

Polymers: The Material Platform Behind Modern Healthcare

Trends in Materials, Design, Manufacturing, Sustainability, Sterilization, and Safety

**Wednesday,
October 28, 2026**

MD&M MidWest
**Minneapolis Convention
Center**

Conference Schedule

7:30 – 8:00am
Registration & Poster Setup

8:00am – 5:00pm
SPE MiniTec Conference
(Lunch and Breaks Included)

5pm – 6:30pm
Room 102F
SPE MPD Reception
Industry Networking &
Poster Session
(Included in Registration)

Registration will be managed by
Informa for all conference
attendees

Online Information & Registration:

www.mdmmidwest.com

Conference Contact Information:

Len Czuba
Conference Chair
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or

Carol Barry
Conference Vice Chair

Sponsorships:

Chris Konitzer
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Keynote Speaker Brenda Ogle, University of Minnesota

(8:00am – 8:15am)

**Welcome, Conference Review,
Announcements**

(8:15am – 9:15am)

Featured Keynote Presentation

**1. Boink Development to Advance 3D
Bioprinting and Organoid Development –**
Brenda Ogle, University of Minnesota

(9:30am – 10:15am)

2. Development of Specialty Biosensors –
Timmy Nguyen, University of Minnesota

(10:30am – 11:30am)

Informa Keynote
(No MiniTec Sessions to be held at this time)

(11:45am – 12:30pm)

3. AI in Device Manufacturing – Bryan Burrell,
Dubl B Enterprises

(Lunch and Panel 12:30pm – 1:30pm)

(1:30pm – 2:15pm)

**4. Biodegradable Liquid Polymers for
Controlled Release of Anticancer Vaccines –**
Chun Wang, University of Minnesota

(2:30am – 3:15pm)

**5. Nanoscopic Characterization of Medical
Materials and Devices –** Dehua Yang, Ebatco

(3:30am – 4:15pm)

**6. Testing for Microplastics: Lessons from
Existing Standards and Emerging Analytical
Methods –** Eleanor Brightbill, Ebatco

(4:15pm – 5:00pm)

7. Recycling of Medical Devices – Carol
Forance Barry, University of Massachusetts Lowell

(5:00pm – 6:30pm)

Reception and Poster Session

**Join us at 5pm
for our New Member Reception!
Enjoy a Beverage & Snack
Meet Poster Presenters
Visit Exhibitors**

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708-951-6014

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Session Descriptions

Session 1: “Novel method of fabricating living human cardiac tissue!”

Our Keynote speaker, Professor Brenda Ogle will share the progress they have made fabricating novel tissue engineering of complex cardiac tissue using 3D printing systems.

Session 2: “Development of Specialty Biosensors”

A new class of sensors is being developed that can offer remarkable new clinical diagnostics as well as plant hormone monitoring for agricultural health and differentiation of bacterial strains for infection surveillance.

Session 3: “AI in Device Manufacturing”

This presentation will introduce ways that AI linked with existing manufacturing systems can monitor and control complex processes and improve quality and compliance and accelerate innovation. Learn how to identify high-value use cases, implement AI and avoid common pitfalls.

Session 4: “Biodegradable Liquid Polymers for Controlled Release of Anticancer Vaccines”

A novel biodegradable liquid polymer, CAPRO, creates an injectable vaccine depot that slowly releases antigens and immune-stimulating adjuvants. By encapsulating proteins, peptides, or cell lysates through simple mixing, CAPRO can generate potent, long-lasting humoral and cellular immune responses. Laboratory and animal studies demonstrate its potential to improve vaccine effectiveness for cancer immunotherapy.

Session 5: “Nanoscopic Characterization of Medical Materials and Devices”

With the rapidly growing use of advanced biomaterials in medical devices, critical property characterization is becoming essential to manufacturing OEMs to assure safety and proper functioning of their devices. This review will describe how assessment is being done at the nanoscale levels.

Session 6: “Testing for Microplastics: Lessons from Existing Standards and Emerging Analytical Methods”

Microplastics may be receiving new attention, but particle testing has a long history in the medical device industry. This presentation will explore established standards and emerging techniques for generating, isolating, detecting, and characterizing particles to aid selecting and developing reliable, accurate analytical methods that aid in the broader regulatory and scientific understanding of microplastics.

Session 7: “What Materials Must be Recycled in Medical Devices?”

The hidden value of polymer components in the enormous range of medical devices faces the challenge of how to isolate each material from the others. Methods are described that shows how the multi-material mix is found to be difficult to separate and leads researchers to advise device manufacturers to consider redesigning the medicals devices using fewer different materials to make recycling more efficient and adaptable.