The National Socio-Environmental Synthesis Center (SESYNC) and Research Triangle Institute (RTI) invite applications for a two-year postdoctoral fellowship opportunity, focused on modeling the environmental and ecological impacts of food waste in the United States. The Fellow will work in residence at SESYNC in Annapolis, MD as a full participant in SESYNC’s Post-doctoral Immersion Program, and will work with Dr. Mary Muth of RTI as their primary Collaborating Research Mentor. This opportunity is open to applicants who have completed their PhD in a relevant field (e.g., environmental economics, agricultural economics, ecology, environmental engineering, environmental sciences, agricultural sciences) within the last four years (no later than July 31, 2018 and no earlier than June 30, 2014).

Applicants are expected to propose ideas for a data synthesis or modeling project that contributes to our understanding of the environmental, ecological, and economic impacts of food loss and waste across the U.S. food system, taking into consideration all sources of impacts from input sourcing in agricultural production through landfill disposal of waste. The intent is to incorporate several food system, environmental, and economic datasets into a modeling effort that will provide information for prioritizing public and private food waste reduction initiatives. According to the Food and Agriculture Organization of the United Nations (FAO), about one-third of the food produced worldwide is lost or wasted at some point in the food supply chain during production, processing, distribution, preparation, and consumption. When food is wasted, the land, water, energy, and other resources used in the production and distribution of the food impacts the environment. Furthermore, greenhouse gas emissions occur from the food production and distribution process, transporting food waste, and decomposition of food waste in landfills. As the global population increases, pressure to reduce food waste will increase to ensure adequate food supplies given available resources without further impacting the environment. Several U.S. and international efforts are underway to reduce food waste and increase the sustainability of the food system.

Prior studies have measured the environmental impacts of the food system in general, of food waste specifically, or of changes in food consumption patterns based on the dietary guidelines or other trends. This project will contribute to the existing body of knowledge by defining and modeling the environmental, ecological, and economic impacts of food loss and waste across within the U.S. food system to determine how best to prioritize waste reduction efforts. Research questions could include:

- What are the key sources of environmental and ecological impacts of food waste and loss along the U.S. food supply chain including production, processing, distribution, preparation, consumption, and disposal?
- How can we measure and model the environmental and ecological impacts of food waste and loss using existing databases at different stages of the supply chain?
- What are the key factors that affect the level of impact of food waste and loss (e.g., type of food, type of food system, region of the country)?
- Based on cost-effectiveness measures, where should initiatives to reduce food waste and loss focus their efforts?
A SESYNC-funded collaborative research team [1], led by Dr. Mary Muth at RTI and including colleagues from the University of Virginia, University of Georgia, University of Texas-Austin, Duke University, Microsoft and SESYNC, has begun initial work to identify sources and types of food waste at different stages of production, types of environmental and ecological impacts of food waste, and prior models and data sources used to characterize waste in the food system. The team has also begun to compile information about public and private food waste reduction initiatives.

The Postdoctoral Fellow will build upon this work to develop and implement a modeling approach. The Postdoctoral Fellow will take advantage of the data science and synthesis expertise of SESYNC and the interdisciplinary expertise of the research team, and will bring their own expertise in environmental, ecological, economic, or network modeling. The successful candidate will co-develop the project with collaborating mentor Dr. Mary, Director of the RTI Food, Nutrition, and Obesity Policy Research Program and Dr. Kristal Jones, SESYNC Assistant Research Scientist, will also contribute mentorship for this effort.

Application process

Preliminary screening application deadline: December 1, 2017

1. Applicants should submit a PDF of your C.V. and a detailed cover letter. The letter should: 1) outline one or more potential research projects (less than one page total); 2) provide in detail the qualifications that make the candidate competitive for this opportunity (less than half a page); and 3) how the project and an interdisciplinary fellowship at SESYNC will advance the candidate’s career trajectory (half page).

2. Applicants who have not yet received their PhD are required to submit a letter from their graduate advisor to Dr. Kristal Jones (kjones@sesync.org [2]). The letter should verify that the applicant is on track to complete all requirements for their PhD by July 1, 2018.

Qualifying Applications may be submitted until 5:00 pm Eastern Time on December 1, 2017.

Applicants will be informed within one week if they are invited to submit a full proposal and if so, will be given instructions. Invited full proposals (less than five pages) are due January 15, 2018 at 5:00 pm ET.

Proposal co-development with collaborating mentor

1. Successful qualifying applicants will be invited to co-develop a project proposal with the collaborating mentor, Dr. Mary Muth. Project proposals are due January 15, 2018.

2. Invited applicants will also need to arrange to have two letters of reference sent directly from referee to Dr. Kristal Jones by the January 15, 2018 deadline.

3. Research Proposal (five pages max, including references) should include:
   - Problem statement: Clear and concise statement of the project goals including specific research questions and how the project will advance understanding of socio-environmental systems
   - Methods to be used for the synthesis project.
   - Description of prospective Fellow's and Research Collaborator’s respective roles in the project and plans for maintaining communication throughout the project.

For questions about the postdoctoral project, contact Dr. Mary Muth (muth@rti.org [3]) directly; for questions about the SESYNC program, contact Dr. Kristal Jones (kjones@sesync.org [2]).

Submission Instructions:

Click here [4] to apply for preliminary screening using SESYNC’s Application Webform.

The University of Maryland is an Equal Opportunity Employer [Minorities and Women Are Encouraged to Apply]