

# MEETING OHIO'S WATER QUALITY CHALLENGES

CFAES faculty and staff help address water quality challenges through four core activities:



## **SCIENCE: *Understanding Drivers and Processes of Water Quality Problems***

Water quality problems usually result from the **interactions of a complex set of factors**, such as **physical and chemical attributes** of the soil and landscape, **biological processes** in aquatic ecosystems, **weather patterns**, **human behaviors**, and the **built environment**. Understanding the fundamental drivers and processes is **critical for targeting solutions** where they will be most effective. CFAES has some of the world's **pre-eminent scientists** whose work helps explain how and why water quality problems emerge. Over **140 of our faculty and staff** report active research programs that address water quality, the **largest concentration of expertise** anywhere in Ohio.



## **INNOVATION: *Creating Applied Solutions***

CFAES faculty are dedicated to **conducting useful research** and **developing applied solutions** to practical problems. A number of our faculty work at the **frontier of innovation** in water quality—creating **new technologies** to **prevent contaminants** from entering waterways, tracking changes in water quality in real time, and **cleaning water** in an **efficient** and **economical** manner. Beyond hard technology, our scientists continue to **develop data and information resources**, **decision-making tools**, and **software applications** designed to allow managers to prevent water quality impairment before it occurs. CFAES also houses **nationally recognized experts** in the design and evaluation of **optimal policies** for achieving improved water quality at **minimal cost** to society.

## THE CORNERSTONE COLLEGE

The College of Food, Agricultural, and Environmental Sciences (CFAES) plays a critical role in carrying out the land-grant mission of The Ohio State University. For nearly 150 years, our faculty and staff have engaged in research, teaching, and Extension outreach to address real-world problems facing Ohio. We are an independent and objective source of scientific knowledge, and we turn scientific discoveries into practical applications that are made widely available to our state's residents.



### COLLABORATION AND EXTENSION: *Partnering for Impact*

Ohio State University Extension is the **outreach arm** of CFAES. For **more than 100 years**, OSU Extension has partnered with **local governments** to provide all Ohioans with access to **science-based information** to **better their lives, businesses, and communities**. Our faculty and staff regularly **partner with other colleges and universities**; local and state government agencies; and farm, conservation, and industry groups to **apply CFAES knowledge and expertise** to solve local and statewide water quality issues.



### EDUCATION: *Training the Future Workforce*

CFAES faculty and staff work in multiple ways to **provide training and educational opportunities** to students and Ohio residents around water quality topics. Our faculty offer **more than 60 courses** with water quality content across **10 majors** to undergraduate and graduate students at **all six of Ohio State's campuses**. They also contribute to **professional development opportunities** to ensure that private- and public-sector employees have access to the **latest scientific information** about water quality.



**COMING SOON** In fall 2018, CFAES will launch an Ohio Water Quality Initiative to coordinate, support, and expand on the efforts described above. An eight-person task force is designing the initiative. The task force is using extensive input from faculty, staff, and diverse stakeholders to ensure that the initiative has grassroots support, is strategic in investments of time and money, and increases the impact and relevance of our work for all Ohio residents.



THE OHIO STATE UNIVERSITY

COLLEGE OF FOOD, AGRICULTURAL,  
AND ENVIRONMENTAL SCIENCES

[waterquality.osu.edu](http://waterquality.osu.edu)

CFAES provides research and related educational programs to clientele on a nondiscriminatory basis. For more information, visit [cfaesdiversity.osu.edu](http://cfaesdiversity.osu.edu). For an accessible format of this publication, visit [cfaes.osu.edu/accessibility](http://cfaes.osu.edu/accessibility).