

# The OSU HHMI Med Into Grad Scholars Program

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Joanna Groden Ph.D.



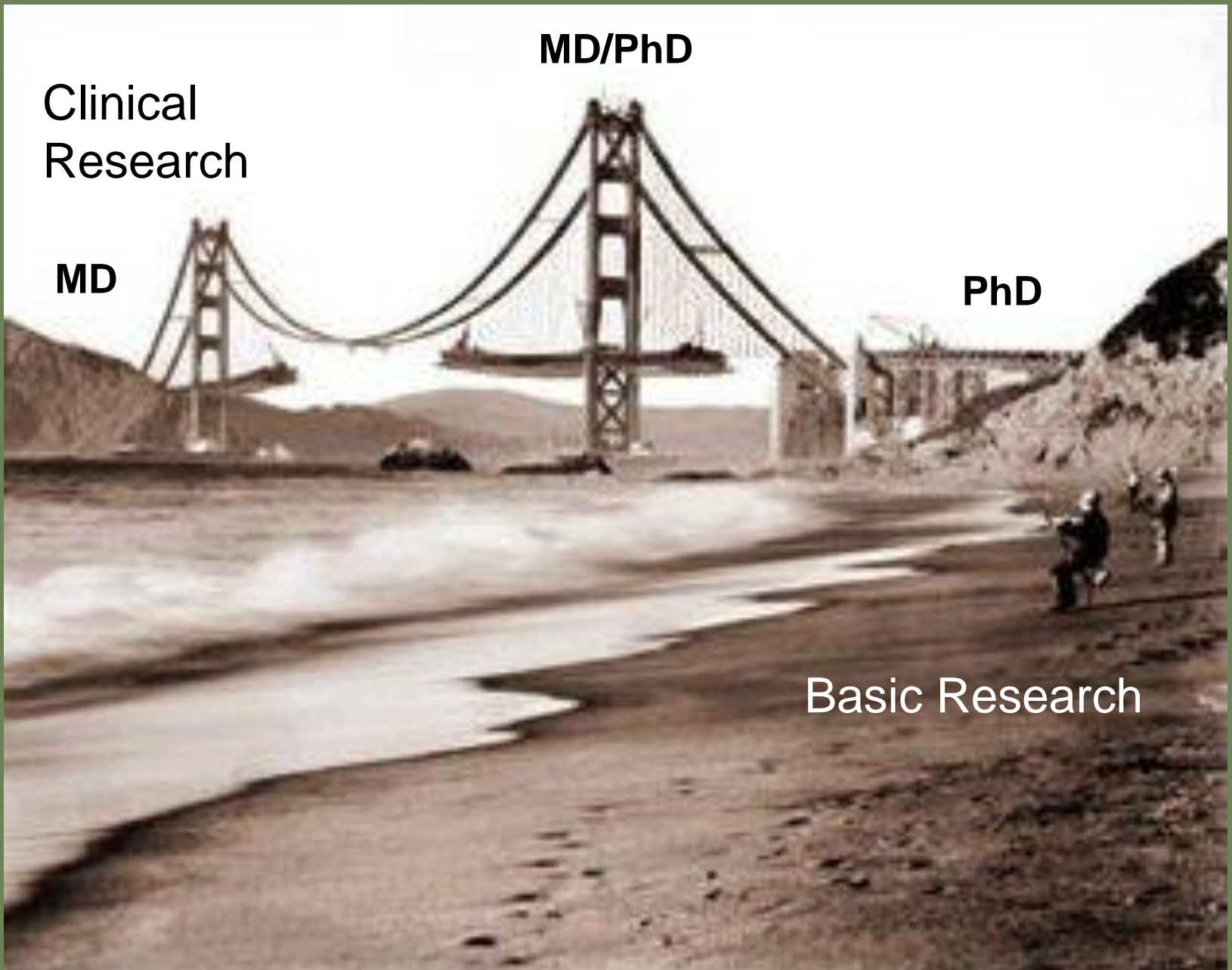
**MD/PhD**

Clinical  
Research

**MD**

**PhD**

Basic Research



**Graduate  
Curriculum**



**Medical  
Curriculum**

The OSU HHMI MIG Program focuses on six emphasis areas in the basic sciences.

Biomedical Engineering  
Computational Biology  
Genetics  
Microbial Biology  
Neuroscience  
RNA Biology

The OSU HHMI MIG Scholars Program Core Leadership is based on partnerships between colleges, programs and researchers.

**Core Research Leadership Team:** Carlo Croce MD (Genetics), Richard Hart PhD (Biomedical Engineering), John Oberdick PhD (Neuroscience), Jeff Parvin MD, PhD (Computational Biology), Larry Schlessinger MD, PhD (Microbial Disease), Daniel Schoenberg PhD (RNA Biology)

The centerpiece for the curricular aspects of the program is the COM **Integrated Biomedical Sciences Graduate Program** (IBGP) offering flexible PhD programs in the biology of human disease and directed by Virginia Sanders PhD.

Our program is coordinated with the **OSU Center for Clinical and Translational Science (CTSA)** emphasizing interdisciplinary and translational research and directed by Rebecca Jackson MD.

The OSU HHMI MIG Scholars Program evolved from the IBGP and Independent Study Programs within the Medical Curriculum and Clinical opportunities within the COM.



# **IBGP Primary Areas of Research Emphasis**

**Biochemical and Molecular Mechanisms of Disease**

**Biology of Neurological Disorders**

**Biomedical Informatics**

**Cancer Biology**

**Cell, Organ Systems and Integrative Biology**

**Genetics**

**Immunology**

**Microbial Pathogenesis**

**Pharmacogenomics and Experimental Therapeutics**

**Virology and Gene Therapy**

# **IBGP Secondary Areas of Research Emphasis**

**Translational Research (CCTS)**

**Personalized Medicine (Institute for Systems Biology)**



The IBGP Curriculum is composed of Flexible Blocks of Study that constitute the Basics of each student's course of study.

# The IBGP Curriculum BASICS

Summer*	Autumn*	Winter*	Spring*
<p><b>Research Techniques and Resources</b> (6 credit hours)</p> <p><b>Faculty Research in Biomedical Science</b> (2 credit hours)</p>	<p><b>Biology of Human Disease I</b> (10 credit hours)</p> <p>1) Nucleic Acids 2) Proteins 3) Genes and Genomes 4) Transcription and Translation</p> <p><b>Biomedical Research Ethics</b> (2 credit hours)</p> <p><b>Graduate Seminar</b> (1 credit hour)</p>	<p><b>Biology of Human Disease II</b> (10 credit hours)</p> <p>5) Molecular and Cellular Physiology 6) Molecular Pharmacology 7) Cytoskeleton and Extracellular Matrix 8) Cancer Biology</p> <p><b>Animal Models of Human Diseases</b> (1 credit hour-optional)</p> <p><b>Bioinformatics</b> (1 credit hour)</p> <p><b>Graduate Seminar</b> (1 credit hour)</p>	<p><b>Biology of Human Disease III</b> (10 credit hours)</p> <p>9) Development 10) Host Defense 11) Integrated Organ Systems 12) Clinical Research Cases</p> <p><b>Research Problems</b> (2 credit hours)</p> <p><b>Graduate Seminar</b> (1 credit hour)</p>
<p><b>Laboratory Rotation</b> (3-5 credit hours)</p>	<p><b>Laboratory Rotation</b> (3 credit hours)</p>	<p><b>Laboratory Rotation</b> (3 credit hours)</p>	<p><b>Laboratory Rotation</b> (3 credit hours)</p>






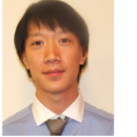







Our MIG “bookcase” is composed of Electronic & mentored Medical Curriculum components.

Preclinical Coursework in Anatomy, Independent Study Pathway (ISP) & Introduction to Clinical Medicine (ICM)

Mentored Clinical Experiences in Specialty Rotations

On-Line Access to a Virtual Library of Seminars and Clinical Rounds

Ginny?

<b>Trainee</b>	<b>Mentor</b>	<b>College</b>	<b>Graduate Program</b>	<b>Science Emphasis</b>	<b>Project Title</b>
<p>William Hankey</p> 	<p>Joanna Groden</p> 	<b>Medicine</b>	IBGP	Genetics	<i>Emerging Functions of the APC Tumor Suppressor as a Direct Transcriptional Regulator</i>
<p>Natalia Higueta-Castro</p> 	<p>Samir Ghadiali</p> 	<b>Engineering</b>	Biomedical Engineering	BME	<i>Novel Micro-Nano Biomimetic System for Studying Injury Mechanisms of Lung Epithelium and Microvascular Endothelium</i>
<p>Xun Lan</p> 	<p>Victor Jin</p> 	<b>Medicine</b>	IBGP	Computational Biology	<i>A Computational Approach to Identify Epigenetic Signatures of Aberrant AKT1-Regulated Signaling</i>
<p>Jonathan Picking</p> 	<p>Kathleen Boris-Lawrie</p> 	<b>Arts &amp; Sciences</b>	Biological Sciences (Biochemistry)	RNA Biology	<i>RNA Biology of T-cell Leukemia Virus &amp; Cellular mRNA Translation</i>
<p>Emily Sequin</p> 	<p>Vish Subramanian</p> 	<b>Engineering</b>	Mechanical Engineering & Chemical Physics	BME	<i>Detection of Cancer and Assessment of Surgical Margins using Eddy Current Detection</i>
<p>Dawn Walker</p> 	<p>Mark Drew</p> 	<b>Medicine</b>	IBGP	Microbial Biology	<i>Autophagy in Plasmodium falciparum and its Potential as a Therapeutic Target</i>