

AGENDA

Nutrient Removal Engineering: Phosphorus and Nitrogen in Wastewater Treatment June 10-12, 2025

At the Pyle Center, Madison WI and Online (Hybrid)

University of Wisconsin-Madison

Note that times and topics are approximate and are subject to change

Time	Approximate Length (Hours:Minutes)	Content
Tuesday		
8:30:00 AM	0:30	Registration, Coffee, Refreshments
9:00:00 AM	0:40	Welcome, Introductions, Course Overview – Adib Amini
9:40:00 AM	0:50	Review of Wastewater Basics and Introduction to Nutrient Removal and Regulations- Adib Amini <ul style="list-style-type: none">• Review of basics of wastewater treatment and nutrient removal• Overview of nutrient regulations for discharge permits
10:30:00 AM	0:15	Break
10:45:00 AM	1:15	Introduction to Nutrient Removal Processes Part 1- Leon Downing
12:00:00 PM	1:00	Lunch
1:00:00 PM	1:00	Introduction to Nutrient Removal Processes Part 2- Adrienne Menniti <ul style="list-style-type: none">-Including EBPR
2:00:00 PM	0:15	Break
2:15:00 PM	0:45	Introduction to Nutrient Removal Processes Part 2 (continued) - Adrienne Menniti
3:00:00 PM	0:10	Break
3:10:00 PM	0:45	Operational Challenges in Nutrient Removal – Alan Grooms
3:55:00 PM	0:05	Break
4:00:00 PM	0:30	Sidestream Treatment for Nutrient Control - Leon Downing
4:30:00 PM	0:30	Review and Discussion / Flex Time - All
5:00:00 PM	0:00	Adjourn for the day
Wednesday		
9:00:00 AM	0:45	Advanced Nutrient Processes and Controls - Leon Downing <ul style="list-style-type: none">• PNA, PDnA, ABAC, etc.
9:45:00 AM	0:30	Modeling of Nutrient Removal Schemes - Leon Downing
10:15:00 AM	0:15	Break

10:30:00 AM	1:00 Process Intensification – Leon Downing
11:30:00 AM	0:30 Primary Sludge Fermentation - Adrienne Menniti
12:00:00 PM	1:00 Lunch
1:00:00 PM	0:45 Nutrient Harvesting - the MMSD Case Study – Alan Grooms
1:45:00 PM	0:15 Break
2:00:00 PM	1:15 Biofilm Technologies & Processes for Nutrient Removal – Leon Downing <ul style="list-style-type: none"> • Basic theory of biofilms; biofilm process technology for nutrients - IFAS, MBBR, DAS, AGS
3:15:00 PM	0:15 Break
3:30:00 PM	1:00 Nutrient Trading /Adaptive Mgmt. - the MMSD Experience – Alan Grooms
4:30:00 PM	0:30 Review and Discussion / Flex Time - All
5:00:00 PM	0:00 Adjourn for the day

Thursday

9:00:00 AM	0:30 Utility perspectives on risk management approaches - Adrienne Menniti
9:30:00 AM	0:30 Measurements of BPR Performance and Stability - Adrienne Menniti
10:00:00 AM	0:15 Break
10:15:00 AM	1:00 N2O Emissions - Leon Downing
11:15:00 AM	0:10 Break
11:25:00 AM	0:35 Final Thoughts, Questions, Wrap Up, and Review – All
12:00:00 PM	1:00 Lunch
1:00:00 PM	2:45 Tour of Nine Springs Wastewater Treatment Plant (1:00 PM bus leaves Pyle Center. 1:20 PM bus arrives at plant. 3:20 PM bus leaves plant. 3:40 PM bus arrives back at the Pyle Center.)
3:45:00 PM	0:00 Final Adjournment

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