



**is a global network of students and instructors who are
"studentsourcing" antibiotics from soil bacteria
(mostly college)**

We face pressing global challenges



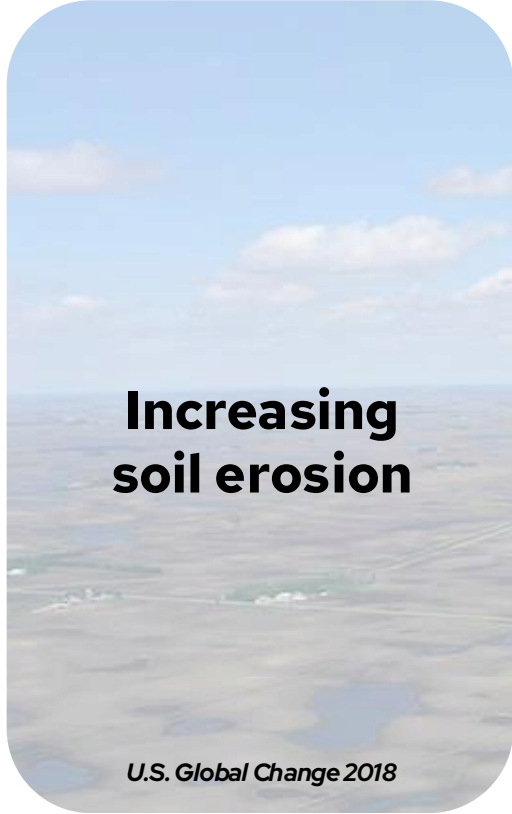
**Increasing
opportunity
gaps in
STEM
higher
education**

Theobald et al 2022; Bensimon 2005



**Increasing
antibiotic
resistance**

Silver 2011; O'Neill 2014



**Increasing
soil erosion**

U.S. Global Change 2018

Tiny Earth addresses global challenges via three goals



Goal 1: Inspire diverse students to persist in science

Opportunity gaps between overrepresented and underrepresented students have been called “**one of the most urgent and intractable problems in higher education.**”



Tiny Earth is a CURE

Course-based Undergraduate Research Experience

Hallmarks of a CURE

- Authenticity
- Iteration
- Ownership
- Relevance
- Discovery
- Dissemination



CUREs promote student learning



CUREs increase:

- Research skills and project ownership
- Confidence, self-efficacy, and belonging in science
- Retention in science

CUREs provide access:

- Research experiences at scale
- All types of colleges



**Just one CURE in college can
increase persistence in science**

Goal 2. Address the dwindling supply of antibiotics



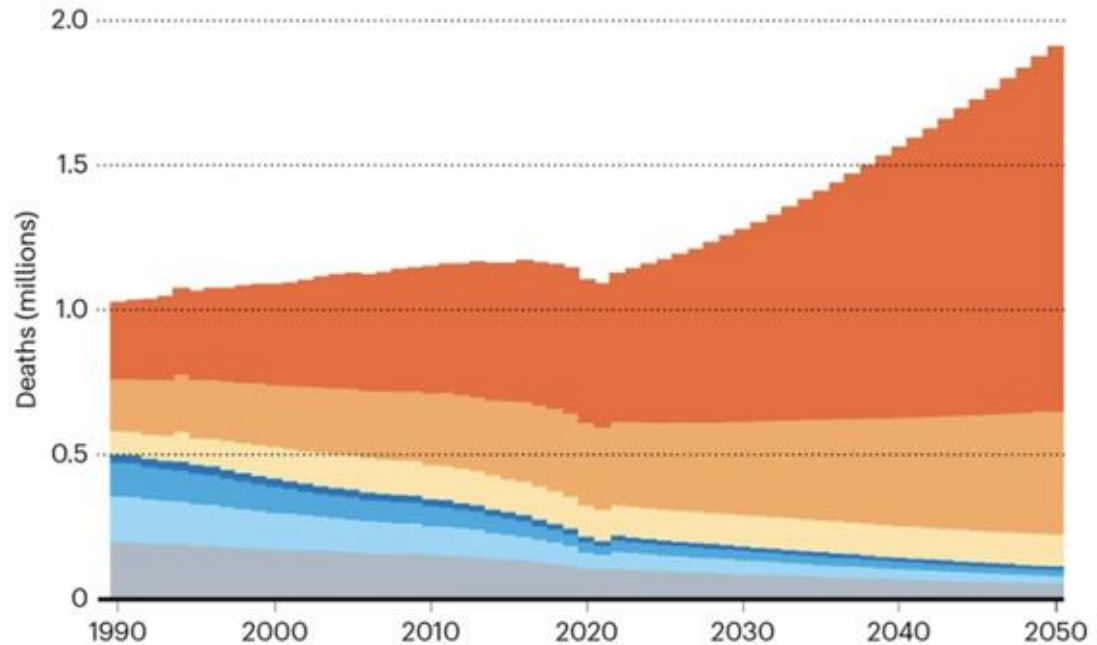
Antibiotic resistance is on the rise

RESISTANCE CRISIS

Naddaf, 2024

By 2050, antimicrobial resistance could be responsible for 1.91 million deaths per year. Mortality is projected to rise by around 70% among people aged 70 and older, but will continue to fall in young children and babies.

■ Neonatal ■ Postneonatal ■ 1-4 years ■ 5-14 years
■ 15-49 years ■ 50-69 years ■ ≥70 years





Scientists are warning of a looming crisis



United Nations

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Antibiotic resistance surges globally, UN health agency warns

AAMCNEWS

Where are we in the battle against antibiotic-resistant infections?

A World Health Organization report finds that antibiotic resistance rose during the COVID pandemic. In the United States, antibiotic stewardship, research into microbe-killing viruses, and a push to attract more doctors to the field are yielding results.

nature

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[nature](#) > [news](#) > article

NEWS | 17 September 2024 | Correction [24 September 2024](#)

40 million deaths by 2050: toll of drug-resistant infections to rise by 70%

By 2050, around 2 million people – the majority aged 70 and over – could die from drug-resistant infections each year.

CDC Report Finds Sharp Rise in Dangerous Drug-Resistant Bacteria

RELEASE

📅 For immediate release: September 23, 2025

CDC Media Relations

📞 (404) 639-3286

🌐 <https://www.cdc.gov/media/>

Yet antibiotic discovery has been largely abandoned



nature

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OUTLOOK | 21 October 2020

Why big pharma has abandoned antibiotics

A lack of financial incentive has meant large pharmaceutical companies have left the market



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WHO releases guidance for urgently needed new antibiotics

News brief | March 12, 2026

frontiers

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Science news > Frontiers news > "Antimicrobial resistance pandemic"

"Antimicrobial resistance pandemic will kill more people than cancer by 2050 and no one at Davos is talking about it" – leading scientists speak out at Frontiers Science House

At [Frontiers Science House](#), Vanina Laurent Ledru, Chief Public Health and Government Affairs Officer of Institut Merieux and bioMérieux, warned that antimicrobial resistance (AMR) will be the next "pandemic" like COVID-19, killing more people than cancer by 2050. Peter Sands, Executive Director of the Global Fund to Fight AIDS, Tuberculosis and Malaria, and Adelle James, Co-founder & Chief Technology Officer of Phagos, urged immediate global action against AMR.



Goal 2: Address the dwindling supply of antibiotics



Tiny Earth's college students look for new antibiotics in soil bacteria worldwide

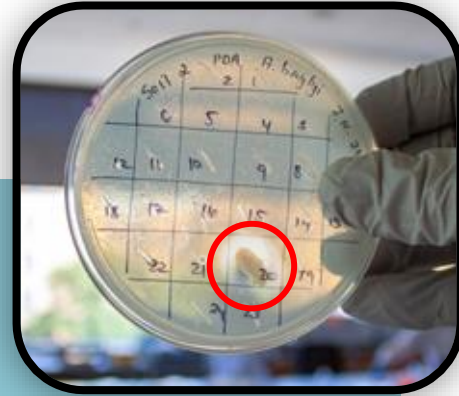


MODULE I

Isolate bacteria from soil

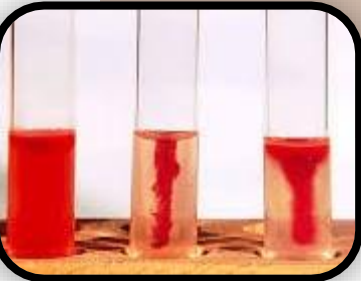
MODULE II

Screen isolates for antibiotic production



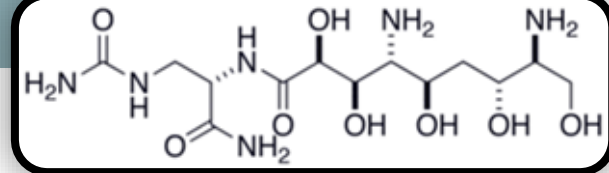
MODULE III

Characterize antibiotic-producing bacterial isolates



MODULE IV

Elucidate antibiotic compounds

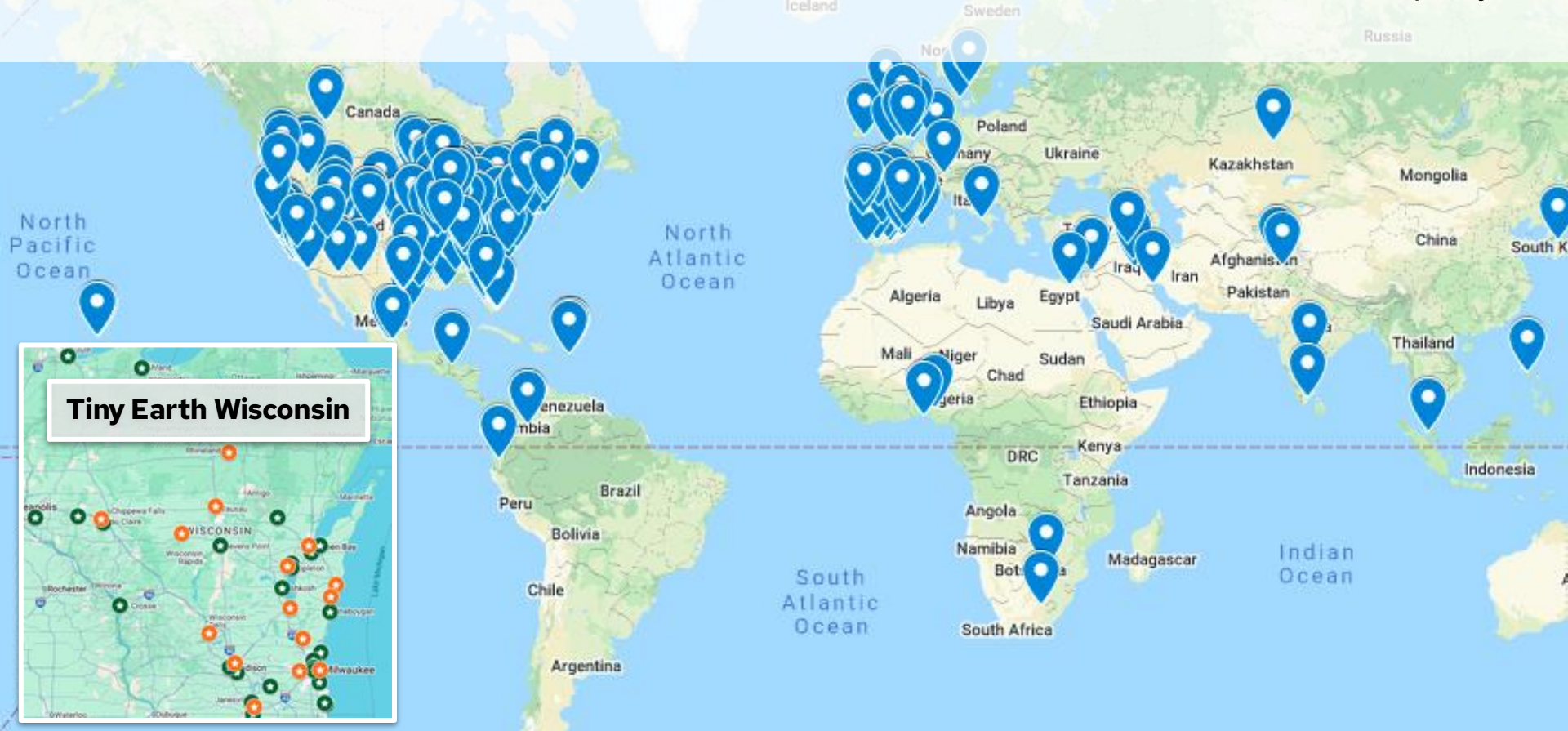


Students disseminate their research findings



Tiny Earth is a network

of more than 900 instructors in 33 countries who teach more than 18,000 students per year



Our main expansion tool is TEPI* Training

Which are based on:

- *Scientific Teaching*
- *Entering Mentoring*

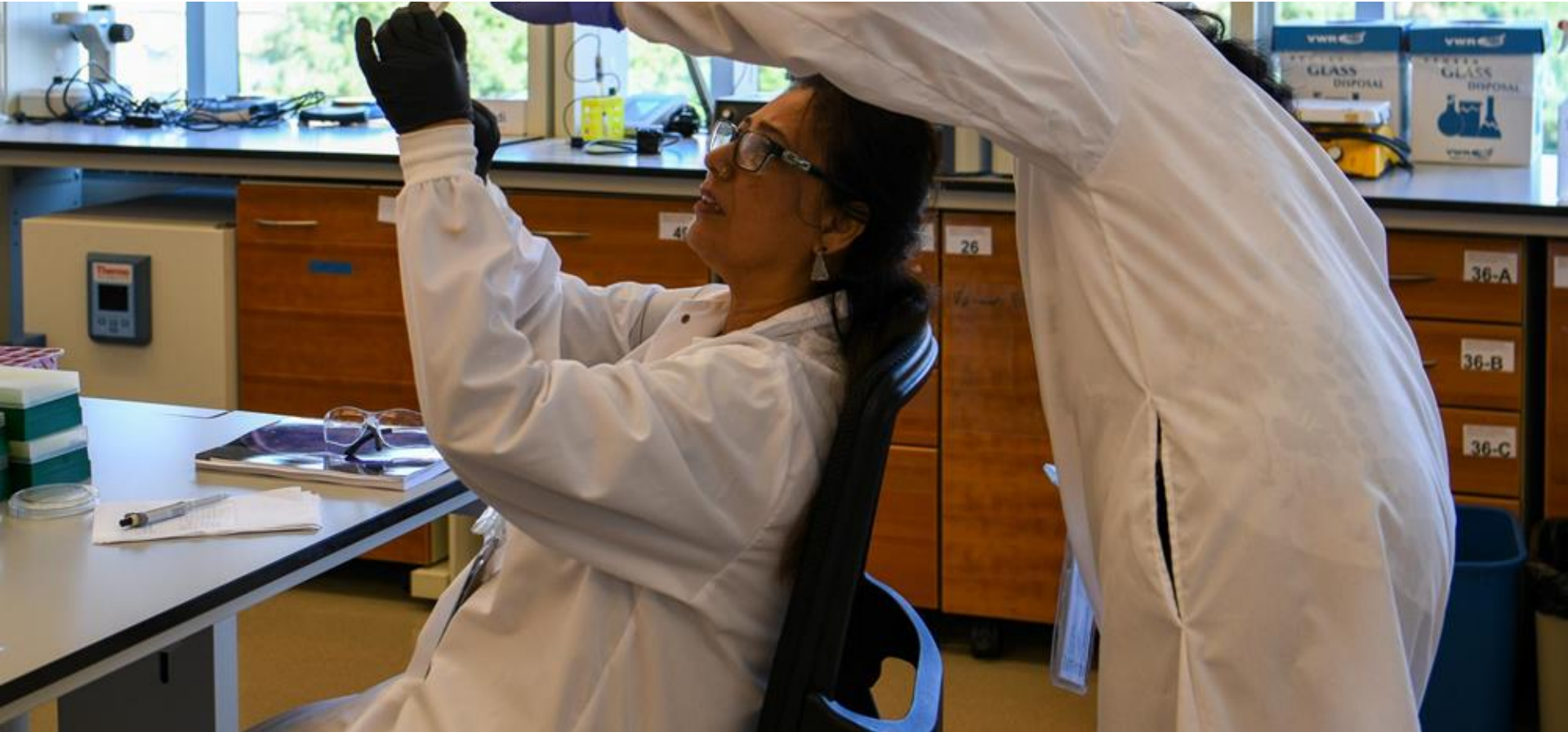


*Tiny Earth Partner Instructor

TEPIs work in facilitated groups during the training



TEPIs learn scientific teaching principles



TEPIs go through all the lab research and protocols



Tiny Earth is an antibiotic-discovery pipeline

...that aims to discover novel antibiotics





Thanks to our sponsors



United States Department of Agriculture
National Institute of Food and Agriculture



U.S. Department of Education



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UNIVERSITY OF WISCONSIN-MADISON

Catalent.

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Tiny Earth students, instructors, and staff