

### January Section Meeting – Magnetically Powered Microbots for Busting Blood Clots

Dr. Keith Neeves presents on a method for ablating blood clots using magnetically-powered microbots. These bots consist of micrometer sized superparamagnetic beads that can be injected intravenously and then assembled in situ using external magnetic fields to form wheel-like objects that target blood clots in the brain. We call these bots microwheels and they can roll on surfaces at velocities greater than 100  $\mu\text{m}/\text{sec}$ , which is comparable to the fastest microorganisms. When loaded with a clot busting drug, the microwheels can reestablish blood flow faster than the drug alone owing to the combined chemical and mechanical actions.

Keith Neeves obtained his B.S. in chemical engineering at the University of Colorado, Boulder and a Ph.D. in chemical and biomolecular engineering at Cornell University. He was an NIH NRSA postdoctoral fellow at the

### January Section Meeting

<b>Topic:</b>	Magnetically Powered Microbots for Busting Blood Clots
<b>Speaker:</b>	Dr. Keith Neeves
<b>Date:</b>	Tuesday, January 14 *** SECOND Tuesday ***
<b>Time:</b>	6:00 – Networking & Dinner 7:00 – Presentation
<b>Location:</b>	Meadow Hill Golf Club 3609 S Dawson St, Aurora
<b>Cost:</b>	\$20 Rocky Mtn. Section Members (w RSVP) \$25 Non-members \$10 Students / Unemployed

**RSVP REQUIRED by Friday, January 10**  
(early RSVPs are greatly appreciated!) You may RSVP via email at [rockyaiche@yahoo.com](mailto:rockyaiche@yahoo.com) indicating your name, phone number, and number of attendees and pay at the meeting. Or you may RSVP and pay online using [PayPal on our meeting link](#).

\*Add \$5 for attending meeting without RSVP

**Send your email address to  
[mmoes@ekiconsult.com](mailto:mmoes@ekiconsult.com) to receive  
this newsletter electronically!**

University of Pennsylvania. The Neeves lab at the University of Colorado, Denver investigates the biophysical mechanisms that regulate hemostasis, thrombosis, and fibrinolysis. His research has been recognized with NSF CAREER, Colorado Bioscience Association Educator of the Year, and Karl Link Award in Thrombosis award from the American Heart Association. He has co-authored over 70 publications and is supported by grants from National Institutes of Health, Department of Energy, National Science Foundation, and American Heart Association.

## Save the Dates!

Our dedicated program chair has already planned this year's local section meetings so now is a great time to get them on your calendar! Our tentative local section meeting dates and times are listed below.

**February 11** - Kaitlyn Bunker combined SWE-AIChE meeting in Denver Tech Center

**March 10** - Doug Hambley presenting "Economic Analyses for Mineral Deposits Held by Publicly Traded Companies" in Lakewood

**April 14** - Lindsay Breyer presenting "PSM and Pharmaceuticals" in Boulder

**May 12** - Carolyn Koh presenting "Natural Gas Hydrates" in Lakewood.

## LOCAL SECTION OFFICERS NEEDED!

If you would like to volunteer for an officer position, please contact Cindy Fischer at 303-988-3611 or [cindy.fischer@q.com](mailto:cindy.fischer@q.com).

## AIChE Meetings

2020

Mar 29-Apr 2 [2020 Spring Meeting and 16th Global Congress on Process Safety](#)  
Houston, TX

June 1-3 [Process Development Symposium](#)  
Philadelphia, PA

June 22-25 [2020 Synthetic Biology: Engineering, Evolution and Design \(SEED\)](#)

### National AIChE Contact Info

#### **AIChE Customer Service Center:**

(US/Canada): 1-800-AIChE  
(1-800-242-4363)

(International): 203/702-7660

**E-mail:** [CustomerService@aiiche.org](mailto:CustomerService@aiiche.org)

**Member Services:** 800.242.4363

**Career Services:** 646.495.1330

**Awards & Honors:** 646.495.1317

**Address:** 120 Wall Street, 23<sup>rd</sup> floor  
New York, NY 10005

**Web Page:** <http://www.aiiche.org>

## Rocky Mountain AIChE Officers

Cindy Fischer	Chair	303/988-3611 <a href="mailto:cindy.fischer@Q.com">cindy.fischer@Q.com</a>
Dawn Keeler	Program Chair	<a href="mailto:Dw980111@dal.cal">Dw980111@dal.cal</a>
Brian Olson	Treasurer	303/353-3563 <a href="mailto:b.olson111@gmail.com">b.olson111@gmail.com</a>
Mike Mutnan	Secretary	303/423-1586 <a href="mailto:michaelmutnan@live.com">michaelmutnan@live.com</a>
Kevin Milliman	Director	303/515-1027 <a href="mailto:Kmilliman94@gmail.com">Kmilliman94@gmail.com</a>
Mike Moes	Communication	303/915-1238 <a href="mailto:mmoes@ekiconsult.com">mmoes@ekiconsult.com</a>
Patrick Burton	New Mexico Liaison	505/284-1543 <a href="mailto:pdburto@sandia.gov">pdburto@sandia.gov</a>
Dr. Patrick Johnson	Wyoming/SD Liaison	307/766-6524 <a href="mailto:pjohns27@uwyo.edu">pjohns27@uwyo.edu</a>
Laura Moes	Editor and Web Admin	303/770-2432 <a href="mailto:lauramoes@msn.com">lauramoes@msn.com</a>

Rocky Mountain AIChE News is published eight times a year by the Rocky Mountain section of AIChE. Opinions expressed herein are those of the authors and are not necessarily those of AIChE nor the officers of this section.

The objectives of AIChE are to advance chemical engineering in theory and practice, to maintain a high professional standard among its members, and to serve society, particularly where chemical, engineering can contribute to the public interest.

AIChE Rocky Mountain is a public non-profit 501(c)(3) organizations and thus any and all donations are tax deductible.

## Rocky Mountain AIChE News Publication Schedule

February 2020 Issue  
Publish on Friday, January 31  
Meeting on Tuesday, February 11

## MEETING SCHEDULE

*The Rocky Mountain District of AIChE generally meets the second or third Tuesday of every month, September through November and January through May.*