



Activated Sludge Microscopy Course

June 18, 2025 – University Research Park, 505 S. Rosa Road, Madison, WI 53719

(6 Wastewater Credits)

The class will start promptly at 9:30 am. The class will end at 3:30 pm.

9:30 am – 9:45 am: *Microscopy introduction* - Advantages of using microscopy in the activated sludge process, specific areas to focus on, and course overview.

9:45 am – 10:00 am: *How to handle your microscope* – How to prevent damage to microscopes, preventative maintenance and other important notes.

10:00 am – 10:20 am: *Microscopy options* – Looking at different types, lenses and their purposes.

10:20 am – 10:45 am: *Performing microscopic analysis on wastewater samples* – Preparing wet mounts and smears, what to look for in floc, filaments, higher life forms, bulk liquid, sludge age, problem solving.

10:45 am – 11:15 am: *Introduction to filaments* – Common filament types and how to ID (*M. parvicella*, *NALO*, *S. natant*, *Thiothrix spp*, *Low F:M*, *021N*), filamentous organisms impact on mixed liquor, filament environments and viability, control options to prevent filamentous growth.

11:15 am – 11:30 am: *Common microscopy staining procedures* – Gram stains, what they are and how to perform them as well as other useful stains like Neisser stain, sulfur accumulation, PHB, fungi stains.

11:30 am – 12:15 pm: *Working lunch* – We will take a look at different microbes in wastewater.

12:15 pm – 3:15 pm: *Hands on Microscopy* – Tutorials, slide preparation, gram staining, microscopy hands-on use, process assessment by looking at attendees' samples, talk about optimizations or problem solving based on observations, what to look for when talking with consultants, open discussion.

3:15 pm – 3:30 pm: *Conclusions and frequently asked questions*

Course Instructor: Saylor Gilbert – *AquaFix, Inc.* (WRWA Associate Member)

Complete the form below and return to Wisconsin Rural Water Association

_____ **June 18, 2025** – Madison

____ No Fee

Name _____ DNR Certification Number: _____

System/Employer _____

Address _____

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Phone _____ Email _____

Send the form to: WRWA, 350 Water Way, Plover, WI 54467

Go to www.wrwa.org - Fax completed form(s) to (715) 344-5555 or email the completed form(s) to wrwa@wrwa.org.

For more information: Phone: (715) 344-7778 Email: wrwa@wrwa.org