



**Annual Meeting for the
Conservation Drainage Network
and**

NCERA-217: Drainage Design and Management Practices to Improve Water Quality

April 4 – 6, 2023

In-Person: Tidewater Inn, 101 E Dover St, Easton, MD 21601

On-line: Zoom, link will be provided to registered participants

Annual Meeting Website:

conservationdrainage.net/meetings-and-events/2023-conservation-drainage-network-annual-meeting/

Theme: ADVANCING IMPLEMENTATION

The 2023 meeting is being designed differently than the previous spring meetings. Specifically, it focuses on substantially advancing implementation of conservation drainage. Not just how to better do conservation drainage, but how to get more of it done.

Targeted Outcomes:

- Raise awareness of the importance of agricultural water management to farm profitability, local, regional, and national initiatives to advance soil health, water quality, watershed restoration, risk reduction and climate resiliency goals.
- Strengthen understanding of grower concerns and identify impediments to conservation drainage practice adoption.
- Prioritize information needs (i.e., research gaps) to address risks.
- Understand how to advance conservation drainage as an integral component of managing food production, regenerative agriculture, and terrestrial water supplies under changing climate conditions.
- Advance conservation drainage implementation.

Annual Meeting Planning Committee: Lindsay Pease, University of Minnesota and CDN Chair; Keegan Kult, Ag Drainage Management Coalition; Alex Echols, The Keith Campbell Foundation for the Environment; Tim Rosen, ShoreRivers; Kathy Boomer, Foundation for Food and Agricultural Research; Jeppe Kjaersgaard, Minnesota Department of Agriculture and NCERA-217 Chair.

Ex officio members: Kelly Nelson, University of Missouri and Morgan Davis, University of Missouri.

Contact person: Keegan Kult, kkult@admcoalition.com

Sponsor

The Keith Campbell Foundation for the Environment

Draft Agenda

Tuesday, April 4 – Gold Room, Tidewater Inn	
Time (EDT) <i>Time (CDT)</i>	Event
8:00-9:00 am 7:00-8:00 am	Registration outside Gold Room (for in-person participants)
9:00-9:15 am 8:00-8:15 am	<p>Welcome and Introductions Moderator: <i>Lindsay Pease, University of Minnesota, CDN Chair</i> <i>On-line participants: Please rename yourself to "Name, Organization" to provide a virtual nametag</i></p> <p>9:10 am Meeting challenge statement 8:10 am <i>Alex Echols, Campbell Foundation and Tim Rosen, ShoreRivers</i></p>
9:15-10:15 am 8:15-9:15 am	<p>Opening Session – Conservation Drainage: Understanding Risks and Challenges Underlying Field Management Decisions Moderator: <i>Lindsay Pease, University of Minnesota</i></p> <p>9:15 am High level overview of conservation drainage and conservation 8:15 am drainage in the Bay model <i>Laura Christianson, University of Illinois (formerly)</i></p> <p>9:40 am Conservation drainage for water quality and GHG reduction 8:35 am <i>Michael Castellano, Iowa State University</i></p> <p>10:05 am Questions and Answers with Presenters 9:05 am</p>
10:15 am 9:15 am	Break – refreshments provided
10:30-11:15 am 9:30-10:15 am	<p>Drainage in the Chesapeake Basin – History, Conditions and Challenges Moderator: <i>Tim Rosen, ShoreRivers</i></p> <p>10:30 am Drainage history and conservation drainage impediments 9:30 am <i>Tim Rosen, ShoreRivers</i></p> <p>10:45 am Round table (facilitator: Lindsay Thompson) 9:45 am <i>Kyle Hutchison, farmer</i> <i>Trey Hill, farmer</i> <i>Chad Klotzbach, Allegheny Farm Services</i> <i>Jason Keppler, Maryland Department of Agriculture</i></p>
11:15-12:15 pm 10:15-11:15 am	<p>Current Priorities and Opportunities Moderator: <i>Alex Echols, Campbell Foundation</i></p> <p>11:15 am 1) <i>USDA Under Secretary Robert Bonnie</i> 10:15 am 2) <i>Congressional Representative</i></p>

12:15-12:30 pm 11:15-11:00 am	Lunch Field trip participants: Pick up boxed lunch in Gold Room Others: On your own
12:30-5:30 pm 11:30-4:30 pm	Ad-hoc meetings Field Trip Start Easton, MD Tidewater Inn Stop 1 - Drainage Water Management- both Automated and Manual Location: 361 Tomahawk Branch Rd, Greenwood, DE 19950 Drive: 30 miles- 45 Minutes On site for 45 minutes <ul style="list-style-type: none"> • Both projects designed by Ecosystem Services Exchange (ESE) and installed by Alleghany Farm Drainage • Site drains to a Tax Ditch • Funded by EPA CBIG and SARE • Discussion on how automation works, comparison to manual drainage, discussion of funding (Federal- NRCS- DIA 164, and how this project was funded), how automation improves verification/crediting, how DWM fits with outcome-based funding <i>Speakers- Charlie Schafer, Dave White, Andy Craig, Tim Rosen</i> Stop 2 - Riser vs Dense Pattern Research Site with Treatment Wetland and Grassed Waterway Location: 38.935541, -75.783278, 11871-11995 Kibler Rd, Greensboro, MD 21639 Drive: 12 miles- 20 Minutes On site for 45 minutes Drive back to Easton: 21 miles- 30 minutes <ul style="list-style-type: none"> • USDA-State CIG funded research site (original) • EPA funded site • Current research being completed by University of Maryland to help track nutrient losses from ag fields across the state • Compare sediment loss from dense pattern vs tile riser (alternative intake option) • Assess efficacy for cropping <i>Speakers: Kyle Hutchison, Dr. Gurpal Toor (UMD), Tim Rosen</i> Return to the Tidewater Inn, Easton
6:00-7:30 pm 5:00-6:30 pm	Introduction of SWITCHES Drainage Consortium Eastern Shore Conservation Center, 114 S Washington St, Easton, located three blocks (0.3 miles) from the Tidewater Inn. Reception – refreshments provided

Wednesday, April 5 – Gold Room, Tidewater Inn	
<i>Time (EDT)</i> <i>Time (CDT)</i>	<i>Event</i>
8:00-9:00 am	Continental Breakfast – included for in-person participants
8:00-9:00 am 7:00-8:00 am	NCERA-217 Business Meeting (for NCERA-217 members) <i>Presiding Chair: Jeppe Kjaersgaard, Minnesota Department of Agriculture</i>
9:00-10:30 am 8:00-9:30 am	Programs and Science to Advance Incentives Agriculture for Conservation Moderator: <i>Kathy Boomer, Foundation for Food & Agriculture Research</i> 9:00 am Title to be announced 8:00 am <i>Kent Messer, Co-Director the Center for Behavioral and Experimental Agri-Environmental Research (CBEAR)</i> 9:20 am Title to be announced 8:30 am <i>Adam Kiel, Soil and Water Outcomes Fund</i> 9:40 am TAPS for drainage 8:30 am <i>Daran Rudnick, UNL Director of Testing Ag Performance Solutions</i> 10:00 am Panel discussion. Panelists to discuss barriers to adoption and 9:00 am respond to ideas presented by speakers
10:30 – 11:00 am 9:30 – 10:00 am	Break – refreshments provided
11:00-12:30 pm 10:00-11:30 am	Climate and Conservation Drainage Moderator: <i>TBD</i> 11:00 am Climate and Conservation Drainage 10:00 am <i>Speaker to be announced</i> 11:25 am US EPA perspectives 10:25 am <i>Speaker to be announced</i> 11:50 am TBD 10:50 am <i>Speaker to be announced</i> 12:15 pm Questions and Answers with Presenters 11:15 am
12:30-1:30 pm 11:30-12:30 pm	Lunch – Gold Room Garden – included for in-person participants

1:30-3:00 pm 12:30-2:00 pm	State Drainage Reports Moderator: <i>TBD</i> <div> <div> 1:30 pm 12:30 pm </div> <div> Indiana State Report <i>Jane Frankenberger, Purdue University</i> </div> </div> <div> <div> 1:45 pm 12:45 pm </div> <div> Ohio State Update <i>Vinayak Shedekar, The Ohio State University</i> </div> </div> <div> <div> 2:00 pm 1:00 pm </div> <div> Michigan Drainage Update <i>Ehsan Ghane, Michigan State University</i> </div> </div> <div> <div> 2:15 pm 1:15 pm </div> <div> Missouri State Report <i>Kelly Nelson, University of Missouri</i> </div> </div> <div> <div> 2:30 pm 1:30 pm </div> <div> Long-Term Monitoring of Drainage Water Quality in Iowa <i>Matt Helmers, Iowa State University</i> </div> </div> <div> <div> 2:45 pm 1:45pm </div> <div> Questions and Answers with Presenters </div> </div>
3:00-3:15 pm 2:00-2:15 pm	Break – refreshments provided
3:15-4:45 pm 2:15-3:45 pm	State Drainage Reports (Contd.) and Poster Introductions Moderator: <i>Jeppe Kjaersgaard, Minnesota Department of Agriculture</i> <div> <div> 3:15 pm 2:15 pm </div> <div> Minnesota State Report <i>Lindsay Pease, University of Minnesota</i> </div> </div> <div> <div> 3:30 pm 2:30 pm </div> <div> North Dakota State Report <i>Xinhua Jia, North Dakota State University</i> </div> </div> <div> <div> 3:45 pm 2:45 pm </div> <div> South Dakota Drainage Update <i>John McMaine, South Dakota State University</i> </div> </div> <div> <div> 4:00 pm 3:00 pm </div> <div> Oregon Updates and Station Report <i>Abigail Tomasek, Oregon State University</i> </div> </div> <div> <div> 4:15 pm 3:15 pm </div> <div> USDA-ARS LTAR-Drainage Working Group Update <i>Gary Feyereisen, USDA ARS</i> </div> </div> <div> <div> 4:30 pm 3:30 pm </div> <div> Poster Introductions – Each poster presenter will have 1 minute to orally introduce their poster </div> </div> <div> <div> 4:45 pm 3:45 pm </div> <div> Questions and Answers with Presenters </div> </div>

<p>5:00 pm 4:00 pm</p>	<p>In person attendees: Walk or drive to poster session at Eastern Shore Conservation Center, 114 S Washington St, Easton, located three blocks (0.3 miles) from the Tidewater Inn.</p> <p>Online attendees: Adjourn.</p>
<p>5:00 - 6:30 pm</p>	<p>Poster Session and Networking at Eastern Shore Conservation Center. Cash bar and hors d'oeuvres.</p> <p>Poster presenters:</p> <p>Evaluating Drainage Water Recycling Feasibility in Various Climate Regimes. <i>Mustafa Aydogdu, South Dakota State University</i></p> <p>Assessing the Impact of Soil Health Practices on Soil Drainage Capacity. <i>Umar Javed, South Dakota State University</i></p> <p>Drainage in the Edge of the Cornbelt: What are the Implications for Water Quality? <i>Maryam Sahraei, South Dakota State University</i></p> <p>Simulating the hydrology and phosphorus dynamics of a tile-drained field in Ohio using RZWQM2-P model. <i>Harmanpreet Singh Grewal, McGill University</i></p> <p>An integrated ranking connectivity risk for phosphorus and nitrogen along agricultural drainage ditches to inform mitigation management. <i>Daniel Opoku, Teagasc, Animal and Grassland Research and Innovation Centre, Ireland</i></p> <p>SNAFU! Normalizing setbacks in research. <i>Laura Christianson, University of Illinois (formerly)</i></p> <p>Controlled drainage and saturated buffer performance. <i>Jeppe Kjaersgaard, Minnesota Department of Agriculture</i></p> <p>Integrating ANNs Predicted Saturated Hydraulic Conductivity and Evapotranspiration to Optimize Drainage System Design. <i>Murad Ellafi, Cranfield University, UK</i></p> <p>Modeling and evaluating hydrologic impacts of conservation at the watershed scale. <i>Philip Adalikwu, South Dakota State University</i></p>

Thursday, April 6 – Gold Room, Tidewater Inn	
<i>Time (EDT)</i> <i>Time (CDT)</i>	<i>Event</i>
8:00-8:45 am	Continental Breakfast – included for in-person participants
8:45-10:45 am 7:45-9:45 am	<p>Conservation Drainage Research and Engagement <i>Moderator: John McMaine, South Dakota State University</i></p> <p>8:45 am 5-min rapid session (each presentation is max 5 minutes long) 7:45 am</p> <p>Choice of Pipe Affects the Performance of Conservation Drainage Practices <i>Ehsan Ghane, Michigan State University</i></p> <p>Three-year Post-installation Cost-benefit Analysis of Drainage in Northwest Minnesota <i>Peyton Loss, University of Minnesota</i></p> <p>Building Partnerships for Conservation Implementation <i>Jeppe Kjaersgaard, Minnesota Department of Agriculture</i></p> <p>Watershed-scale Feasibility Assessment for Drainage Water Recycling Implementation <i>Chris Hay, Iowa Soybean Association</i></p> <p>9:15 am Runoff and Nutrient Loss Responses to Precipitation Events: 8:15 am Vegetated versus Unvegetated Shallow Furrow Ditches <i>Elizabeth Schwab, The Ohio State University</i></p> <p>9:30 am Treatment of Legacy Nitrogen in Emergent Groundwater 8:30 am <i>Zach Easton, Virginia Tech</i></p> <p>9:45 am Take-aways from Monitoring and Managing Agricultural Fields 8:45 am with Elevated Soil Test Phosphorus <i>Nathan Stoltzfus, The Ohio State University</i></p> <p>10:00 am Conservation agronomy: Engaging ag retail in conservation 9:00 am program and practice delivery <i>Chris Hay, Iowa Soybean Association</i></p> <p>10:15 am USDA NIFA Programs update 9:15 am <i>Jim Dobrowolski, USDA NIFA</i></p> <p>10:30 am Questions and Answers with Presenters 9:30 am</p>

10:45-11:00 am 9:45-10:00 pm	Break – refreshments provided
11:00-11:45 am 10:00-10:45 pm	Closing Panel Discussion: Reflections and Call for Action <i>Moderator: Alex Echols, Campbell Foundation</i> Panelists <ul style="list-style-type: none"> - Keegan Kult, Ag Drainage Management Coalition - Tim Rosen, ShoreRivers - Rita Weaver, MN Board of Water and Soil Resources
11:45-12:00 pm 10:45-11:00 am	Adjourn <i>Moderator: Jeppe Kjaersgaard, Minnesota Department of Agriculture, incoming CDN Chair</i>
12:00 pm 11:00 am Optional afternoon meetings	Conservation Drainage Network Committee Meetings <i>Open for everyone to attend. See conservationdrainage.net/committees/ for more information about the Committees</i> <i>Moderator: Lindsay Pease, University of Missouri</i> <ul style="list-style-type: none"> - Annual Meeting Committee (Chair: Jeppe Kjaersgaard) - Communication and Website Committee (Chair: Keegan Kult) - Education/Extension Committee (Chair: Adrienne Marino) - Impact Committee (Chair: Jane Frankenberger) - Growth Committee (Chair: Tom Christensen) - Research Committee (Chair: Lindsay Pease)

Updated 02/14/23