

Predocctoral Fellowships in Environmental Health Sciences
Funded by NIEHS grant T32-ES11564

Faculty mentors participating in our NIEHS T32-ES11564 environmental health sciences training grant are invited to submit nominations for pre-doctoral fellowships. Nominees who have completed an approved dissertation proposal with a defined focus in environmental health sciences research (as defined in NIEHS Strategic Plans accessible on the [T32 training program website](#)) will be a priority. Single or teams of mentors (basic and clinical scientists or basic and population-based scientists) that emphasize the importance of multidisciplinary training and translation of basic science findings to the patient and/or community are encouraged. The T32 program is integrated with the P42 NIEHS Superfund Program and T32 trainees will be expected to participate in integrated activities.

These fellowship appointments are made for one year with reappointment for a second year based on satisfactory progress and renewal of the T32 program. The fellowships provide:

- 1) Annual allocation of \$27,144 towards stipend (supplemented by office of the EVPRI to UofL standard)
- 2) Payment of student tuition and fees
- 3) Annual research-related travel of up to \$1000

Letters of nomination should include:

- 1) Verification that the student is a US citizen or permanent resident
- 2) Student academic record including past degrees and UofL graduate student record
- 3) A description of the student research or dissertation project and an outline of how the research is broadly related to environmental health sciences
- 4) A description of how the student's dissertation research is funded
- 5) Description of the mentor's graduate student training record
- 6) Projected dissertation completion date
- 7) A description of the student's career goals
- 8) A copy of the nominee's individual development plan

There are several core courses that are required for T32 trainees (both pre- and postdoctoral). These courses have been designed specifically for this training program to facilitate the trainees' expertise in the foundation of environmental health sciences. In response to our trainees' evaluative comments, we have adjusted the requirements to allow more options in toxicology and have replaced the previous risk assessment course with a risk assessment boot camp, which provides the necessary content in a more compressed time frame. The required courses now include: Responsible Conduct of Research: Survival Skills and Research Ethics, Scientific Writing, Risk Assessment and at least one course in Toxicology (Table IV). The first two courses incorporate grantsmanship skills and project/laboratory management skills into the required curriculum. All trainees will be required to be fully knowledgeable about the responsible conduct of research using human subjects or animals. Trainees will complete all the required HIPAA and IRB training. Trainees will be also expected to complete the Research Cycle learning modules that are offered in the online Elsevier Researcher Academy. This free e-learning platform offers modules in 1) Research Preparation focused on funding, research data management and research collaborations; 2) Writing for Research focused on fundamentals of manuscript preparation, writing skills, technical writing skills and book writing; 3) the Publication Process focused on fundamentals of publishing, finding the right journal, ethics and open science; 4) Navigating Peer Review focused on fundamentals of peer review, becoming a peer reviewer, and going through peer review, and with a certified peer reviewer course; and 4) Communicating One's Research focused on social impact and ensuring visibility. Students will obtain certificates confirming their completion of this training and provide them to their committees and the T32 leadership.

Table IV. Courses required by T32 Trainees

| Title | Credit Hours | Description |
|--|---------------------|--|
| Toxicology | 3 | All trainees will be required to take at least 3 credits of coursework in Toxicology selected from 1 of the following 3 team-taught courses presented within the context of organ systems pathology: 1) Toxicology I*, directed by John Pierce Wise, Sr., the multi-PI of this T32 program, which presents emerging knowledge on the impact of toxicants on molecular and cellular processes focusing on environmental toxicants; 2) Toxicology II*, directed by Geoff Clark, Ph.D. a member of our training faculty, which presents emerging knowledge in applied toxicology; and 3) Molecular Toxicology, co-directed by J. Christopher States, Ph.D. member of our training faculty and our IAC and Carolyn Klinge also a member of our training faculty, which presents emerging knowledge emphasizing the central role of how chemical exposures alter normal cellular processes. These courses emphasize training in oral presentation skills and teaching. |
| Scientific Writing | 2 | The topics covered in this course will focus on the writing of scientific papers and grant proposals, and the ability to accurately and clearly disseminate scientific ideas and findings to the field. The course is composed of didactic lectures on the topics, coupled with related workshops/presentations by the students. Classes on the basic format and tricks/tips in writing scientific papers and grant proposals , and the review process are included. Students draft major sections of an F31 grant proposal. A major emphasis is placed on student involvement in presenting and critiquing. A mock study-section in which the student review grants gives them hand-on experience in the grant review process. |
| Risk Assessment | 2 | This Dose-Response Assessment Boot Camp course is presented by TERA (Toxicology Excellence for Risk Assessment) in our neighboring city of Cincinnati. It introduces students to the historical underpinnings of risk assessment, to methods, policies and procedures used by risk assessors in today's governmental bodies. At the conclusion of the course, students understand how to critically analyze data, and understand how toxicokinetic data are used in mode of action (MOA) and developing risk values, how to incorporate uncertainty factors and how to develop interspecies oral dose adjustments for non-cancer and cancer assessment. Dr. John Wise Sr. coordinates the course. |
| Responsible Conduct in Research: Survival Skills and Research Ethics | 1 | This is a team-taught course which utilizes a variety of participating faculty for didactic and workshop interactions. The course covers HIPAA and human subject certification requirements, conflicts of interest, research integrity, publication rights and conflicts, data management, biological research requirement, IACUC certification and education requirements, career development and other topics. |

All trainees attend departmental seminars, research conferences and journal clubs and are required to make at least one seminar presentation each year. Following these presentations, trainees receive written evaluations that are discussed with them by members of the training faculty. If nominees have not yet taken all of these courses, a commitment to complete is required in the nomination letter.

Program is open to all eligible students regardless of race, color, national origin, sex, disability, or age.

The NIH training grant program stipulates that trainees must be a citizen or noncitizen national of the United States or have been lawfully admitted for permanent residence at the time of appointment. A noncitizen national is a person who, although not a citizen of the United States, owes permanent allegiance to the United States. They are generally persons born in lands which are not States, but which are under U.S. sovereignty, jurisdiction, or administration (e.g., American Samoa). Individuals on temporary or student visas are not eligible.

One predoctoral fellowship is anticipated to be available beginning December 16, 2023.

For full consideration, the nomination is due by December 1, 2023 as a single electronic document to:

David W. Hein, Program Director
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