

2022 Medical Toxicology Foundation  
Medical Toxicology in Industry Fellow Rotation  
**REQUEST FOR APPLICATIONS**

**Deadline for Receipt of Applications:**

July 14, 2022 (for October 2022 rotation)

October 30, 2022 (for February 2023 rotation)

**Number of Awards:** 8-10 (4-5 awarded for each rotation)

**Nature of Rotation:** 4-week virtual rotation

**Rotation Periods:**

Rotation 1: 10/3/22 – 10/28/22

Rotation 2: 2/6/23 – 3/2/23

The mission of the Medical Toxicology Foundation is to advance research and education in the prevention and treatment of patients adversely impacted by drugs, chemicals, and natural toxins. This program supports the mission by providing an opportunity for applicants to enhance their education in medical toxicology during their fellowship.

**Medical Toxicology at Bayer** – Medical toxicologists are often consulted by academics and journals about the safety and benefits of industrial chemicals and pharmaceuticals. The typical medical toxicology curriculum does not include much coverage of how products are regulated for safety. The role of a medical toxicologist in industry is to evaluate products all the way from the pipeline, through production and launch and ultimately stewardship to ensure that the chemistries placed on the market are safe when used according to the label. Additionally, medical toxicologists have unique training in scientific communication, where they are able to explain complex science to lay people and academics in order to educate others about the benefits & safety of chemistries on the market. A large focus for medical toxicologists in industry is to engage with scientists, consumers, regulators, and academics to equip them with the most up to date scientific information about products on the market.

**Bayer and Crop Life** – Bayer is working every day to achieve their vision of Health for all, Hunger for none. They are making great leaps in advancing health and agriculture, so that every American can lead longer, healthier, more dignified lives.

For more than 150 years, Bayer has used science and imagination to help better people's lives by advancing health and nutrition. They are committed to a better world. A world in which:

- biodiversity thrives in harmony with humankind
- hunger and climate change are terms relegated to history books
- farms are more sustainable, with plants that are more adaptive and resilient
- agriculture increases economic prosperity for all families and their communities

Bayer is committed to improving lives through a food system that is better for farmers, consumers, and the planet.

**About Dr. Sarah Eliza Dunn (Halcomb)** – Dr. S. Eliza Dunn (Halcomb) is an emergency medicine physician and medical toxicologist with a long-standing interest in global health.

After completing her toxicology fellowship at NYU in 2006, Dr. Dunn returned to Washington University in St. Louis and started an ACGME accredited fellowship in Medical Toxicology. Over the following ten years, Dr. Dunn became increasingly involved with global health and humanitarian relief projects. She organized a relief mission to Haiti after the 2010 earthquake, started the scholar track in Global Health for the Washington University Division of Emergency Medicine, and is one of the Global Health Scholars for the Department of Internal Medicine.

Over the years, Dr. Dunn realized that, in order to have a sustainable impact in global health, she needed to find creative ways of addressing malnutrition and insect-borne illness, two of the most commonly encountered public health problems in developing countries. With that in mind, Dr. Dunn started working as the Medical Affairs Lead for Bayer, a global seed and chemical company with innovative technology that has great potential to remediate malnutrition. Dr. Dunn has lectured nationally and internationally on a diverse range of topics in medical toxicology and global health.

**Rotation Schedule** – For 2022-2023, the Medical Toxicology in Industry Fellow Rotation program will have Bayer hosting eight (8) to ten (10) fellows for a one-month virtual rotation. These fellows will be selected in two cohorts. The first cohort of four (4) to five (5) fellows will be selected in the spring of 2022 from the current class of first-year fellows. These fellows will then participate in this virtual rotation during October 2022. The second cohort of four (4) to five (5) fellows will be selected in the fall of 2022 from both the first- and second-year fellow class. They will participate in the virtual rotation during February 2023.

## **SCOPE, OBJECTIVES, CURRICULUM AND EXPECTATIONS**

### Scope

The focus of this program is to create opportunities for fellows to experience another facet of medical toxicology during their fellowship and introduce them to the possibility of a career in industry. The goal is to teach the principles of product development from the R&D pipeline, through the regulatory process, to launch and post market stewardship. The rotation will address the gap in understanding the role of industry and the regulatory oversight of bringing important technology from the academic arena to the public sphere.

## Objectives

By the end of the rotation, fellows will:

- Be able to describe the process of bringing important chemistries from the bench to the bedside
- Be able to describe the difference between a hazard and a risk assessment
- Be able to describe the roles of the FDA, EPA, and USDA in regulating chemistries
- Understand the regulatory aspects of pharmaceutical safety as well as food and feed safety
- Understand how companies steward their products once they are on the market

## Curriculum

The rotation will consist of four modules: Crop Protection, Consumer Health, Pharma, and Wrap-Up.

This course proposes to introduce fellows to a group of cross-divisional industry professionals from Bayer Crop Science, Consumer Health and Pharma. These professionals will provide the fellows with an overview of how different products across divisions are discovered, tested, and regulated before they go to market.

### **Module I – Crop Protection**

Day 1: Agriculture 101, Tour

Day 2: Regulation of Crop Protection Products 101, Tox profiles of Crop protection Products

Day 3: Intro to Regulatory Science & Human Safety

Day 4: Topics in Crop protection

Day 5: Seeds & Traits – Plant Breeding & Regulation of Crops

Day 6: Seeds & Traits – Stewardship & Special Topics

Day 7: Environmental Safety, Regulatory Issues management

### **Module II – Consumer Health**

Day 1: Definition of Consumer Health

Day 2: Consumer Product Regulation 101

Day 3: Stewardship of CH products

Day 4: Regulatory Toxicology CH

### **Module III – Pharma**

Day 1: From Bench to Bedside 101

Day 2: Regulation of Pharmaceuticals 101

Day3: Regulation of Pharmaceuticals 102

Day 4: Post-Marketing Surveillance/Stewardship of Pharmaceuticals

### **Module IV – Wrap Up:**

Day 1: Scientific Communication & Transparency

Day 2: “Food Evolution”

Day 3: “Shot in the Arm”

Day 4: Work on Presentation & Paper

Day 5: Thank you!

### Expectations

It is expected that a final paper on a topic of interest will be written and submitted for publication as well as the development of a lecture. This could be a single or collaboration of more than one fellow. Each fellow will also receive a certificate of completion for the coursework provided by Bayer.

### **TERMS OF THE ROTATION**

#### Time Expectations:

Time schedule of the rotation is 9:00am to 5:00pm CST Monday through Friday. Fellows will be expected to attend lectures daily, will do the assigned reading and generally focus their attention on the work of the rotation. It is expected that the fellow will not have institutional responsibilities during the period of the rotation in accordance with the host organizations requirements. Time commitments outside of rotation must be in line with ACGME guidelines.

#### Location of Rotation

Virtual (2022 – 2023 academic year)

### Financial Support

There is a limited amount of funding available to offset any potential costs of the fellow's participation in the rotation. These will be addressed on an individual basis.

### Liability of the MTF

The MTF assumes no financial or other liability of any kind related to the conducting of the rotation. As a condition of accepting the rotation, the fellow, the fellow's institution, and the site indemnify the MTF against any and all liability rising from the conduct of anyone involved with the rotation.

### Final Evaluation

A 360-degree program evaluation will be required from the fellow, the fellowship director, and the rotation site contact. This evaluation will be developed by the MTF and provided within 15 days of the end of the rotation period.

### Change in Status of the Fellow

If there is a change in status and the fellow is unable to complete the rotation for any reason, they must promptly notify the MTF by emailing Program Manager, Mukta Deia at [mukta.deia@acmt.net](mailto:mukta.deia@acmt.net)

## **EVALUATION OF APPLICATIONS**

Each application will be reviewed by a committee of the MTF board of directors, and all decisions will be final.

Applications will be evaluated on the following parameters:

- Completeness of the application package
- Clearly expressed interest in and expectations from the program
- Letter of Support from Fellowship Director

## **CONTACT INFORMATION**

Questions regarding this proposal should be sent by email to Mukta Deia ([mukta.deia@acmt.net](mailto:mukta.deia@acmt.net))

### Application Instructions

The application package should include:

- A. Letter of Interest- stating why you are interested in the Medical Toxicology in Industry Fellows Rotation program, the value to your future career path, and what

- you hope to get from the rotation. Letters must contain the available rotation periods ranked by preference. Letters should be limited to one (1) page.
- B. Letter of Support – from your Fellowship Director
  - C. Current resume/CV

All materials should be sent to Mukta Deia at [mukta.deia@acmt.net](mailto:mukta.deia@acmt.net)

**Timeline for October 2022 Rotation:**

Applications are due by 7/14/2022

Review will take place 7/15 – 7/22/2022

Notifications will be made 7/28/2022

**Timeline for February 2023 Rotation:**

Applications are due by 10/30/2022

Review will take place 10/31 – 10/7/2022

Notifications will be made 11/14/2022