

April Section Meeting: Plotting a Path to Net-Zero

Many international companies have committed to aggressive carbon-neutral targets and are now looking to their sites to develop plans on how to achieve them. A Marginal Abatement Cost Curve, or MACC, can be used to rank projects based on their cost per ton of CO₂ abated and the net emissions reduction achieved. Using these curves, companies can focus on projects with the best payback first and proceed to the next higher cost projects until the total reduction goal is achieved. Once a project list is developed, the next step is a strategic plan that evaluates risks for various implementation scenarios to develop an overall execution plan. This paper will illustrate the use of MAC Curves and strategic planning tools to identify a net-zero path using several examples from industry.

Speaker Biography:

Pete Sharpe is a principal consultant with Emerson's Industrial Software group, focusing on the petrochemical and chemical industries. His role involves helping downstream manufacturers identify and pursue opportunities to improve operational KPI's using automation technology and

April Section Meeting

Topic: Plotting a Path to Net-Zero

Speaker: Pete Sharpe, Principal Consultant at Emerson Automation Solutions

Date: Thursday, April 25th

Location: ONLINE Zoom Call

Time: 6:00 – Introduction
6:05 – Career Discussion
6:15 – Presentation
7:15 – Q&A

Cost: FREE

REGISTRATION REQUIRED. More information can be found on our [website](#).

[Register](#)

After you register, you will receive instructions via email for joining the meeting.

industry best practices. Pete brings more than 44 years of experience working in the industry, focusing primarily on advanced control, reliability and various digital transformation solutions. In his current role, he helps customers identify, justify, plan and implement technologies that support sustainability, reliability, safety and profitability objectives.

Pete holds a BS in Chemical Engineering from the University of Colorado and an MBA from the University of Houston. He has authored or co-authored more than 25 technical papers and holds 5 patents on equipment monitoring techniques.

NEED OFFICERS

We are looking for people to run for several officer positions including Program Chair, Secretary, Treasurer, and Communication Chair. If you are interested in serving our local American Institute of Chemical Engineers, please contact any of our officers for more information.

STATE SCIENCE FAIR WINNERS

The Rocky Mountain Local Section announces winners of the Colorado State Science Fair held at Colorado State University on April 11-13, 2024.

SENIOR DIVISION

1st Place – Anna Kumar, 12th Grade, Fairview High School, PRIZE \$200.00

“Glucose Fuel Cells Made From Graphene Membranes”

- Excellent interview, project was fully chemistry,

- Understood membrane manufacture,
- On top of the chemistry issue,
- Questions did not rattle her at all,
- TRULY EXCELLENT INTERVIEW

2nd Place – Mariami Zhuzhunashvil, 12th Grade Cherry Creek High School, PRIZE \$150.00

“Producing Bio diesel from Spent Coffee Grounds – Traditional vs In situ Transesterification

- Another excellent interview,
- Understood the chemistry involved,
- Did bench scale testing,
- Very good at explaining her analysis of test results,
- A huge amount of independent learning,
- Knew about ASTM Standards and used one in evaluating test result,
- Had quick responses to each question.

JUNIOR DIVISION

1st Place – Tess Price, 8th Grade, Ken Caryl Middle School, PRIZE \$200.00

“Polymerization Using Alginate Spherification”

- Made her own spheres and understood the chemistry involved,
- She explained that the spheres could be applied to the skin to promote healing,
- This was a minor part of project,
- On top of each question I asked,
- Another excellent interview.
- Have not studied chemistry yet in school,
- A tremendous level of independent study knowledge.

2nd Place – Fallyan Grefersen, 7th Grade, Wiggins Middle School, PRIZE \$150.00

“Purifying Water with Activated Charcoal”

- THE BEST OF ALL THE INTERVIEWS,
- Hit a home run to deep center field on each question,
- The project appeared simple but understood the basics of adsorption/absorption,
- Explained those two terms before I asked about them.
- Have not studied chemistry yet in school,
- The GREATEST level of independent study knowledge.

AIChE Meetings

2024

- Apr 21-24 [mRNA Technology Conference](#)
Boston, MA
- Apr 22-24 [5th Engineering Cosmetics and Consumer Products Conference](#)
Philadelphia, PA
- May 6-9 [2024 Offshore Technology Conf](#)
Houston, TX
- May 21-23 [2024 Center for Hydrogen Safety Americas Conf](#)
Las Vegas, NV
- May 21-22 [PD2M Conference on Modeling and Simulation Applications in Pharmaceutical Development & Manufacturing](#)
Cambridge, MA
- June 3-5 [Int'l Congress on Sustainability Science & Engineering](#)
Houston, TX

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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)

MEETING SCHEDULE

The Rocky Mountain Local Section (RMLS) of AIChE generally meets once a month, September through May.