Opportunity Title: A process systems framework for end-of-life chemical release modeling and worker exposure
Opportunity Reference Code: EPA-ORD-NRMRL-LMMD-2018-07

Organization U.S. Environmental Protection Agency (EPA)

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How to Apply A complete application consists of:

- An application
- Transcripts – Click here for detailed information about acceptable transcripts
- A current resume/CV, including academic history, employment history, relevant experiences, and publication list
- Two educational or professional references

All documents must be in English or include an official English translation.

If you have questions, send an email to EPArpp@orau.org. Please include the reference code for this opportunity in your email.

Description The determination and assessment of the risk that a chemical may have across the compounds life-cycle are essential to protect human health and the environment. Due to the size and limitations of current evaluation techniques, modules to generate rapid screening of chemicals would be useful to stakeholders to assess end-of-life scenarios for tracking chemicals in waste streams and the subsequent environmental releases and worker exposures, including end-of-life scenarios based on chemical type and function.

To properly explain the best practices in end-of-life scenarios of chemicals, the participant may broadly conduct research in recycling and disposal options for chemicals under interests. The research participant's understanding of various end-of-life options for chemicals may be helpful in supporting the continued development of computational tools to quantify chemical release profiles. In collaboration with EPA scientists, the research participant may support the determination of chemicals present in recycling and disposal options and aid in the preparation of peer-reviewed manuscripts and reports from the conducted research.

This research training opportunity will provide the research participant with state-of-the-art knowledge and networking opportunities to exchange experiences and information in estimating chemical release profiles and analysis of their presence in recycle and disposal options. This research will provide the research participant the fundamentals to continue their next educational paths (pursuit a Ph.D. degree) and acquire qualifications for future employment in areas such as end-of-life of chemicals and process design and modeling for chemical waste treatment.

This program, administered by ORAU through its contract with the U.S. Department of Energy (DOE) to manage the Oak Ridge Institute for Science and Education (ORISE), was established through an interagency agreement between DOE and EPA. The initial appointment is for one year, but may be renewed upon recommendation of EPA and is contingent on the availability of funds. The participant will receive a monthly stipend

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commensurate with educational level and experience. Proof of health insurance is required for participation in this program. The appointment is full-time in the Cincinnati, Ohio area. Participants do not become employees of EPA, DOE or the program administrator, and there are no employment-related benefits.

The mentor for this project is Gerardo J. Ruiz-Mercado (ruiz-mercado.gerardo@epa.gov). The anticipated start date for the appointment is October 1, 2018.

Qualifications

Applicants should have received a MS and BS degree in chemical engineering, environmental chemistry, material and process engineering, and/or engineering sciences within five years of the desired starting date. A background in chemical process synthesis and optimization, end-of-life materials management, Microsoft Excel VBA programming, environmental releases and worker exposures, and multi-criteria decision-making tools is desirable.

Eligibility Requirements

- **Degree:** Master's Degree received within the last 60 month(s).
- **Discipline(s):**
  - **Chemistry and Materials Sciences** (1)
  - **Engineering** (3)