28th North American Diatom Symposium

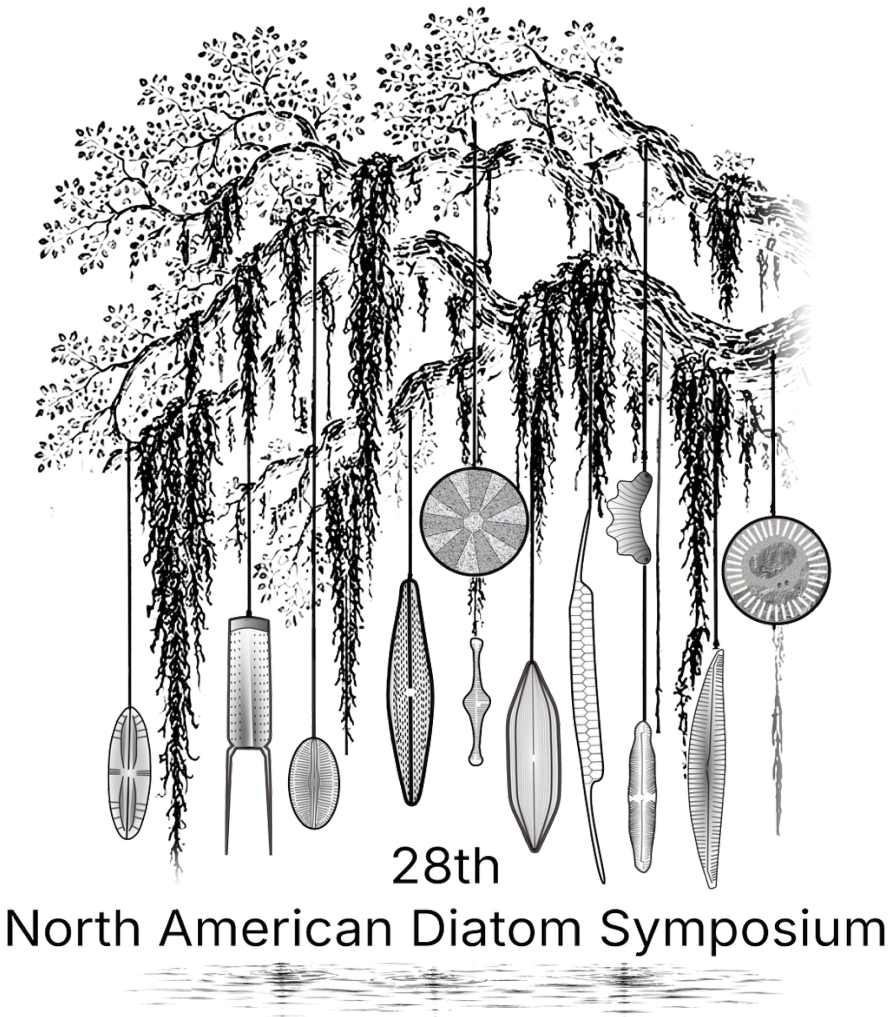
6–10 January 2027

Archbold Biological Station • Venus, Florida

THEME

Through the Looking Glass:

Emerging Frontiers in Diatom Science



Welcome

Welcome to the 28th North American Diatom Symposium. Three days of meetings will be highlighted by morning and afternoon oral sessions, a poster session, local field excursions, and the Scum Run. Evening events will include mixers, a diatom art exhibit, and the NADS auction.

Theme Overview & Special Sessions

"Through the Looking Glass" reflects the diverse scales, perspectives, and innovations that will define the future of diatom science. Special sessions will include:

- Beyond the Valve: Genomic Windows into Diatom Science
- From Observation to Prediction: Monitoring, Modeling, and Forecasting
- Life at the Limits: Diatoms in Extreme and Novel Environments
- The Diatom Holobiont: From Microbiomes to Mutualisms
- New Windows on Diatom Diversity and Systematics
- Seeing Diatoms through a New Lens: Inspiring the Next Generation of Diatomists
- Reflections through Time: Paleoecology and the Future of Diatom Science

Venue & Logistics

Sessions will be held primarily in the Learning Center and Pavilion at Archbold Biological Station (map on the last page). A venue map will also be provided at registration. Shuttle transportation will be available between Archbold and the Holiday Inn Lake Placid.

- **Closest airports:** Ft. Myers (65 mi), Orlando (118 mi), Tampa (125 mi), Miami (139 mi)
- **Accommodations:** Archbold Biological Station; Holiday Inn Lake Placid

Exhibitors

Scott Balogh from Balogh International (balogh.com) will have a table with phycology books.

Sponsors

The 28th NADS is made possible through generous gifts from the Gordon & Betty Moore Foundation for supporting our session on The Diatom Holobiont, and from the Institute of Environment at Florida International University, the Phycological Society of America, and the International Society for Diatom Research in support of student attendance. We are grateful to the Friends of Lakeside Lab for supporting our registration and payment platform, and to Archbold Biological Station for hosting our symposium!

Agenda Overview

All sessions are at Archbold Biological Station unless noted. Full details, speakers and rooms are in the Detailed Agenda.

Wednesday, January 6

3:00–5:00 PM	Arrival & registration
6:00–7:30 PM	Dinner
7:30–9:30 PM	Opening social activity
9:30 PM	Hotel shuttle

Thursday, January 7

8:00–8:45 AM	Continental breakfast at Archbold & hotel; shuttle from hotel at 8:15 AM
8:45 AM–12:00 PM	Welcome; Oral Sessions 1–2, including overview of Archbold's Lake Annie
12:00–1:30 PM	Lunch
1:30–2:45 PM	Oral Session 3
3:00–5:00 PM	Rotating field trips: Lake Annie & the Archbold scrub habitat
5:00–6:00 PM	Break, poster set-up, silent auction set-up, microscope time
6:00–7:30 PM	Dinner
7:30–9:30 PM	Poster session & social
9:30 PM	Hotel shuttle

Friday, January 8

8:00–8:45 AM	Continental breakfast; shuttle from hotel at 8:15 AM
8:45–12:00 PM	Announcements; Oral Sessions 4–5
12:00–1:30 PM	Group photo; Lunch
1:30–5:00 PM	Oral Sessions 6–7
5:00–6:00 PM	Break, microscope time, auction set-up
6:00–7:30 PM	Dinner
7:30–9:30 PM	Auction & social; poster take-down
9:30 PM	Hotel shuttle

Saturday, January 9

8:00–8:45 AM	Continental breakfast; shuttle from hotel at 8:15 AM
8:45–11:45 AM	Announcements; Oral Sessions 8–9
12:00–1:30 PM	Lunch
12:30–3:30 PM	Diatom Taxonomic Certification Test (optional, concurrent)
1:30–2:30 PM	NADS Business Meeting
2:30–3:30 PM	Special & ad hoc breakout sessions, microscope time
3:30–5:00 PM	Scum Run & Piñata
5:00–6:00 PM	Break, microscope time; art exhibit set-up
6:00–7:30 PM	Dinner
7:30–9:30 PM	Diatom Art Exhibit & celebratory social
9:30 PM	Hotel shuttle

Sunday, January 10

8:00 AM onward	Continental breakfast; departures

Detailed Agenda

Key: * student presenter ᴸ lightning talk (7 min) Regular talks are 15 minutes. Talks are listed by presenter.

Wednesday, January 6

3:00–5:00 PM Arrival & Registration • *Learning Center & Pavilion*

6:00–7:30 PM Dinner • *Learning Center & Pavilion*

7:30–9:30 PM Opening Social Activity • *Learning Center & Pavilion*

9:30 PM Hotel Shuttle

Thursday, January 7

8:00–8:45 AM Continental Breakfast • *Pavilion & Hotel*
Shuttle from the hotel to Archbold at 8:15 AM.

8:45–9:00 AM Welcome from Dr. Jennifer Owen, Executive Director, Archbold Biological Station, and the 28th NADS Organizing Committee • *Learning Center*

9:00–10:00 AM **Oral Session 1: Seeing Diatoms through a New Lens: Inspiring the Next Generation of Diatomists**
Moderators: Eliana Villegas-Campos & Valeria Oreamuno-Matamoros • Learning Center

- 9:00 **Paula Furey** – Shake it like a whirl-pak bag: introducing an open-access resource guide to train and inspire future diatomists (and phycologists)
- 9:15 **Nick Schulte** – Coming together to isolate: expanding diatom DNA reference libraries through early career training
- 9:30 **Alison Frohn** – A diatom voucher flora of Pennsylvania rivers and streams
- 9:45 **Kyle Scotese** – Diatom taxonomic certification exams – level 1 and level 2

10:00–10:30 AM Coffee Break, Poster Set-up, Silent Auction Set-up • *Pavilion*

10:30 AM–12:00 PM **Oral Session 2: Reflections through Time: Paleoecology and the Future of Diatom Science 1**
Moderators: Bianca Tacoronte Gomes & Isabelle Rytlewski • Learning Center

- 10:30 **Elisa Mickelson*** – The immediate impacts of floodplain restoration on a small creek in southern England
- 10:45 **Blanca Hinojosa*** – Diatom assemblages in a transmountain diversion reservoir: early results from a sediment core, Grizzly Reservoir, Colorado
- 11:00 **Bianca Tacoronte Gomes*** – Hydroclimatic change and human impacts on a northwestern Amazonian lake: a 5200-year diatom record

Regional Overview: Lake Annie & the Archbold Scrub *– background for this afternoon's field trips*

- 11:15 **Hilary Swain** – Invited: Archbold's Lake Annie in a regional and long-term context
- 11:35 **Evelyn Gaiser** – Lake Annie: Linking long-term limnological monitoring and paleolimnology to understand climate-driven change in a subtropical lake

12:00–1:30 PM Lunch • *Pavilion*

1:30–2:45 PM **Oral Session 3: From Observation to Prediction: Monitoring, Modeling, and Forecasting 1**

Moderators: Elisa Mickelson & Amarbat Otgonganbat • Learning Center

- 1:30 **Kelsey Solomon** – Improving diatom species-optima estimates from non-uniformly sampled environmental gradients
- 1:45 **Hanna Innocent*** – Seasonal succession and environmental drivers of benthic diatom assemblages of Lake Okeechobee, FL
- 2:00 **Mark Edlund** – Ecology of nearshore periphyton and the nuisance diatom, *Didymosphenia geminata*, in Lake Superior
- 2:15 **Chloe Smith*L** – A preliminary analysis of modern and historic diatom assemblages from Buckeye Lake, Ohio, USA
- 2:22 **Andrew Burgess*L** – Seventy years of phytoplankton records reveal a novel benthic diatom signal in Pymatuning Reservoir, Pennsylvania
- 2:29 **Isabelle Rytlewski*L** – Limnological and ecological factors influencing diatom assemblages in a cluster of Florida's ancient sandhill upland ponds

3:00–5:00 PM **Four Rotating Field Trips: (1) Lake Annie Intro, (2) Lake Annie Sampling, (3) Scrub Nature Tour 1, (4) Scrub Nature Tour 2** • *Learning Center Parking Lot*

See the regional overview talks by Hilary Swain and Evelyn Gaiser at 11:15 AM for background.

5:00–6:00 PM Break, Poster Set-up, Silent Auction Set-up, Microscope Time • *Pavilion*

Shuttle to the hotel at 5:00 PM; pickup at 5:45 PM for dinner.

6:00–7:30 PM Dinner • *Pavilion*

7:30–9:30 PM **Poster Session & Social** • *Learning Center*

9:30 PM Hotel Shuttle

Friday, January 8

8:00–8:45 AM Continental Breakfast • *Pavilion & Hotel*

Shuttle from the hotel to Archbold at 8:15 AM.

8:45–9:00 AM Announcements from the Organizing Committee • *Learning Center*

9:00–10:00 AM **Oral Session 4: Life at the Limits: Diatoms in Extreme and Novel Environments**

Moderators: Mikatrin Heynen & Maddie Newbauer • Learning Center

- 9:00 **Sydney Williams*** – Reconstructing historical water quality in coal mined lakes in Vigo County, IN, using diatom and geochemical analysis
- 9:15 **Wyatt Parham*** – Diatoms from glacial potholes in Interstate State Park – habitat, community connections, and morphology
- 9:30 **Jason Coenen** – A rare window into early marine diatom history: nondestructive analyses of Albian laminated sediments from Weddell Sea, Antarctica (ODP Hole 693A)
- 9:45 **Natalie Aranda*** – Factors controlling diatom community composition in McMurdo Dry Valleys

10:00–10:30 AM Coffee Break & Silent Auction • *Pavilion*

10:30–12:00 PM **Oral Session 5: New Windows on Diatom Diversity and Systematics**

Moderators: Vincent Grote & Alincy Her • Learning Center

10:30 **Laura Aycock** – Molecular and morphological characterization of *Planothidium* strains without a sinus or cavum isolated from streams in California, USA

10:45 **Kalina Manoylov** – *Psammothidium californicum*, spec. nov. (Bacillariophyta) from streams in California, USA

11:00 **Chris Lobban** – A major phylogenetic dichotomy within *Mastogloia*

11:15 **Virginia Card** – What happens when diatoms disobey the Macdonald-Pfitzer rule?

11:30 **Matt Ashworth** – Modeling the evolution of slab photonic crystal properties in diatom frustules

11:45 **Jeff Johansen** – Sequence-based holotypes are a terrible substitute for physical specimen-based holotypes

12:00–1:30 PM Group Photo and Lunch • *Pavilion*

1:30–3:00 PM **Oral Session 6: Beyond the Valve: Genomic Windows into Diatom Science**

Moderators: Kajsa Schultz-Bakke & Leila Hoeschen Ehrbright • Learning Center

1:30 **Mailor Amaral*** – Insights into the chloroplast genome of Rhopalodiales, diatoms with nitrogen-fixing endosymbionts

1:45 **Sarah Hamsher** – Mitochondrial genomes of the Rhopalodiales, an order of diatoms with cyanobacterial endosymbionts

2:00 **Pat Kociolek** – Revisionary taxonomy and evolutionary history of the canal raphe diatoms bearing cyanobacterial symbionts: an overview

2:15 **Josh Stepanek** – Whole plastome phylogenomics of *Halamphora*: exploring the roots of persistent phylogenetic discordance

2:30 **Francesca Moroni*** – Chloroplast and mitochondrial genome relationships among rocky mountain assemblages of the *Stephanodiscus niagarae* complex

2:45 **Ed Theriot** – Molecular and morphological analysis of phylogeny of the Stephanodiscaceae, with a focus on the chloroplast and mitochondrial genomes

3:00–3:30 PM Coffee Break • *Pavilion*

3:30–5:00 PM **Oral Session 7: Reflections through Time: Paleoecology and the Future of Diatom Science 2**

Moderators: Chloe Smith & Blanca Hinojosa • Learning Center

3:30 **Elizabeth Alexson** – Diatom paleoecology of bays in Lake Superior

3:45 **Jessica DePaolis** – From steppe to sea: reconstructing the last environments of the Bering Land Bridge

4:00 **Megan Heins*** – Composite record of Cenozoic marine biogenic sedimentation across West Antarctica

4:15 **Saika Sharmin*** – From ancient diatoms to future materials: diatomite-based porous ceramics for thermal management

4:30 **Mariena Hurley** – Neotoma Paleoecology Database

4:45 **Andy Alverson**[L] – The shapeshifting marine diatom, *Thalassiosira cedarkeyensis*

4:52 **Teofil Nakov**[L] – Evolutionary significance of the relationship between salinity optimum and tolerance in Thalassiosirales

5:00–6:00 PM Break, Microscope Time, Auction Set-up • *Pavilion*

Shuttle to the hotel at 5:00 PM; pickup at 5:45 PM for dinner.

6:00–7:30 PM Dinner • *Pavilion*

7:30–9:30 PM **Auction & Social; Poster Take-down** • *Pavilion & Learning Center*

9:30 PM Hotel Shuttle

Saturday, January 9

8:00–8:45 AM Continental Breakfast • *Pavilion & Hotel*
Shuttle from the hotel to Archbold at 8:15 AM.

8:45–9:00 AM Announcements from the Organizing Committee • *Learning Center*

9:00–10:00 AM **Oral Session 8: The Diatom Holobiont: From Microbiomes to Mutualisms**
Moderators: Edie Clark & Kamber Lovill • Learning Center

- 9:00 **Alana Bronk** – Characterizing epiphytic diatom communities in Florida reference lakes: a pilot study
- 9:15 **Bob Pillsbury** – Can looking at the bacterial communities in Lake Superior tell us anything about *Didymosphenia* ecology?
- 9:30 **Tom Frankovich** – Epizoic diatom community structure on harbor porpoises
- 9:45 **Clint Davis**[L] – *Achnanthidium japonicum* "hiding" in *Achnanthidium rivulare* populations in Western Washington, USA

10:00–10:30 AM Coffee Break • *Pavilion*

10:30–11:45 AM **Oral Session 9: From Observation to Prediction: Monitoring, Modeling, and Forecasting 2**
Moderators: Mailor Amaral & Carolina Piana Rigoni • Learning Center

- 10:30 **Shelly Marshall*** – Expanding the forensic application of diatoms as aquatic trace evidence
- 10:45 **Brad Bartelme** – From runways to rivers: evaluating long-term diatom community responses to airport runoff
- 11:00 **Abigail Reed*** – Disturbed diatoms: historic shifts in silicon delivery and internal cycling in Lake Erie
- 11:15 **Euan Reavie** – Phytoplankton cliques in the Great Lakes; perhaps we can use them to track stressors
- 11:30 **Tommy Shannon** – Monitoring and forecasting of diatom communities and periphyton functions across the Florida Everglades

12:00–1:30 PM Lunch • *Pavilion*

12:30–3:30 PM Diatom Taxonomic Certification Test
Optional special concurrent activity for participants who would like to take the test.

1:30–2:30 PM **NADS Business Meeting** • *Learning Center*

2:30–3:30 PM Special & Ad Hoc Breakout Sessions, Microscope Time • *Learning Center*

3:30–5:00 PM **Scum Run & Piñata** • *Archbold*

5:00–6:00 PM Break, Microscope Time, Art Exhibit Set-up • *Pavilion*
Shuttle to the hotel at 5:00 PM; pickup at 5:45 PM for dinner.

6:00–7:30 PM Dinner • *Pavilion*

7:30–9:30 PM **Diatom Art Exhibit & Celebratory Social** • *Pavilion & Learning Center*

9:30 PM Hotel Shuttle

Sunday, January 10

8:00 AM onward Continental Breakfast & Departures • *Pavilion & Hotel*

Posters

Poster Session & Social: Thursday, January 7, 7:30–9:30 PM • *Learning Center*

Posters may be set up during Thursday's 10:00 AM coffee break or 5:00–6:00 PM break, and should be taken down Friday evening.

Key: * student presenter

Reflections through Time: Paleoecology and the Future of Diatom Science

1. **Jason Coenen** – Tracing West Antarctica's marine past: subglacial diatom assemblages from the Bindschadler, Kamb, and Whillans Ice Streams
2. **Evelyn Gaiser** – Discoveries from a 40-year limnological record of Lake Annie, FL: insights from student research and a profiling buoy update
3. **Abigail Latanich** – Severn Sound, Lake Huron, Laurentian Great Lakes: two centuries of diatom community change
4. **Amarbat Otgonganbat*** – Historical diatom diversity of Lake Dood Tsagaan, Mongolia
5. **Mahalia Patrick*** – Paleolimnological analysis of Lake Amatitlán, Guatemala, using diatom fossil assemblages
6. **Jeffery Stone** – A unique unidentified species of *Diploneis* from outcrops in the Koora Basin
7. **Karlyn Westover** – Investigating pelagic food web dynamics in Lake Tanganyika using a multi-proxy paleolimnological approach: preliminary results of diatom analysis
8. **Thomas Whitmore** – Limitations of diversity metrics and "top-bottom" diatom sampling in shallow Florida lakes

From Observation to Prediction: Monitoring, Modeling, and Forecasting

9. **Emilie Arseneault** – Teasing apart flow and nutrient effects on periphyton in a slow-flowing wetland
10. **Micaela Kersey*** – Diatom assemblage composition as a baseline for phosphorus enrichment experiment in Big Cypress National Preserve
11. **Kalina Manoylov** – *Halamphora* diversity along the Georgia USA coast
12. **Riley Steptoe*** – Flood pulses drive seasonal and spatial organization of benthic diatom assemblages in a subtropical lake inflow
13. **Franco Tobias** – Diatom assemblages from the Florida Everglades: a comprehensive taxonomic and autecological database for tracking long-term dynamics
14. **Justin Hardin*** – Some observations from neotropical Lake Izabal, Guatemala and its associated estuarine system
15. **Leila Hoeschen Ehrbright*** – Industrial waste and urban restoration: what our algal relatives are telling us
16. **Mary Mullins*** – Algal community response to pulse and press disturbances in central Texas ponds
17. **Isabella Lopez*** – Tracking hydrology and nutrient changes through time: linking modern benthic microbial monitoring with paleo diatom reconstructions to guide restoration targets
18. **Alexa Russo*** – Assessing the intensity, spread, and recovery from mining-related metal contamination of Lake Coeur d'Alene, Idaho

Life at the Limits: Diatoms in Extreme and Novel Environments

19. **Carolina Piana Rigoni*** – Evaluating salinity tolerance and growth rates in the freshwater diatom *Stephanodiscus minutulus*
20. **Edie Clark*** – The origin and evolution of a rare nutritional shift in the epizoic diatom genus *Tursiocola*
21. **Michaela Clark*** – Diatom epibiont assemblages on Florida manatees

The Diatom Holobiont: From Microbiomes to Mutualisms

22. **Kamber Lovill*** – A newly discovered apochloritic diatom lineage from a captive loggerhead sea turtle
23. **Zoe Newbold*** – Ecological effects of a low-head dam removal using diatoms as a bioindicator

24. **Paige Kleindl** – Ultrastructure precursors to phosphorus-induced periphyton mat collapse

Beyond the Valve: Genomic Windows into Diatom Science & New Windows on Diatom Diversity and Systematics

25. **Allison Nims*** – Population genomics of a hitchhiking marine microbe
26. **Pat Kociolek** – The strange case of the *Epithemia sorex* group in Argentina
27. **Pat Kociolek** – *Epithemia* A to Z: on the identity of *Epithemia adnata* Kützing and *Epithemia zebra* Ehrenberg, purported synonyms, based on type and authentic material from the Kützing and Ehrenberg collections
28. **Alincy Her*** – Tiny and big: different *Eunotia* species in Big Creek Lake, Alabama, USA
29. **Valeria Oreamuno-Matamoros*** – Diatom community turnover across microhabitats in a tropical high-altitude peat bog in Costa Rica
30. **Maria Gabrielle Rodrigues-Maciel** – Community of epibiont diatoms on queen conch shells: diversity and variation across host life stages
31. **Sarah Rushforth** – A diatom voucher flora of the Jordan River, Utah
32. **Eliana Villegas-Campos*** – Morphological study of a panduriform species of *Diploneis* from a tropical high-altitude acidic peat bog in the Talamanca Mountain Range (Costa Rica)
33. **Mikatrin Heynen*** – Expanding access to a record of global primary production: building a taxonomic tree of the CAS diatom collection for migration to Specify
34. **Sylvia Stone*** – Face-to-face colonies of *Stauroneis acuta* from small stream in Deming Park, Terre Haute, IN

Map of Archbold Biological Station

123 Main Dr., Venus, FL • Most activities will take place at the Learning Center

