IRES: International Research Experiences for Students

Addressing Critical Challenges of Anaerobic Digestion Biotechnology

Purdue University Northwest

IRES Mentors/Sites:

Dr. Bipro Ranjan Dhar
University of Alberta, Edmonton, Canada
Dr. Elsayed Elbeshbishy
Toronto Metropolitan University, Toronto, Canada

Funding
$5,000 (stipend) + $1,500 (Food)
Housing and Travel Expenses are also provided.
Send a brief e-mail to Dr. Gude, VGude@Purdue.edu to request application materials

Eligibility: All graduate and undergraduate students interested in anaerobic digestion, artificial intelligence, bioelectrochemistry, microbiology, process simulation, resource recovery, and sustainable biotechnology research.

Applicants must be U.S. Citizens, Nationals or Legal Permanent Residents

Topics:

- Microbiological processes/ Microbiomes in Anaerobic Digestion (AD)
- Impacts of micro/nanoplastics and antibiotic resistance genes
- Electro-assisted AD for bioproduct recovery
- Impacts of micro/nano bubble aeration, mixing and operating temperature
- Chemical and physical treatment of digestate
- Artificial Intelligence for process optimization and resilience
- Process modeling for resource recovery and management

Activities:

- 1 Week of Preparation and Reflection in the U.S.
- 7 Weeks of International Research Experiences in **Canada**
- Engaging with World Class Research Environments in **Canada**
- Research and Professional Development Workshops
- Symposia and Research Presentations
- Field Trips and Free Time on Weekends

Important Dates

Application Deadline:
January 31, 2026

Notification of Selection:
No later than February 15, 2026

IRES Program
June 1 – July 25, 2026

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