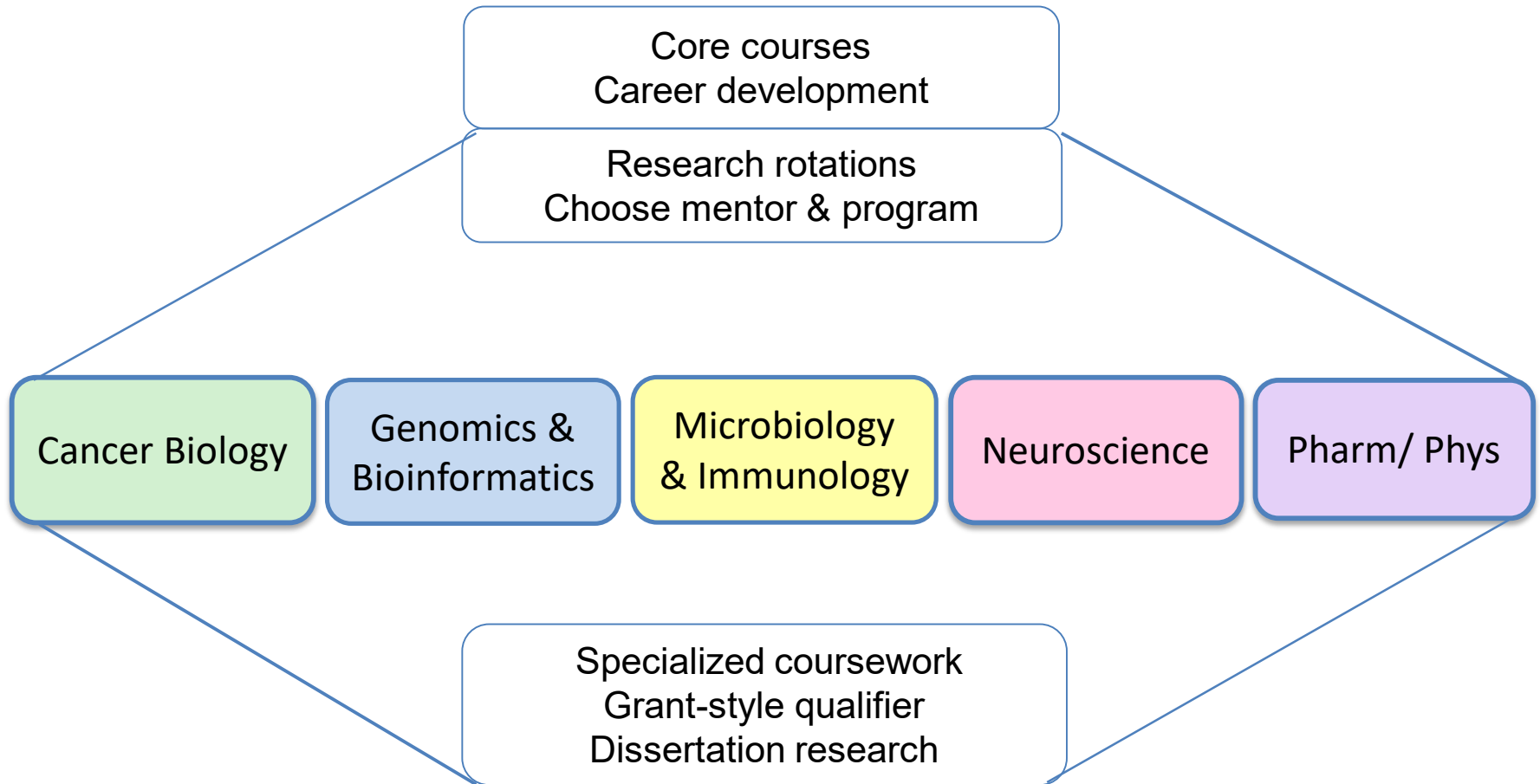


GW
Cancer
Center



Exciting PhD projects

IBS umbrella to 5 PhD programs



See our [IBS faculty trainers](#)

Year Semester		CANCER BIOLOGY	GENOMICS & BIOINFORMATICS	MICROBIOLOGY & IMMUNOLOGY	NEUROSCIENCE	PHARMACOLOGY & PHYSIOLOGY
YEAR 1	FALL 12 credits	<u>Required Core Courses:</u> • BMSC 8210 Genes to Cells (3) • BMSC 8230 Molecular Basis of Human Disease (3) • BMSC 8212 Systems Physiology (3) • BMSC 8215 Lab Rotation (2) • BMSC 8216 Scientific Writing (1)				
	SPRING 9 credits	<u>Required Core Courses:</u> BMSC 8215 Lab Rotation (2) • BMSC 8217 Ethics & Grant Writing (1) <u>Foundation Courses</u> [recommended to select 2] Students must take the Foundation Course that corresponds to their selected PhD program, and are encouraged to take a second foundation that will count as an elective.				
		CANC 8221 Basic Science of Oncology (3)	GENO 8231 Intro to Genomics, Proteomics & Bioinformatics (3)	MICR 8210 Infection & Immunity (3)	NRSC 8284 Conceptual & Experimental Neuroscience I (3)	PHAR 6116 Pharmacogenetics & Personalized Medicine (3)
		<u>Electives</u> [select 1-2] ANAT 6160 Clinically Oriented Human Neuroanatomy (3) • BIOC 6240 Next Generation Sequencing (2) • Additional options possible with Program Director approval				
	SUMMER 3-6 credits	<u>Required Core Courses:</u> BMSC 8215 Lab Rotation (2) • BMSC 8218 Careers in Biomedical Sciences (1)				
						PHAR 8211 Physiology (3)

We provide year-round stipend, tuition, and health insurance throughout the PhD.

See [Programs of Study](#)

Year 1

IBS core & rotations

Choose program & mentor

Year 2

PhD coursework & research

Grant-style qualifying exam

Year 3-5

Dissertation research

Fellowships & conferences

Avg 5 pubs, 1.6 as 1st author

Avg time to degree= 5.0 yrs

Current national fellowships

Julie Ahn	NIH F31
Aparna Baxi	NIH F31
Katherine Blackmore	NIH F31
Jacob Samsel	NIH IARF
Indra Sarabia	NIH F31
Erin Bonner	Isa. Molina Fndn
Stephanie Gomez	NIH F31
Amy Hwang	NIH F31
Tony James	NIH IARF
Jessica Schenk	AHA
Nicole Bonan	T32 Cancer Biology
JT Howard	Gates Millennium

ACKEGARD.COM



Norman Lee
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Yanfen Hu
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- Molecular signaling in carcinogenesis
- Cancer immunology
- Epigenetics and chromatin remodeling

Recent PhD Dissertation Titles:

Eden Dejene “**Regulation of Poly(A)-specific ribonuclease Activity by Reversible Lysine Acetylation**” with mentor Edward Seto, PhD

Sulgi Lee “**Identification and Characterization of Tumor Specific Antigens in Pediatric Diffuse Midline Gliomas**” with mentor Javad Nazarian, PhD

Jacqueline Moy “**Differential alternative splicing of a novel FGFR3 variant involved in African American prostate cancer disparities.**” with mentor Norman Lee, PhD

Stephanie Perkail “**Tumor Suppressor BRCA1 Associated Protein-1 (BAP1) in Pancreatic Cancer**” with Mentor Alexandros Tzatsos, MD PhD



- Genetic and Epigenetic Basis of Diseases
- Autism, cardiovascular & pulmonary
- Systems & “omics” for complex disorders



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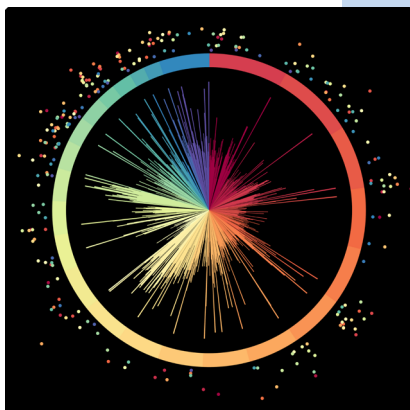
Recent PhD Dissertation Titles:

John Torcivia “**An Exploration of Cancer Associated Non-coding Variations in Whole Genome Sequencing Data**” with mentor Raja Mazumder, PhD

Matthew Bendall “**Characterization and Quantification of the Human Endogenous Retrovirus Transcriptome**”

With mentors Keith A. Crandall, PhD/ Douglas F. Nixon, MD, PhD

Konstantinos Karagiannis “**Separation and Assembly of RNA virus High Throughput Sequencing Data into Discrete Full Length Sub-Population Genomes**” with mentor:: Raja Mazumder, PhD





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Alberto Bosque
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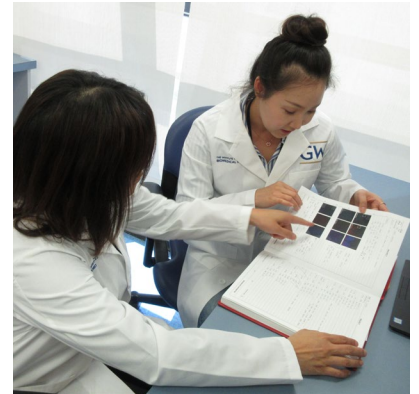
- Molecular parasitology
- HIV pathogenesis
- Vaccine development
- Tumor immunotherapy

Recent PhD Dissertation Titles:

McKenzie Carter “**Generation and Implementation of a whole-genome Gain-of-Function Library in *Trypanosoma brucei*: Insights into Melarsoprol Resistance**” with mentor: Galadriel Hovel-Miner, PhD

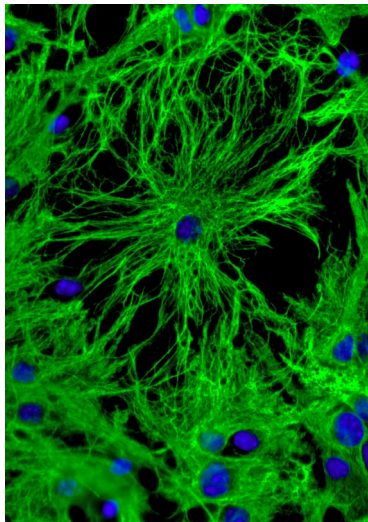
Shabnum Patel “**Immunotherapeutic Strategies for Human Immunodeficiency Virus-1 (HIV-1)**” with mentor Catherine M. Bollard, PhD

John Huang “**Prime, Kick, and Kill: Establishing a Proof of Concept for a Novel Approach to Purging Latent Reservoirs of Human Immunodeficiency Virus-1**” with mentor R. Bradley Jones PhD



Neuroscience Research Areas

- Synaptic circuitry & plasticity
- Neurodevelopmental Disorders
- Cortical development
- Glial cell biology & disease



Recent PhD Dissertation Titles:

Thomas Forbes “**Environmental Enrichment Ameliorates Perinatal Brain Injury and Promotes Functional White Matter Recovery**” with mentor Vittorio Gallo, PhD

Alejandra Fernandez “**Disrupted Mitochondrial Metabolism Alters Cortical Layer II/III Projection Neuron Differentiation**” with mentor Anthony-Samuel LaMantia PhD

Julieta Lischinsky “**Embryonic transcription factor expression predicts neuronal identity and innate behavioral activation patterns in the limbic system**” with mentor Joshua Corbin PhD



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Jason Triplett
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Vince Chiappinelli
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- Cardiovascular Physiology
- Obesity and Metabolic Diseases
- Anxiety and PTSD



Nikki Posnack
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Recent PhD Dissertation Titles:

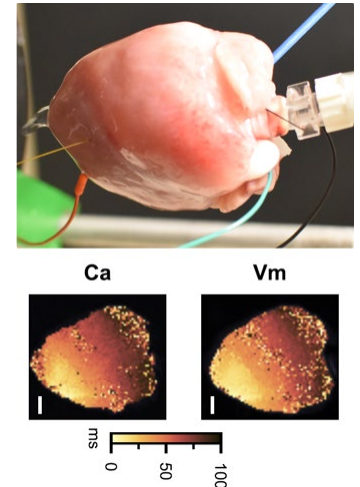
Adam Swiercz “**Contributions of the Renin Angiotensin System to Fear Memory and Fear Conditioned Cardiovascular Responses**” with mentor Paul J. Marvar, PhD

Adam Horn “**Role of Mitochondria in Plasma Membrane Repair and Pathogenesis of Muscular Dystrophy**” with mentor Jyoti K. Jaiswal PhD



Colin Young
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School of Medicine
& Health Sciences



Application deadline December 1

Research experience important

Strong academic record, especially in science

Statement / 3 Short Response / CV

Mention faculty of interest

LORs about research-new prompts

GRE scores not required



Class of 15 students from about 200 applications

[See application & admissions details](#)

Visit our webpage

Email a Graduate Program Director

Contact IBS program faculty

Ask the program administrator

Apply by December 1

The George Washington University Institute for Biomedical Sciences

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