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Sustainability Seminar Series

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Sep 10th, 4:00 PM - 5:00 PM

## **Viability and Ecology Based tools for Studying Antibiotic Resistance**

Nicole Fahrenfeld  
*Rutgers University*

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**MONTCLAIR STATE**  
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The Doctoral Program in Environmental Science & Management  
and MSU Sustainability Seminar Series Present:

## Viability based tools for studying antibiotic resistance

WHEN: September 10, 4:00 pm WHERE: CELS 120 lecture hall

**Nicole Fahrenfeld**  
**Rutgers University**



*Nicole Fahrenfeld is an associate professor of Civil and Environmental Engineering at Rutgers University. She earned her B.S. in Environmental Engineering from Johns Hopkins University, M.S. in Environmental Science and Engineering from Clemson University, and Ph.D. in Civil Engineering from Virginia Tech. She has published research on microbial source tracking, biodegradation of munitions and crude oil, microplastics, end-of-pipe treatment for combined sewer overflows, environmental impacts of hydraulic fracturing, and antibiotic resistance.*

Over 2 million people are sickened and at least 23,000 people die in the U.S. of antibiotic resistant infections each year. Community acquired infections in humans have been linked with environmental sources of antibiotic resistance. Mitigating the risk of environmental AR infections requires understanding hot spots for AR as well as the potential for horizontal gene transfer. A series of case studies will be presented towards understanding hot spots of antibiotic resistance genes in viable cells.