

## 2022 Global Senior Scholar Exchange Program Host

### HOST APPLICANT

**NAME (FIRST, MIDDLE INITIAL, LAST): LILI TANG**

TITLE: ASSOCIATE PROFESSOR

Institution: University of Georgia

Department: Environmental Health Science & Interdisciplinary Toxicology Program

### ADDITIONAL HOST APPLICANT (IF APPLICABLE)

**NAME (FIRST, MIDDLE INITIAL, LAST): JIA-SHENG WANG**

TITLE: PROFESSOR & DEPARTMENT CHAIR

Institution: University of Georgia

Department: Environmental Health Science & Interdisciplinary Toxicology Program

### ORGANIZATIONAL OVERVIEW:

- Department Chair: Jia-Sheng Wang
- Number of Faculty/Staff and Disciplines Represented: 10 faculty/3 staff members

For Academic Institutions:

- Current Number of Students in Master's Program: 15 (MS+MPH)
- Current Number of Students in PhD Program: 33
- Current Number of Students in other Toxicology-related Programs: 12
- Number of students recruited per year: 15-20 for MS & PhD Programs
- Our Department also have 120 undergraduate students.

### APPLICANT'S STATEMENT OF IMPACT: (250-500 words)

*What attributes, skills and experiences do you plan to offer to a visiting Scholar to enable them to enhance their toxicology capabilities within their program, research and within their developing region? Specifically, discuss where your focus would be during the year of the exchange compared to the next 2-5 years of your Host-Scholar relationship.*

I currently serve as associate professor at the Department of Environmental Health Science, College of Public Health, University of Georgia (UGA). I am also a faculty member in the Interdisciplinary Toxicology Program under the Graduate School of UGA. I have over 25 years' research experience in environmental health and toxicology areas. The long-term goal of my research is to better understand health effects of exposure to environmental toxicants and individual response by integrating the microbiome, exposome, multi-omics, model organism, and biomarkers. I have been working on a number of important environmental chemicals ranging from natural foodborne mycotoxins to heavy metals, as well as others with significant public health concerns. My laboratory has successfully isolated several biologically active components from tomatoes, green tea, and bamboos, and studied their inhibitory mechanisms on pathogenesis of human chronic diseases. I have published 92 peer-reviewed articles, 2 books and 3 peer-reviewed book chapter, and has 2 book chapters in press. As of March 17,

2021, my publications have been cited 3201 times (data from Google Scholar) with an h-index of 33 and i10-index of 53. I have garnered international and national recognition on my research, as demonstrated by invited seminars and presentations in the international conferences. I have maintained active collaboration with researchers at Texas A&M University, Texas Tech University, Makerere University, and Jiangnan University. The collaborative efforts have resulted in many publications. I have an active USAID funded research project conducted in Uganda via collaborations with toxicology faculty at Makerere University School of Public Health. The goal of the project is to study how environmental exposure to foodborne mycotoxins affects children growth and development and to apply intervention strategy to mitigate those adverse effects with supplement of healthy food components. This project will cover next 3 years (2021-2024). The application proposed aims to bring a senior toxicologist who had a PhD in Toxicology from SUNY Albany and has also been a collaborator to visit UGA and attend the SOT Annual Meeting. The visitor will communicate with faculty and students in the Department of Environmental Health and the Interdisciplinary Toxicology Program at UGA, in addition to make wide connections at the SOT Annual Meeting. We will use the opportunity to discuss future collaborations on toxicology between UGA and Makerere University.

**GENERAL RESEARCH, COURSEWORK AND TEACHING CAPABILITIES: (250-500 words)**

The Department of Environmental Health Science (EHS) was established in 1998 and is one of the four core departments within the College of Public Health (CPH). As an academic unit at the University of Georgia (UGA), EHS is committed to teaching, research, and service to the State of Georgia and beyond. The mission of the Department is to become a nationally recognized academic provider for training internationally recognized leaders in the environmental health and toxicology field. The Department offers full coursework for an undergraduate program (BSEH), three master's programs (MSEH, MS in Toxicology and MPH with a concentration in EHS) and three doctoral research program (DrPH with a concentration in EHS, PhD in EHS and PhD in Toxicology), and syllabi for each of the courses are available online at the UGA Bulletin (<http://bulletin.uga.edu/CoursesHome.aspx>). Specifically, we offer Environmental Toxicology (EHSC 4490, 3 credit hours); Principles of Toxicology (EHSC 7490, 3 credit hours); Fundamentals of Ecotoxicology (EHSC 8350, 3 credit hours); Fundamentals of Risk Assessment (EHSC 8110, 3 credit hours), and Biomarkers in Public Health and Toxicology (EHSC 8250, 3 credit hours).

The Department has office space for faculty, staff, post-doctoral research associates, research professionals, and graduate students, and instructional space (a large classroom, two small teaching rooms and a teaching laboratory), computer support (including a student computer lab) and laboratory research space. All EHS faculty members are also faculty members of the Interdisciplinary Toxicology Program (ITP), which is administered under the Graduate School of UGA. All regular EHS faculty have a 50% research appointment for maintaining their own active research programs with focused areas on assessment of toxicological impacts and risks of human and animal exposure to airborne toxicants, waterborne toxicants, and foodborne toxicants. The University and Department also established many facility cores equipped with the advanced instruments to provide support to faculty research needs.

BROADENING THE REACH AND IMPACT OF TOXICOLOGY GLOBALLY IS ONE OF SOT'S STRATEGIC GOALS.

*Please identify any relevant global outreach/collaborative activities in which individual faculty members, department, or the institution as a whole have been engaged: (250- 500 words)*

One of the characteristics in our Departmental research is the international collaboration and the

global outreach. Our Department Head, Dr. Jia-Sheng Wang, has devoted all his career on studying global etiology and prevention of chronic diseases linked with environmental toxicants, including liver and esophageal cancer studies in rural areas of China in 1980-2000. In past 20 years, under the support of USAID, he collaborated with many US research Institutions conducted studies in many developing nations, including Ghana, Burkina Faso, Nigeria, Kenya, Malawi, Rwanda, Tanzania, Uganda, Zimbabwe, and Nepal to explore the correlations between mycotoxins exposure and children's growth stunting. Dr. Luke Naeher, a professor of our department has collaborated with a world-wide investigators' team to conduct research to explore the health impacts and interventions of indoor air pollutants in Peru and Guatemala, South America. Dr. Travis Glenn, a professor of our department, focused on global ecotoxicological assessment of environmental toxicants on alligators. He collaborated with Institutions of China and Mexico. My own research in last has involved in collaborations with Makerere University in Uganda, Jiangnan University and Nantong University in China. I will host three graduate students in the fall semester starting in August 2021 (two from Pakistan and one from Uganda). Both Dr. Wang and I have involved in the USDA funded global training program in the College of Agriculture and Environmental Science, UGA and had trained three visitors from African countries (One from Malawi, one from Rwanda, and one from Uganda).

*If this application is successful, which resources and programs within SOT do you plan to share with your Scholar and why? (250-500 words)*

If this application is selected, I plan to share with the scholar for several resources and programs within SOT. The most important one is the SOT Global Initiatives, including Global Partners and Global Presence, and related meetings and events, such as global awards and grants. The next resources is the SOT Annual Meeting information and programs, including tour the scholar for how to use tools Annual Meeting provided. The other resources to share is the SOT websites, including general information, membership benefits and publications such as Toxicological Sciences, as well as ToXchange. I also plan to share with the scholar about SOT Specialty Sections, specifically for Food Safety Specialty Section and Carcinogenesis Specialty Section for which I have been involved; then the Special Interest Groups, especially for Toxicologists of African Origin. The rationale to share these resources is to expose the scholar to the reality of the toxicological field and update the scholar's view on toxicology. The other rationale is to promote scholar's network capacity, build up connections and contacts within the SOT members and leaders to establish a foundation for future collaborations between Academic Institutions and SOT.

#### **PROPOSAL FOR ENGAGEMENT WITH SCHOLAR'S INSTITUTION (250-500 WORDS)**

*The benefits of a face-to-face exchange is such that the scholar and host can best establish a collaborative working partnership. Interacting directly at your institutions provides a holistic and unrehearsed interaction that can best provide attention of the needs and desires for furthering toxicology in the developing region. Although technological advances have allowed us to all collaborate during the pandemic and times of geopolitical unrest, there is no equal substitute for face-to-face interaction over the course of several weeks.*

I plan to use the opportunity during the scholar's visit to get to know the current infrastructure of Toxicology in scholar's Institution and home country, including their needs in toxicology educational programs, research programs, and professional organizations for which we can propose better engagement plan with the scholar's Institution. In toxicological education aspect, we can introduce our educational program management structure and provide our course syllabi for his/her Institution to share; we can propose to establish a cooperative agreement between

UGA and Scholar's Institution, if it has not been established before. Such an agreement, once approved by leaders of both Institutions, a short-term exchange program for undergraduate and graduate to visit each Institution can be initiated to improve the global view for students from both sites. If it is needed, under the cooperative agreement, we can provide short-term training for their faculty members in our Toxicology Program. Global research collaborations are the important part of the engagement plan. Prior to the scholar's visit, we can learn what the research expertise and interest areas the scholar and their Institution have, and we can propose collaborative projects during his/her visit to discuss, especially in environmental health and toxicology related areas, such as studies on the adverse health/toxic effects of indoor air pollutions, water pollutions, and food contaminations in human populations. We can start with pilot projects to collect preliminary data for potential collaborative research grant proposals. I plan to give seminars to their faculty and students during my visit to the scholar's Institution to introduce SOT's Global Initiatives and activities as well as my toxicological research conducted in UGA. Moreover, I can serve as a liaison to link toxicological organization in his/her home countries with the regional Society of Toxicology, including the Southeast Society of Toxicology which I have been a member for years, and the Specialty Sections of SOT. Since colleagues at my department conducted collaborative research works in several developing countries in Asia, Africa, and South America, if the scholar is selected from one of the country with the existing collaborative activities, I can work with my colleagues to organize a special team to engage with the scholar's Institution.

**PLEASE DESCRIBE WHAT CONTENT AND MATERIALS YOU AIM TO SHARE WITH YOUR SCHOLAR AND OVER WHAT TIMEFRAME (HOURS, DAYS, WEEKS) THEY WILL BE SHARED. INDICATING THE AUDIENCE, SUCH AS TRAINEES, FACULTY, COLLABORATORS OF THE SCHOLAR, IS HIGHLY ENCOURAGED. ALTHOUGH THE SCHOLAR IS NOT YET PAIRED, AN ITEMIZED, ESTIMATED BUDGET (UP TO \$5000) SHOULD BE PROVIDED TO ENSURE RESOURCES FOR MATERIALS, TRAVEL AND LODGING ARE DIRECTED APPROPRIATELY FOR YOUR VISIT TO THE SCHOLAR'S INSTITUTION.**

*If, for whatever reason, some content will be presented virtually, cite rationale and how it will be delivered/shared (e.g., videoconference, webinar, video chat, etc.) and over what time frame. Of course, with virtual materials and discussions, budgets should be adjusted accordingly.*

**A tentative itinerary for hosting the scholar is drafted based on four-week visit, which will be dated in detail if the application is approved, and the scholar is identified:**

**The week one:**

Meet the Scholar at the SOT Annual Meeting site and serve as the guider for the registration, attending all required meeting events, introduce the scholar to SOT leaders and members at the different levels (students, postdoctoral, and full members), expose the scholar to different programs, including platform speech, symposium, and post sessions.

**The week two:**

Return to UGA Athens Campus; meet with College and Departmental leaders, tour the campus and major research facility cores related to Toxicological research.

Meet with faculty members and exchange at the Department of Environmental Health Science, Interdisciplinary Toxicology Program, and Institute of Global Health (30 min per faculty, need at least two days).

Meet with Graduate Student Association (GSA) Officers and communicate with MS and PhD graduate students.

Attend activities and events organized by the Department and GSA.

**The week three:**

Host lab presentations to introduce our research. The scholar make presentation to introduce their Institution and research interests.

Discuss and identify future collaboration plan.

Attend three courses (each 75 minutes) scheduled in Tuesdays and Thursdays: EHSC 4400 Environmental Health Issues in Developing Nations; EHSC 7490 Principles of Toxicology; EHSC 8110 Fundamentals of Risk Assessment; attend Weekly Departmental Seminar (EHSC 8030 scheduled in Friday noon).

Attend a research group meeting.

**The week four:**

Continue exchanging collaborative plans between the host and the scholar; Continue attending the courses: EHSC 4400 Environmental Health Issues in Developing

Nations; EHSC 7490 Principles of Toxicology; EHSC 8110 Fundamentals of Risk Assessment.

Attend Weekly Departmental Seminar (EHSC 8030 scheduled in Friday noon).

Observe demonstrations of two laboratory methods related to our toxicological research, methods will be selected by the scholar (in scholar's research interest).

Farewell party (EHS Department and ITP faculty and Graduate Students will be invited).  
Departure via Atlanta International Airport.

Note:

Tour of Atlanta, Georgia will be arranged by the host in a weekend.

SOT may contact applicants to provide information about programs of potential interest.  
[SOT privacy policy.](#)