

Research Faculty

Yehenew Agazie - He studies the Src homology phosphotyrosyl phosphatase 2 (SHP2) in signaling pathways and its role in cancer.

Andrey Bobko - He is interested in the developing of new probes and approaches for in vivo multifunctional spectroscopy and imaging using electron and nuclear magnetic resonance techniques.

Jianhi Du - Dr. Du's lab is interested in identifying new metabolic mechanisms in retinal degenerative diseases and developing biochemical approaches for treatment using mass spectrometry, patient stem cell-derived retinal cells and animal models.

Steve Frisch - The mechanism of anoikis and the development of novel cancer therapeutics based on this mechanism is a major focus of the laboratory.

Brad Hillgartner - He studies the mechanisms mediating the nutritional and hormonal regulation of genes involved carbohydrate and lipid metabolism.

Alexey Ivanov - He studies mechanisms that regulate how the DNA-packaging structure of chromatin is regulated during cellular processes.

Valery Khramtsov— His lab is devoted to the development and application of new magnetic resonance approaches to biomedicine, including EPR spectroscopy and imaging and OMRI or PEDRI.

Roberta Leonardi - Her lab studies the role of small metabolites in regulating pathways important for providing energy to cells and controlling glucose homeostasis.

Elena Pugacheva - Her lab studies the focal adhesion scaffolding proteins and their role in proliferation, invasion, and tumor progression.

Vishy Ramamurthy - His lab studies the biochemical mechanisms that result in photoreceptor cell death; Protein methylation; Gene therapy for blinding diseases.

Aaron Robart - His lab uses a combination of biochemistry and structural biology to understand the architecture and catalytic mechanisms of RNA molecular machines.

Mike Ruppert - His lab studies transcription factors as regulators of chromatin structure, gene transcription and malignant transformation in epithelial cells.

Michael Schaller - His lab studies the role of focal adhesion kinases in cellular function using techniques of structural biology and cell biology.

Richard Seftor - His lab studies the mechanisms associated with how aggressive cancer cells invade and metastasize, and is presently focused on how Nodal, a TGF-beta family member, regulates the aggressive cancer cell phenotype.

David Smith - His lab is studying the workings of the proteasome – a giant molecular machine that uses energy to selectively destroy proteins. This research aims to identify drugs that target the proteasome, which could be useful to treat cancer and various neurodegenerative diseases.

Max Sokolov - The lab studies molecular mechanisms of protein homeostasis in neurons that require molecular chaperones.

Peter Stoilov - Alternative pre-mRNA splicing in cancer progression; Drugs targeting alternative splicing as cancer therapeutics; High-throughput research methods.

Mark Tseytlin - His lab is developing new spectroscopic and imaging methods for in vivo Electron Paramagnetic Resonance (EPR).

For more information about faculty actively seeking students for their laboratories, visit our online look book at:

<http://medicine.hsc.wvu.edu/biochemistry/research-opportunities/>



Training graduate students since 1956

"The education I received (at WVU) prepared me to think critically, independently, and in group settings. I have used this throughout my career, whether it was as a post doctoral fellow, a research scientist with a pharmaceutical consulting firm, or currently, as a clinical scientist with a medical device firm. This solid foundation will be beneficial, no matter what career path is chosen."

Jason Waggoner, Ph.D.,
Clinical Scientist, Ethicon

"I remember when I went off to my post-doc... I was the "go-to" person (for) molecular biology techniques, and the only one who knew how to fix the equipment! I was trained – not only in state-of-the-art experimentation, but also very important pragmatic issues of running a lab."

Leslie Bruggeman, Ph.D.,
Associate Professor, Case Western Reserve University

"The training that I received at WVU was an invaluable tool for my... professional career in science. My transition from Biochemistry to Molecular Immunology... was easy even though I was not a trained immunologist."

Debbie Hodge, Ph.D.,
Staff Scientist, National Cancer Institute

Where are our graduates?

They are postdocs:

Harvard, NIH, UC San Diego, Univ. of Cincinnati, Univ. of Wisconsin, University of North Carolina, Washington University

They are faculty at:

University of Pittsburgh, University of Michigan

They are in industry:

Bayer, Pfizer, Protea

Questions?

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Choosing Graduate Training In Biochemistry and Molecular Biology



Why be a Biochemist?

Studying Biochemistry and Molecular Biology means that you are learning about how molecular events in cells and how the structure and function of molecules regulate the whole organism. It is a field where we ask, "how does that happen?" and not just, "what happens if?" This is a field for individuals with natural curiosity about how life works.

Flexibility for your future career is a key feature of graduate training in Biochemistry and Molecular Biology. The fundamental knowledge and laboratory skills learned in this program allow easy transitions into the study of multiple scientific disciplines. Biochemical experimentation is integral for the development of new drugs and for obtaining the knowledge that enhances our understanding of disease processes. As a graduate of this program you will be prepared for a career in academics, the pharmaceutical industry, or the government sector.

Dr. Aaron Robart, Ph.D., one of our newest faculty members

Opportunities for professional development

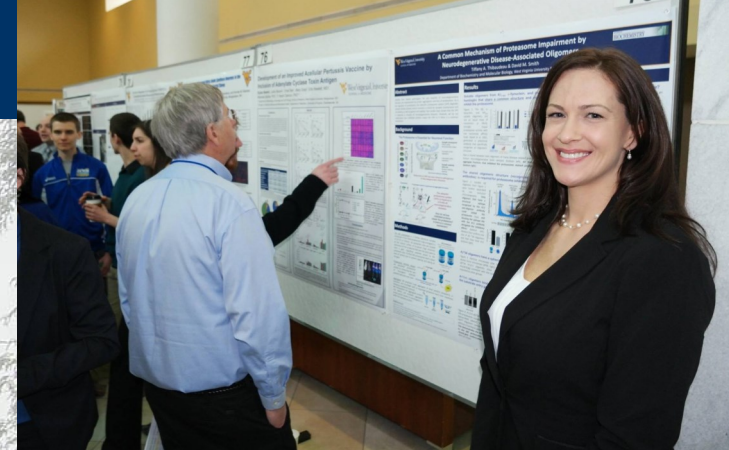
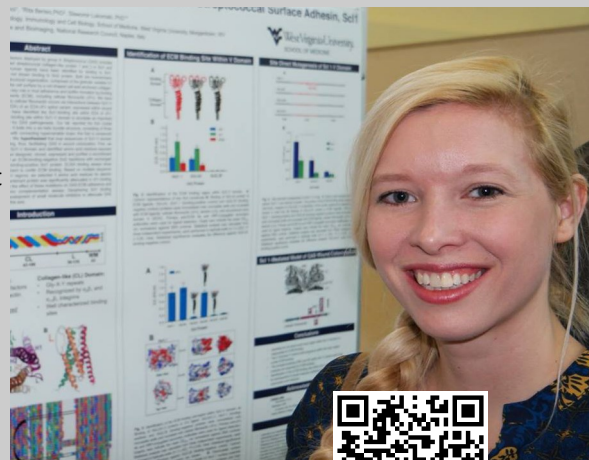
- Attendance of national and international conferences
- Developing speaking skills through research talks and seminar presentations.
- Developing teaching skills by mentoring undergraduates and giving lectures
- Obtaining top-notch laboratory skills
- Publishing in top tiered journals
- Applying for and receiving fellowships

- **Zach Hartman** - Department of Defense Breast Cancer Fellowship

- **Aaron Snoberger** - National Institute of Health F31 Fellowship



PhD: University of Calgary,
Postdoctoral Training: University of California, Berkeley & San Diego



Curriculum Highlights

- Flexible curriculum to allow time for electives
- Advanced courses are literature based
- Opportunities for students to invite seminar speakers
- Student organized journal club
- Qualifying exams:
 - written – year 2, take-home on topic of student's choice
 - oral – year 3, defense of dissertation proposal
- Opportunities to develop seminar skills

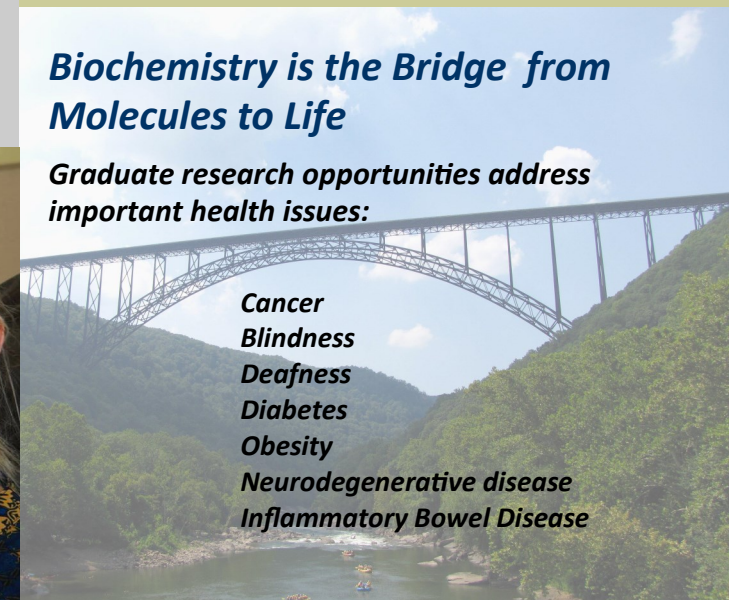
<http://medicine.hsc.wvu.edu/biochemistry/education/graduate-program/>



Biochemistry is the Bridge from Molecules to Life

Graduate research opportunities address important health issues:

Cancer
Blindness
Deafness
Diabetes
Obesity
Neurodegenerative disease
Inflammatory Bowel Disease



Graduate Program in Biochemistry & Molecular Biology

<http://www.facebook.com/WVUBiochemistry>