

# NACC

North American Cyclodextrin Consortium  
Connecting Cyclodextrin Researchers in North America

Newsletter – Issue #1 | October, 2025

## Welcome

Welcome to the first edition of the North American Cyclodextrin Consortium (NACC) newsletter! Our newsletter is here to give you a snapshot of CD science, industry, and community in North America and beyond. We want to share great research, feature company wins, and connect the people pushing the field forward.

Since this is our inaugural issue, we're taking a little extra space to highlight some of the most exciting CD research and innovation from the last year. Future newsletters will be shorter and focused on the most recent developments, but we'll begin with a broad snapshot of the field.





We are building a network for everyone working with cyclodextrins — scientists, students, entrepreneurs, and industry professionals — to stay connected, share discoveries, and create opportunities for collaboration across North America.

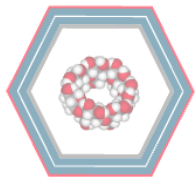
Wherever you fit in the CD ecosystem, we are glad to have you *included*.

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## Research Highlights

There are countless new CD papers and projects out there. This issue highlights just a slice of the breadth of CD research published this year in the most impactful journals. **If you think we've missed something important, let us know and we'll be sure to include it in the next edition.**

-  **JACS** — CD-based monoliths demonstrate powerful removal of PFAS from water - a flagship application of CDs in environmental remediation and water treatment. (*Lin et al.*) DOI: 10.1021/jacs.5c09865
-  **ACS Nano** — MyTai, a myeloid cell-targeted immunostimulant cocktail built on a CD scaffold, showed potent antitumor activity with low systemic toxicity, offering a safer alternative to lipid nanoparticle RNA delivery. (*Kim et al.*) DOI: 10.1021/acsnano.5c10081
-  **Water Research** — Thermoresponsive  $\beta$ -CD adsorbent captures lead ions and can be regenerated using only hot water, demonstrating a simple, chemical-free approach toward sustainable clean-water technologies. (*Jeon et al.*) DOI: 10.1016/j.watres.2025.123867
-  **Carbohydrate Polymers** — CD-coated magnetic nanoparticles are hemocompatible in uremic plasma and blood, underscoring their safety as blood detoxification tools for kidney failure (*Sharaf et al.*) DOI: 10.1016/j.carbpol.2025.123836

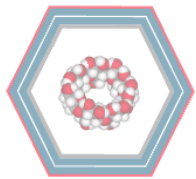


- **🇨🇦 Carbohydrate Polymers** –  $\beta$ -CD derivatives self-assembled into liquid crystals, including rare cubic mesophases, with promise as lithium-conducting electrolytes for next-generation batteries. (*Che et al.*) DOI: 10.1016/j.carbpol.2025.123587
- **🇲🇽 ACS Applied Materials & Interfaces** – Researchers achieved controlled release of cyclophosphamide from CD nanosponges, opening new possibilities for localized chemotherapy. (*Salazar Sandoval et al.*) DOI: 10.1021/acsami.3c18038
- **🇲🇽 Molecules** – Avibactam–CD inclusion complexes were characterized for enhanced stability and solubility, supporting more efficient antibiotics via  $\beta$ -lactamase inhibition. (*Alcázar et al.*) DOI: 10.3390/molecules30163401
- **🇺🇸 Advanced Functional Materials** – An injectable  $\beta$ -CD–GelMA hydrogel implanted in traumatic brain injury lesions reduced cholesterol buildup, inflammation, and scarring, while improving recovery in mice. (*Chen et al.*) DOI: 10.1002/adfm.202507086
- **🇺🇸 Atherosclerosis** – UDP-003, a CD-dimer API, reversed foam-cell formation and promoted urinary clearance of 7-ketocholesterol in preclinical models, advancing toward human trials. (*Bhargava et al.*) DOI: 10.1016/j.atherosclerosis.2025.119217
- **🇺🇸 Molecular Pharmaceutics** – HP $\beta$ CD combined with trehalose stabilizes monoclonal antibodies, improving formulation robustness. (*Tam et al.*) DOI: 10.1021/acs.molpharmaceut.5c00115
- **🌍 Small** – Cyclodextrin pseudocopolymers were engineered for advanced drug and gene-delivery systems. (*Soh et al.*) DOI: 10.1002/smll.202501304
- **🌍 Carbohydrate Polymers** – CD–metal–organic framework (CD-MOF) design principles are paving new paths in biomedicine. (*Bello et al.*) DOI: 10.1016/j.carbpol.2025.123684
- **🌍 Colloids & Surfaces B** – Engineered CD–protein domain interfaces were developed for nanoscale delivery of therapeutic proteins. (*Wang et al.*) DOI: 10.1016/j.colsurfb.2025.114993
- **🌍 Molecules** – CD-based supramolecular hydrogels are advancing tissue-engineering and regenerative-medicine applications. (*Lin et al.*) DOI: 10.3390/molecules30153225

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## North American Company Milestones

- **WACKER Chemie** recently celebrated [25 years of cyclodextrin production at its Eddyville, Iowa, site](#). Wacker continues to serve as a cornerstone supplier for pharma, food, and industrial CD applications. **We will be welcoming WACKER as our first Spotlight Company this quarter!**
- **Roquette** just introduced [KLEPTOSE® Crysmeb Methyl- \$\beta\$ -CD](#). This new excipient enhances the solubility and stability of a wide range of APIs for oral and parenteral delivery methods. The company also expanded its life-science partnerships, positioning CDs as key excipients in next-generation formulations.



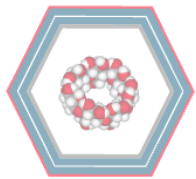
- **Cyclo Therapeutics** presented [interim Phase 3 safety data](#) from the *TransportNPC* trial of Trappsol® Cyclo™ in Niemann–Pick disease type C, showing consistent tolerability and early signs of efficacy. The results support continued advancement of HPβCD therapy in this rare, fatal disorder.
- **Ligand Pharmaceuticals** celebrated a [new FDA approval](#): Lasix® ONYU, formulated with Captisol®, for the at-home treatment of edema in patients with heart failure. This is the seventeenth approved product formulated with Captisol®, and joins a premier list of products that utilize this patent-protected CD technology.
- **Cyclarity Therapeutics** advanced its [first-in-human trial of UDP-003](#), a CD-based therapeutic for atherosclerosis and age-related disease. Now well into Phase 1 studies, the company reports a strong safety profile and steady clinical progress.
- **CycloPure** launched the Purefast® HomeXtreme PoE filter for household PFAS removal, piloted its PFAS Water Test Kit in Colorado, and installed a DEXSORB® packed-bed filter at a U.S. military base. [CycloPure is proving](#) that CD-based water remediation is ready for prime time.
- **Beren Therapeutics** secured [JIC Venture Growth Investments \(VGI\) funding](#), aiming to expand discovery in Japan. Beren's lead CD API candidate, adrabetadex, shows a substantial survival benefit in the treatment of individuals with infantile-onset Niemann-Pick disease type C (NPC).

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## Cyclodextrin Event Watcher

### Upcoming:

- [12th Asian Cyclodextrin Conference \(ACC\)](#) in Conjunction with the 41st National Cyclodextrin Symposium
  - November 7-10, 2025
  - Tokyo, Japan
  - Deadline to Register: Oct 31
- 2nd World Summit and Expo on Nanoscience and Nanotechnology ([NANOSUMMIT2026](#))
  - March 11-13, 2026
  - Lisbon, Portugal
  - First Round of Abstract Submission End: Dec 30
- 17th Global Drug Delivery and Formulation ([DDF Summit](#))
  - May 18-20, 2026
  - Berlin, Germany
- 6th [Chemistry World Conference](#)
  - June 18-20, 2026
  - Barcelona, Spain
- International Symposium on Macrocyclic and Supramolecular Chemistry ([ISMSC2026](#))



- July 5-10, 2026
- Bordeaux, France
- International Cyclodextrin Symposium 2026 (ICS2026)
  - The biannual ICS event is a can't-miss!
  - This was announced at ICS 2024 to take place in India - **can anyone provide us more information on this?**

## Past - Just Missed It!

- Biannual [EuroCD 2025](#)
  - September 9-12, 2025
  - Milan, Italy
  - [Here](#) is a summary of this great event from our friends at CarboHyde
- [Cyclodextrin Summer School](#)
  - June 9-11, 2025
  - Genoa, Italy
- 19th International Symposium on Macrocyclic and Supramolecular Chemistry ([ISMSC2025](#))
  - May 25-30, 2025
  - Kyoto, Japan

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## Community Insights: “The Most Surprising Uses of Cyclodextrins”

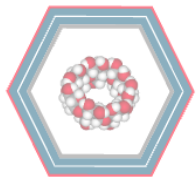
We asked, you answered! *What's the most surprising use of cyclodextrins you've seen or dreamed up?* Here's a snapshot of your responses:

- **Biomedical Applications**

Community responses spanned from clinical frontiers to early-stage ideas. CDs are being advanced as active agents in Niemann–Pick disease and atherosclerosis, and are well established as groundbreaking reversal agents in anesthesia (Sugammadex aka Bridion™). Others noted emerging possibilities such as tuning stem cell proliferation, antifibrotic effects, novel nasal and transdermal delivery systems, and even reducing hair graying.

- **Materials and Environment**

In materials science and sustainability, CDs are showing up in antimicrobial fabrics, PFAS and nanoplastics removal, and luminescence-tuned smart materials. They're even being applied in agriculture, where they can amplify plant growth hormones to improve resilience and yields.



- **Everyday Uses**

Beyond the lab, CDs are quietly making life better. They're keeping nutrients stable, flavors fresh, and even pets smelling better thanks to shampoos with CD-encapsulated essential oils. These everyday applications are a reminder that CDs touch more of our lives than we may realize.

Together, your responses show that CDs not only expand possibilities in drug delivery, but also enable surprising innovations across biotech, agriculture, materials, and daily life. Missed the survey? [Please take it now](#) and tell us *your* favorite CD use.

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## What's Next

- **Company Spotlight:**



**WACKER Chemical Corporation**  
NCA Innovation Ctr. & Regional  
Headquarters  
4950 S State Road  
Ann Arbor, MI 48108

**Our next communication will contain a special spotlight on WACKER Chemical Corporation.** WACKER is the only company in the world to produce all three naturally occurring CDs, marketing them under the trade names CAVAMAX® W6 ( $\alpha$ -CD), W7 ( $\beta$ -CD) and W8 ( $\gamma$ -CD).

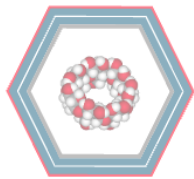
**[You can ask your questions to the WACKER team ahead of time via email, or live at our next Virtual Meeting, date/time to be announced.](#)**

- **Quarterly virtual meetings** with live Q&A and sessions from spotlight companies/labs - day and time for the virtual meeting will be announced shortly!
  - **[Our survey is open now:](#)** help shape NACC by joining the email list and weighing in on events, communications, and our future in-person conference.
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## Additional Resources

Need *more* cyclodextrin content? We got you!

- [Cyclodextrin News](#)
- [Cyclodextrin Tales](#)
- [The Society of Cyclodextrins, Japan](#)
- [Cyclodextrin Masterclass](#)
- [CycloLab Newsletter](#)



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- Italian Society of Cyclodextrin Chemistry and Technology ([CD.TE.C](#))
- Carbohydrate Chronicles Podcast - available on [Spotify](#) or [YouTube](#)

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## Get Involved

We are always looking for your feedback, especially now as we get things rolling. Would you like your company or lab featured in a future spotlight? Do you have new research, questions, milestones, or surprising CD applications to share? Do you want to offer resources or opportunities (guest speakers, collaborative projects, internships, etc.) to the group?

What can **you** bring to the NACC? We would love to hear from you. Contact the NACC team via [email](#) or [LinkedIn](#)!

