

TRANSLATIONAL LIFE SCIENCE TECHNOLOGY CAREER PATHS



The TLST program was created and designed to align with the emerging field of translational science - both as a research area and practice in industry. Students will learn how to apply their fundamental biology and chemistry knowledge and laboratory techniques to interdisciplinary challenges within the biotechnology design and development process in areas like bioinformatics, bioprocessing, or manufacturing. With a TLST degree, students will be well prepared for a job where they can independently work as a research associate, process developer, data specialist or other key member within the pharmaceutical, agricultural, or environmental industry. Students will also be equipped for a career in translational science research where one studies ways to innovate and improve efficiencies in the drug development process.

With a TLST degree, students have a chance to use their passion for and talent in science to improve society. TLST training arms students with practical skills to contribute to and innovate within the biotech design and development process which will impact how the biotech industry more effectively and efficiently address complex societal challenges in health, food and environment.



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BIOTECHNOLOGY INDUSTRY PATH

Examples of Organizations:

Pharmaceutical Company, Medical Device Company,
Contract Research Organization

RESEARCH & DEVELOPMENT

- Genetic Engineer
- Validation Scientist
- Formulation Scientist
- Assay Developer
- Process Development Scientist (Cell Culture, Upstream, Downstream Processes)
- Computer Modeler/Programmer
- Bioinformatics Specialist

QUALITY SYSTEMS

- Quality Assurance/Control Scientist/Engineer
- Quality Control Chemist
- Quality Documentation Specialist
- Quality Assurance Auditor
- Process Validation Engineer

CLINICAL STUDIES

- Clinical Research Associate
- Clinical Coordinator
- Clinical Data Specialist
- Clinical Data Programmer

MANUFACTURING & DISTRIBUTION

- Process Development Technician
- Automation Engineer
- Environmental Health and Safety Specialist
- Product Production Planner & Scheduler
- Manufacturing Research Associate

SALES & TECHNICAL SUPPORT

- Sales Representative
- Marketing Analyst
- Marketing Manager
- Product Manager

OTHER/CROSS-CUTTING ROLES

- Systems Analyst
- Data Analyst
- Biostatistician
- Data Manager
- Patent Agent
- Lobbyist
- Technology Transfer

GOVERNMENT PATH

Examples of Organizations: NIH, FDA, USDA, DoD

- Research, Policy or Program Analyst
- Research, Policy or Program Manager
- Basic or Applied Science Research Assistant within a particular health, agriculture or environment area (Intramural Laboratory)
- Translational Science Research Assistant (Intramural Laboratory)
- FDA Reviewer
- Inspector or Auditor
- Congressional Staffer on biotechnology-related issues

UNIVERSITY PATH

- Graduate school for M.S., MPS, or Ph.D.
- Translational Science Research Assistant
- Technology Transfer Specialist
- Incubator Coordinator

HEALTHCARE INDUSTRY PATH

- Medical, Dental, Veterinary or Pharmacy school
- Medical Research Technician
- Medical Lab Technician
- Cytotechnologist
- Biomedical Equipment Technician
- Medical Technologist
- Clinical Lab Specialist

A NOTE FROM OUR ASSOCIATE DEAN



Since my early undergraduate days, I've been driven to use my STEM talents to make a societal impact.

After completing my Bachelor's degree in Mechanical Engineering at UMBC, I moved into an area where I felt like I could have more societal impact with my engineering degree - bioengineering research. At the Georgia Institute of Technology, I studied the mechanokinetic adhesion process of a cell surface receptor called E-selectin that causes leukocytes to roll on vascular surfaces during the inflammatory response.

Following Georgia Tech, I wanted to work more directly on the healthcare solutions that save lives. So I took a job at Becton, Dickenson, & Co. (BD), a \$12 billion global medical technology company that works in the area of medical discovery, diagnostics and the delivery of care.

I then took my work global through employment at the U.S. Agency for International Development (USAID). I initiated a number of programs and policies for supporting scientific research that would have that societal impact locally in

a developing country, regionally or even globally. It was important that the scientific work we funded lead to a policy, program or innovation to address challenges in global health, agriculture, biodiversity, energy, disaster, or other critical areas. Reflecting on my experience at USAID and BD, I see the translation of scientific discoveries into life-saving solutions as an area needing further attention.

Now I have the chance to use my STEM to produce a more prepared workforce for the over 300 biotechnology companies in Maryland that will find solutions to current and future, complex challenges. Looking back, there was a consistent theme in my career - my interest in translating what is produced from science and engineering to solutions that would serve society. I'm privileged to now have the chance to develop a degree program to prepare students for a career in that area - one I wish I had when I was an undergrad. I look forward to working with you!

Dr. Annica Wayman

Associate Dean

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