The American Institute of Chemical Engineers

AIChE®

2015 Rocky Mountain Regional Conference

April 17-19, 2015

Hosted by

University of Colorado Boulder

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Contents

Welcome to Boulder

The University of Colorado at Boulder AIChE Chapter is proud to host the 2015 Rocky Mountain Regional conference. We have several universities from all over the region in attendance, including Arizona State University, Colorado School of Mines, Colorado State University, New Mexico Institute of Mining and Technology, New Mexico State University, South Dakota School of Mines and Technology, University of Arizona, University of New Mexico, University of North Dakota, University of Utah and University of Wyoming. From our AIChE Chapter to yours, we welcome each and every one of you to Boulder and hope you have a wonderful time at this year's conference!

While you're here, don't forget to take photos of you and your university having fun at the conference! Send them to aiche@colorado.edu and we'll display them at the Saturday Banquet Ceremony!

A letter from our Chapter Advisor:

We, in the Department of Chemical and Biological Engineering at CU-Boulder, are excited to welcome you all to beautiful Boulder, Colorado. Led by Conference Chair Mari Leivan, our students have worked hard to put together a fun, educational, and action-packed conference. Between ChemE-car, ChemE-jeopardy, workshops, paper and poster competitions, dinners, social events and more, you will not be wanting for activities. With events at a number of different venues, you will also have a chance to see much of our campus.

Since we last hosted this conference, the department has changed quite a bit. We moved to a new home in the cutting-edge Jennie Smoly Caruthers Biotechnology Building in 2012. With 700 undergraduate students, we are now one of the top-ten largest chemical engineering departments in the country. This growth has not come at the cost of quality; our graduate program is ranked 16th and our undergraduate program 18th overall by *US News & World Report*.

Our students conduct a wide variety of high quality interdisciplinary research, with strengths in bioengineering, materials, and energy. If you would like to learn more about our graduate program, I would be happy to answer any questions; just find me at any of the conference events.

We hope you enjoy this opportunity to make memories with new colleagues and friends. In concert with the conference activities, partake in a hike in the Flatirons, a walk on the Boulder Creek Path, or a leisurely meal outside on the Pearl Street Mall. Have a wonderful stay here in Boulder.

Sincerely,

Dr. Wendy M. Young
CU-Boulder AIChE Chapter Advisor

Conference Leadership

Activities Chair
Ryan Maes

Awards Chair
Mark Wallace

Back- Up Conference and Fundraising Chair
Brita Salzmann

Catering Chair
Mauricio Munoz

Chem-E Car Chair
Ben Mousseau

Chem-E Car Safety Coordinator
Ann Greco

Conference Advisor
Dr. Wendy Young

Conference Chair
Mari Leivan

Financial Advisor
Lauren Miremont

Jeopardy Competition Chair
Seina Soufiani

Logistics Chair
Angela Kwak

Mini-Career Fair Chair
Brandon Cooper

Paper Competition Chair
Jessica McDaniel

Poster Competition Chair
Jason Barton

Workshop Chair
Hashim AlHajji

Conference Schedule

Friday, April 17th

3:00 PM- 6:00 PM	Conference Check-In *Jennie Smoly Caruthers Biotechnology Building (JSCBB) main lobby*
3:00 PM - 6:00 PM	Outdoor Activities & Building Tours *JSCBB west field; tours start in main lobby*
6:00 PM - 8:00 PM	Buffet Style Dinner & Tours of JSCBB *JSCBB main lobby*
8:30 PM- 11:45 PM	Social Event- Battle of the Bands *UMC Glenn Miller Ballroom*

Saturday, April 18th

7:00 AM – 8:00 AM	Registration Continues *Engineering Center*
8:00 AM – 9:00 AM	Presidents Meeting *Engineering Center, ECCR 135*
8:00 AM – 11:00 AM	Paper Competition *Engineering Center, ECCR 151 and 155*
8:00 AM – 11:00 AM	Workshops *Engineering Center, ECCR 150 and 105*
10:00 AM – 11:00 AM	Chem-E-Car Check-In & Chem-E-Car Poster Setup *Carlson Gym*
11:00 AM – 12:00 PM	Chem-E-Car Poster Judging *Carlson Gym*
12:00 PM – 1:00 PM	Lunch *Carlson Gym*
1:00 PM– 4:00 PM	Chem-E-Car Competition *Carlson Gym*
1:00 PM – 4:00 PM	Career Mini-Fair *Carlson Gym*
4:30 PM - 6:30 PM	Chem-E Jeopardy *MATH 100*
7:00 PM - 10:00 PM	Awards Banquet; Keynote Speaker: Al Weimer *JSCBB*
10:00 PM	Saturday Night Social: Scavenger Hunt/ Pearl Street *Pearl Street*

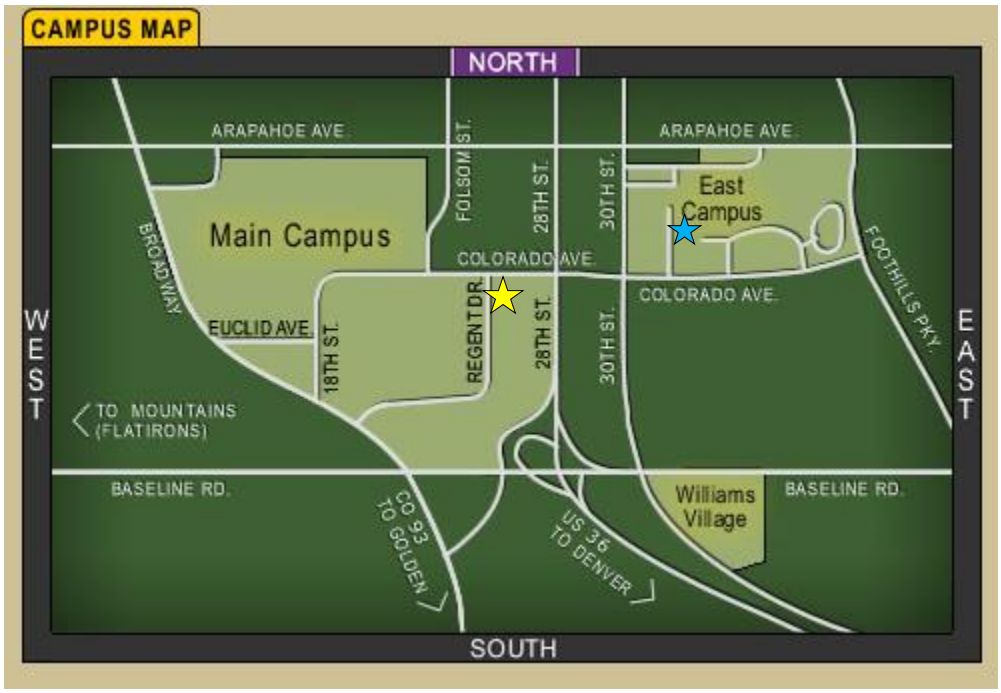
Sunday, April 19th

9:00 AM	Hike *Chautauqua*

Maps and Transportation Information

Don't get lost on our campus! Provided in this section are some maps to the areas that will be visited during the conference. In addition, there is a free application in the Apple App Store called **UCB Guide** that can help guide you around our campus this weekend!

General Campus Map

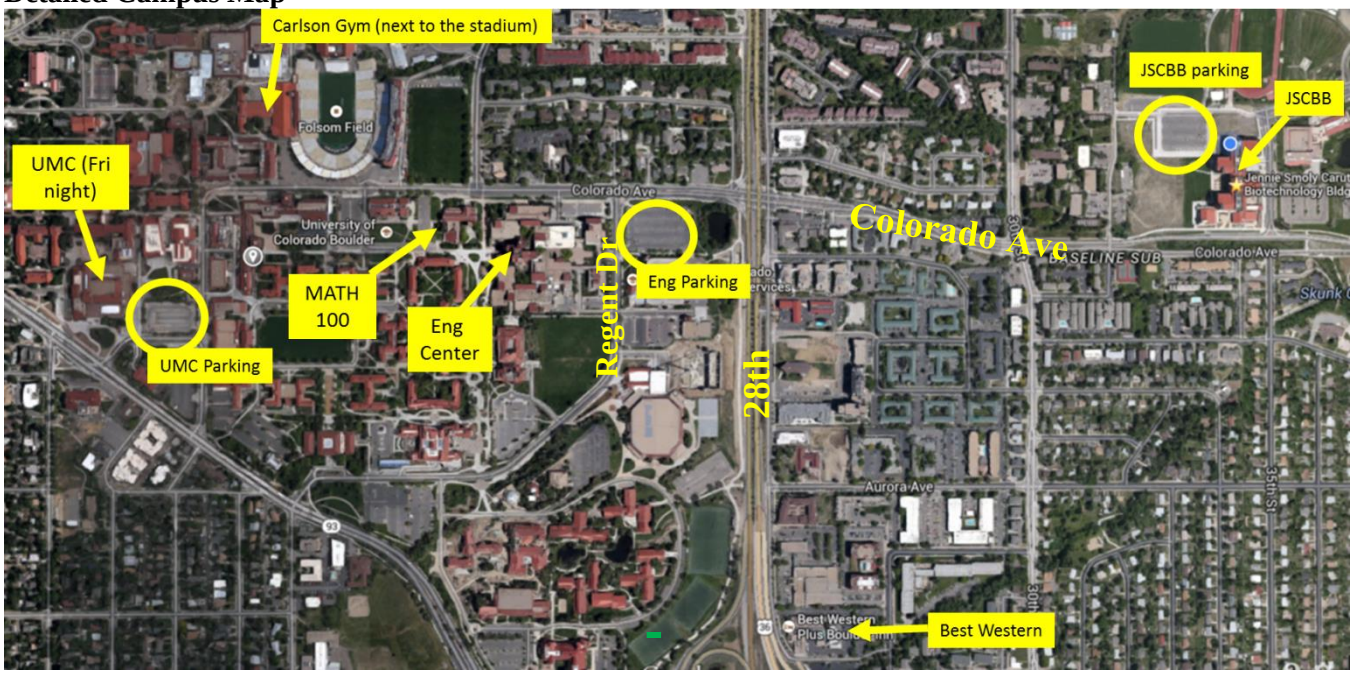


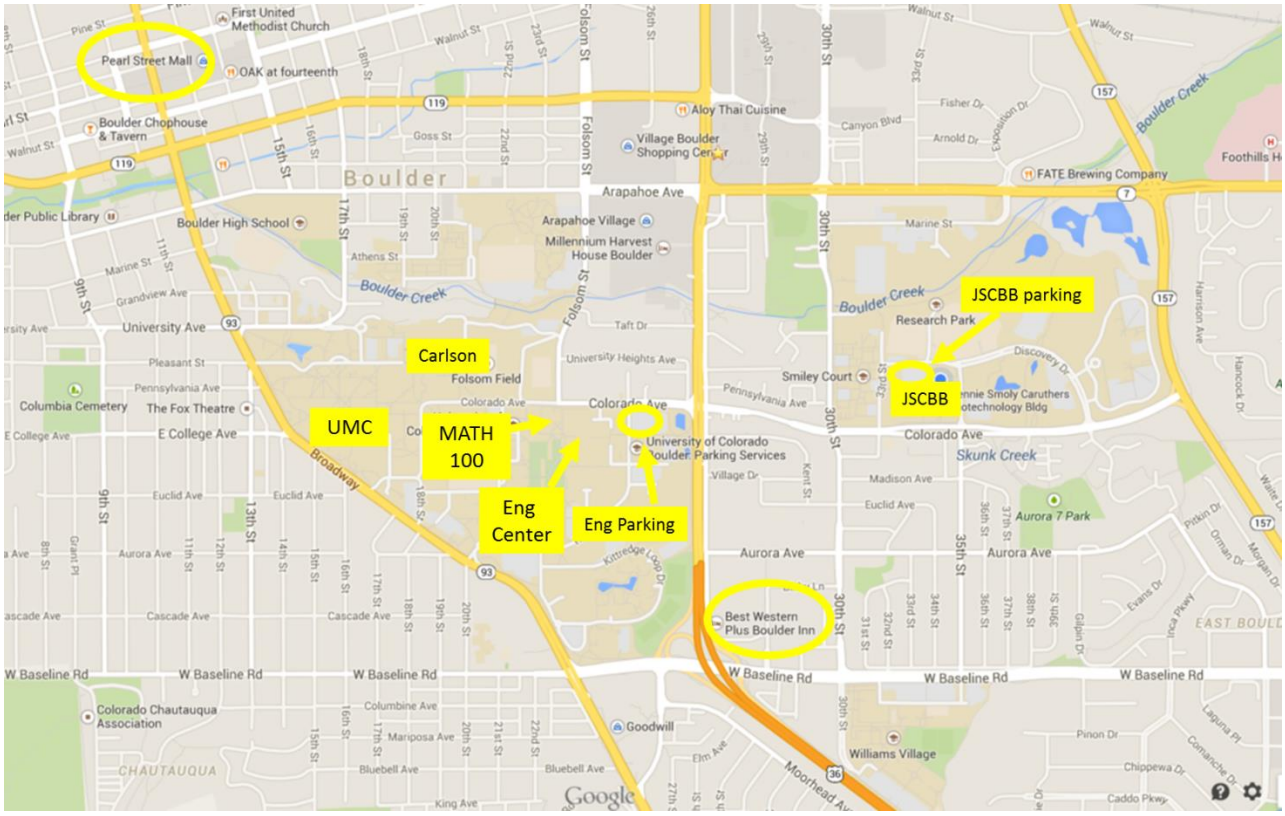
See the following pages for detailed directions and map of main campus.

Parking

There are two main lots that you may park at for free during this conference. The large parking lot by the Jennie Smoly Caruthers Biotechnology Building is free during the weekend (blue star on the map above). Additionally, the large parking lot by the Engineering Center on the southeast corner of Regent and Colorado Ave is free during this conference (yellow star on the map above). Other parking lots may incur fees, so make sure that you read the signs. Our parking services are very diligent about giving away tickets, so if you park in a metered spot make sure that you pay the meter for enough time.

Detailed Campus Map



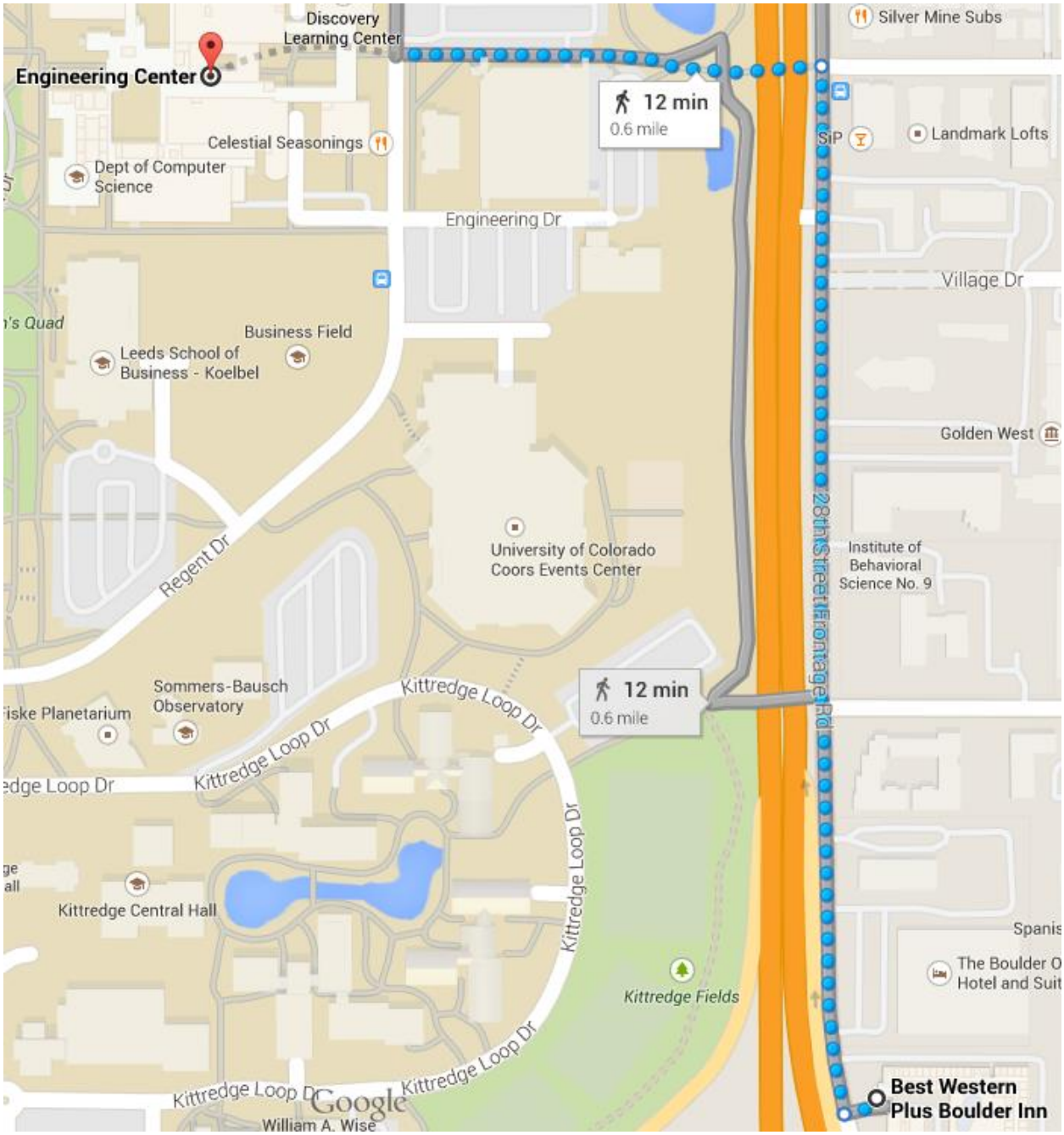


Directions from Best Western to Jennie Smoly Caruthers Biotechnology Building (JSCBB)

Directions:

1. Head west toward 28th St Frontage Rd (Road parallel to US-36)
2. Turn right onto 28th St Frontage Rd
3. Turn right onto Aurora Ave
4. Turn left onto 30th St
5. Turn right onto Colorado Ave
6. JSCBB is to your left

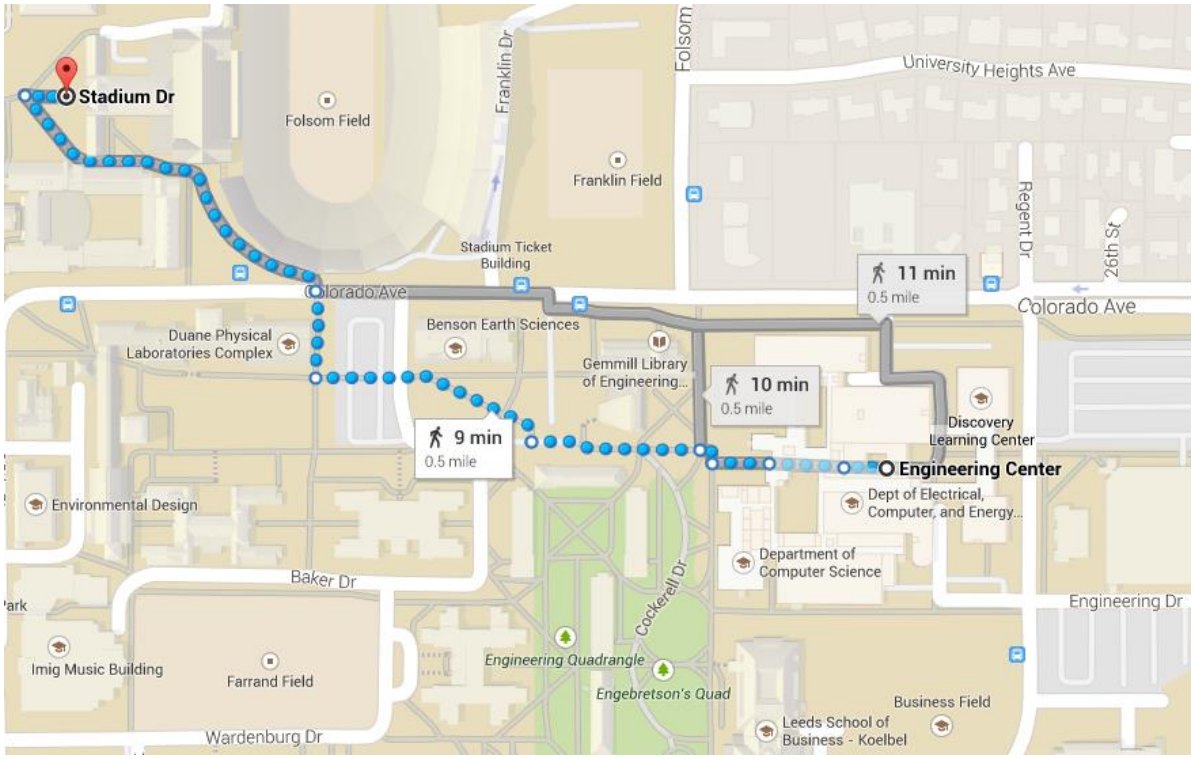
Directions from Best Western to Engineering Center (EC)



Directions:

1) Head west toward 28th St Frontage Rd
2) Turn right onto 28th St Frontage Rd
3) Take pedestrian tunnel and continue walking straight and cross at the signal
4) Engineering center is straight ahead

Directions from Engineering Center to Carlson Gym and Math 100



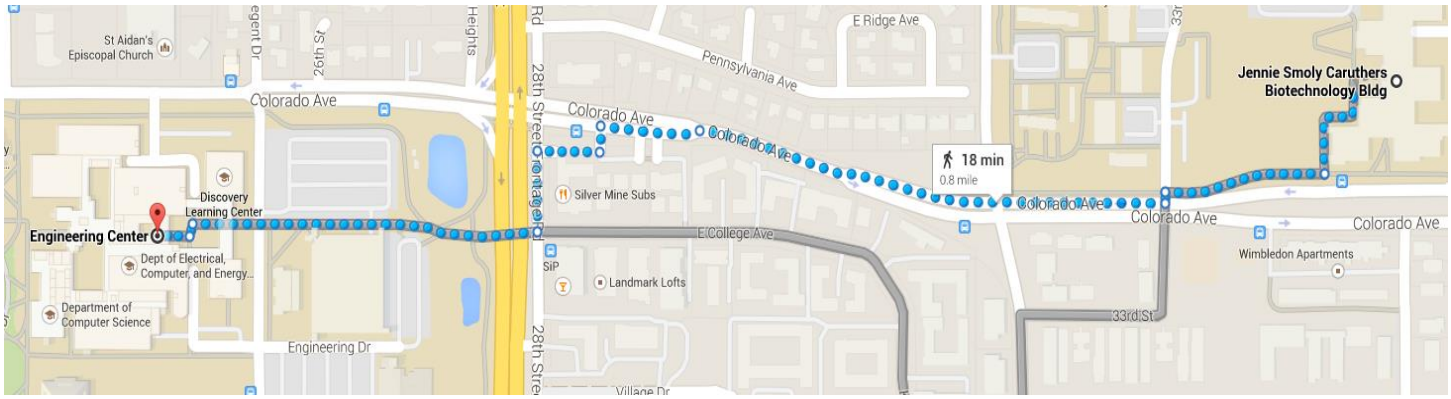
Directions (for gray path):

1) Exit out the double doors on the west end of the EC; Head north until you reach Colorado Ave
2) Follow Colorado Ave (To your left, you will pass the Math Library (Gemmill), and Benson Earth Sciences)
    - When you reach the third building to your left (Duane), cross the street towards the Buffalo statue near Folsom Field (the large stadium)
3) Follow the curve past the Buffalo statue to the left, and Carlson gym will be to your right (If you've reached our recreation center, you've gone too far; Carlson gym is to the right of the rec center if you're facing North)

To Math 100:

1) Exit out the double doors on the west end of the EC
2) Head west, the Math Building (Gemmill); it will be the first building to your right when you exit the EC

Directions from EC to JSCBB



Directions:

1) Head east out of the EC towards Regent Dr
2) Go north
3) Follow the pedestrian path that runs parallel to Colorado Ave and the large parking garage until you reach 28th Frontage Road (You will go through a pedestrian underpass)
4) Turn left onto 28th Frontage Road
5) Follow this road until your reach Colorado Ave, and turn right
6) When you reach 30th, use the cross walk to cross 30th and then cross Colorado Ave
7) Follow Colorado Ave, JSCBB will be to your left

Workshops

Overview

If you are not involved in preparing for Chem-E car, we have plenty of workshops for you to participate in instead. We have a variety of great workshops; make sure to check out at least one of them!

Workshop Schedule and Details

Room	8:00 – 8:30	8:30- 9:00	9:00 – 9:30	9:30-10:00	10:00 - 10:30	10:30-11
ECCR 150	GSIC (Alan Zagoria): *A Better Way to Learn Engineering*		Brian Daly: *How to Ace the Interview*	Graduate Student Panel	Bart Carpenter: *Introduction to Decision and Risk Analysis*	
ECCR 105	Hannah Wallace: *What It's Like to Be an Engineer for an Energy Company*	Rudy Kahsar: *What to Do with a Chemical Engineering Degree*	Wendy Reed: *Process Simulation in the Real World*		GSIC (Alan Zagoria): *A Better Way to Learn Engineering*	

A Better Way to Learn Engineering - International Projects
Alan Zagoria, AIChE Global Societal Initiatives Committee (GSIC)

Find out how you can gain important real-world skills highly valued by employers while improving the quality of life of a partner community in the developing world. International service projects, such as Engineers Without Borders, can help you become a better engineer and provide a rewarding personal experience. Representatives of national AIChE and the University of Colorado student EWB chapter will provide: an overview of service projects and the benefits of participating in them; personal experiences in developing, designing, and implementing EWB projects around the world; and a hands-on workshop where you can address some of the dilemmas and challenges of working with limited resources and competing priorities on a real project.

How to Ace the Interview
Brian Daly, FLUOR

An interview can be a very stressful process and many times you only have one chance to make a great, lasting impression on prospective employers. Fortunately, AIChE member and Engineering Supervisor, Brian Daly, a process engineer at Fluor, has been on both sides of the interview process and he will talk about his experiences and offer you tips that can help you ace that next interview.

Graduate Student Panel
Matthias Young and Anna Corts, CU Graduate Students

Matthias Young and Anna Corts will be hosting an open panel during this workshop. Panel attendees will have the opportunity to ask these graduate students about any related topic in either their research or the paths they have chosen to pursue.

Introduction to Decision and Risk Analysis
Bart Carpenter, AECOM

Should I build new or expand my existing biofuels facility? Which technology should I utilize to produce ultra-low sulfur gasoline? How can I better manage my R&D opportunities to produce cancer fighting drugs? How do decide?

In this workshop, you will be introduced to Decision and Risk Analysis, a decision making tool/process that will help your team make better decisions. We will discuss:

- When should I use D&RA?
- The basic D&RA process
- Decision trees
- Monte Carlo simulations
- Real world example

What It's Like to Be an Engineer for an Energy Company
Hannah Wallace, Chevron

Representatives from Chevron will be presenting what a day in the life of an engineer is like at Chevron. The various engineering jobs and parts of the company will be discussed as well as how a student can prepare to get an industry engineering job. At the end, there will be time for attendees to ask questions about the industry and the role of an engineer.

What to Do with a Chemical Engineering Degree
Rudy Kahsar, Navigant

Maybe you already know what you want to do with your degree, but if not, be grateful that you are a chemical engineer. Your degree can grant you a foot in many doors, but how do you pick the right one? This workshop will go over the frequently asked question: What do I do with my chemical engineering degree now?

Process Simulation in the Real World
Wendy Reed, ChemStations

Join ChemStations for an interactive presentation on **"Process Simulation in the Real World"**. Learn about the following topics and maybe even win a prize!

- What does a process simulator do?
- School vs. real world problems
- Best Practices
- Common Mistakes

Paper Competition

Overview

Saturday, 8 AM to 11 AM
Engineering Center, ECCR 151

At the regional AIChE conference, the paper competition allows undergraduate students to present cutting edge and innovative research in which they are studying. Presentations can vary within the chemical engineering industry from tissue engineering to materials science. Participation in this competition gives students an opportunity to receive recognition and prizes for their hard work. For a little sneak peek on the various paper topics, the student paper abstracts start on the following page.

Judges

- Mark Stoykovich, University of Colorado Boulder
- Cory Jensen, AIChE Professional Section Student Liaison
- Matthew Hamilton, University of Utah

Awards

1st Place: $200 and plaque
2nd Place: $100 and certificate
3rd Place: $50 and certificate

Paper Competition Schedule

8:00 AM- 8:20 AM	Kate Sciamanna, Colorado School of Mines *Dual Phase Membranes for High Temperature CO2 Separation and Membrane Reactors*
8:20 AM- 8:40 AM	Aaron Lindsay, New Mexico State University *Modeling Diffusion through Porous Materials: Applications of the Narrow Escape Problem*
8:40 AM- 9:00 AM	Joshua Gomez, New Mexico State University *Optimization of Algae Derived Carbon for Water Treatment Applications*
9:00 AM- 9:20 AM	Break
9:20 AM- 9:40 AM	Jason Barton, University of Colorado at Boulder *Rational Design of Heterogeneous Catalysts*
9:40 AM- 10:00 AM	Kelsey Thompson, University of Utah *Chemical Looping with Oxygen Uncoupling Auto Thermal Conditions*
10:00 AM- 10:20 AM	Alyssa-Ann Draper, University of Utah *How Oxy-Firing Influences Mercury Removal in Coal-Fired Power Plants: A Parametric Study Using Mersim™ Software*
10:20 AM- 11:00 AM	Judges deliberate

Paper Competition Abstracts

Dual Phase Membranes for High Temperature CO_2 Separation and Membrane Reactors

Kate Sciamanna, Sean Lundin, J. Douglas Way
Colorado School of Mines

The goal of this project is to fabricate high temperature CO_2 permeable membranes and investigate the parameters that limit CO_2 transport. Previous research has been done on disk membranes, but we are interested in tubular membranes that have higher CO_2 permeability and selectivity.

CO_2 separation occurs at the dual-phase boundary between molten carbonates (MC) and an oxygen ion conducting membrane support, such as yttria-stabilized zirconia (YSZ). YSZ is a porous ceramic, and the pores are infiltrated with molten Li_2CO_3, Na_2CO_3, and K_2CO_3. CO_2 is converted to the CO_3^{2-} ion by reacting with an O^{2-} ion at the boundary between the gas phase, MC, and YSZ. CO_2 diffuse across the MC as CO_3^{2-} down its concentration gradient from high CO_2 partial pressure (feed side) to low (permeate side). On the permeate side, CO_3^{2-} converts into CO_2 with the loss of an O^{2-} ion, which diffuses back through the YSZ to the feed side and repeats the process.

The initial step was to fabricate a membrane and experimentally demonstrate CO_2 transport. This was first tried by dipping YSZ-coated stainless steel supports into MC, which sealed the membrane. However when run at high temperature, the carbonates corroded the supports and formed iron oxides all across the membrane. The next membrane supports used were made of pure YSZ, which was more difficult to seal. Different coating methods were tried until it was found that the membrane could be effectively sealed by dip-coating in an aqueous suspension of powdered carbonates then fired at high temperature.

These membranes were then run at high temperature to study CO_2 permeation. Although there was N_2 flow (from leaks in the membrane) the CO_2 flow was larger and increased with temperature, indicating selective CO_2 permeability [Fig.1]. Our data compares very well with literature values for disk membranes; our CO_2 flux and permeance values are on the same order of magnitude, and our activation energy for CO_2 permeation is nearly identical. This suggests that CO_2 is permeating across our membrane by the same dual-phase mechanism reported in the literature.

The next phase of this project is focused on improving the permeance and permeability (flow normalized by pressure and thickness) of our membrane, which were lower than literature values. Current work is being done to improve the coating method. An EDS analysis of the membrane showed that the carbonate mixture was mostly composed of lithium, whereas there should have been a more even ratio of all three elements. This indicated that our dip-coating method did not adequately coat an even carbonate mixture onto the membrane. To improve, we have tried sifting the powder carbonate mixture through a fine mesh, using ethanol instead of water as the suspension solvent, and brush- coating instead of dip-coating.

Other ways of improving membrane performance include: controlling the depth of MC penetration in order to maximize the dual-phase boundary, possibly improving the rate of the surface reduction reaction with the addition of a catalyst, and using a different ceramic support that has a higher O^{2-} ion conductivity.

Modeling Diffusion through Porous Materials: Applications of the Narrow Escape Problem
Aaron Lindsay
New Mexico State University

While Fick's model for diffusion is applicable to a number of simple systems, modifications are necessary in order to better predict diffusion in more complex mediums. The aim of this study was the determination of a better model for diffusion through porous materials. The mean free escape time for networks of confined 1D geometries were determined through modeling of Brownian diffusion in Matlab. Through extrapolation of the narrow escape problem to a network of cells, it was found that the escape time scaled linearly with the distance squared as seen in unrestricted diffusion. A model is proposed relating the mean free escape time of a particle to Fick's laws of diffusion.

Optimization of Algae Derived Carbon for Water Treatment Applications
Joshua Gomez
New Mexico State University

Algae derived activated carbon was synthesized for the purpose of water treatment to remove arsenic. Carbon activated with potassium chloride and iron (III) chloride in ratios of 3 grams of algae to 6 grams of activating agent and 3 grams of algae to 9 grams of activating agent were produced and pyrolyzed at temperatures of 500°C, 600°C, and 700°C for 2 hours. The resulting carbon and commercial carbon were then used in shaker experiments with 100 ml of 1 ppm arsenite solutions and agitated for 24 hours. The initial and final concentrations of arsenic were measured using an inductively coupled plasma mass spectrometer (ICP-MS). From the measurements of the ICP-MS, the adsorption capacity after 24 hours was calculated. From these calculations, the carbon activated with iron (III) chloride had the highest capacity of arsenic of around 90% arsenic adsorbed. The commercial carbon had 25% adsorption of arsenic and the carbon activated with potassium hydroxide had 5% adsorption of arsenic. The carbon activated with iron (III) chloride shows to be a very promising adsorbent of arsenic, in the future further optimization of using iron chloride as an activating agent in producing activated carbon be made with temperature, carbonization time, and mass to activating agent ratio.

Rational Design of Heterogeneous Catalysts
Jason Barton
University of Colorado at Boulder

Heterogeneous catalysts play pivotal roles in chemical processes. Despite the importance of catalysts in industrial chemical processes, the most popular method of improving catalysts requires vast amounts of catalyst screening in small scale reactors. After the advent of density functional theory and the rapid increase of computing power, the landscape of catalyst screening is changing. Catalysts can be pre-screened by understanding the fundamental physics of reaction mechanisms with simple calculations of adsorption energies using density functional theory. This method allows for quick screening of catalysts before experimental testing. Previously, activity of catalysts has been characterized by adsorption energies however it is believed the same methodology can be applied to determining the selectivity of catalysts for certain reactions. These methods are currently being employed by the Medlin research group to investigate the promotional effect of rhenium on silver-supported catalysts for aerobic ethylene epoxidation.

Chemical Looping with Oxygen Uncoupling Auto Thermal Conditions
Kelsey Thompson
University of Utah

Chemical Looping with Oxygen Uncoupling (CLOU) is discussed using copper oxide as the oxygen carrier and coal as the fuel. Advantages of CLOU are discussed and compared to current industrial conditions. Operating temperatures for an auto thermal system was analyzed by using simulations using ASPEN modeling tools. It has been determined that CLC and CLOU have approximately the same auto thermal temperature difference of 105℃. However, CLOU operates at a range of 930℃ to 1035℃, lower than that of CLC. CLC operates at a range of 1040℃ to 1145℃.

How Oxy-Firing Influences Mercury Removal in Coal-Fired Power Plants: A Parametric Study Using Mersim™ Software
Alyssa-Ann Draper
University of Utah

According to the EPA, coal combustion in power plants is the main source of anthropogenic mercury (Hg) air pollution in the United States, as well as a major contributor of CO2 emissions. Oxy-firing is a process wherein coal is combusted with oxygen-enriched air, resulting in a flue gas with higher CO2 concentrations. Consequently, oxy-firing increases CO2 capture by control devices, which operate most effectively on concentrated contaminants. To control the higher temperatures which result from oxy-firing, the combustion air is diluted with a flue gas recycle. To control Hg emissions, the boiler and air-preheater required for combustion are often implemented with pollution control devices, namely Selective Catalytic Reduction (SCR), Electrostatic Precipitators (ESP), Fabric Filters (FF), and Flue Gas Desulphurization (FGD). These filter the gas and remove pollutants downstream. This study investigated various combinations of pollution control devices using the specialized chemical kinetics modeling software MerSim™ to see how oxy-firing influences Hg output in coal-fired power plants. Sulfur (S) and chlorine (Cl) concentrations (varying by coal type), gas stream oxygen content, and recycle placement were examined. Different coal types were investigated in a system with SCR, ESP, and FGD devices. MerSim™ predicted that most coals tested would have higher Hg removal with oxygen-enriched air; the more enriched, the more effective removal was. A low Cl, low S coal had the most drastic emissions decrease with oxy-combustion, while little removal was achieved in coal with high S, low Cl content. Consistent with current research, high Cl and low S coals performed well because Hg is oxidized by Cl, sequestering it for better removal. SO2, produced from oxy-combustion of high S coal, hinders this oxidation, inhibiting Hg removal. The configuration of the flue gas recirculation system was important in systems with FGD. For high Cl, high and low S coals, oxy-firing increased Hg stack concentrations with recycle before the FGD, because this placement has decreased S removal. In the same setup, low Cl, low S coal had higher Hg removal and lower stack concentrations because its Hg removal is highly benefited by the increase in Cl, and less affected by the S increase.

Chem-E Car Competition

Overview

Saturday, Check-in at 10:00 AM, Poster/Safety Judging 11-12, Competition at 1:00 PM
Carlson Gym

In the Chem-E Car Competition, team members from around the region design and construct a chemically powered vehicle within certain size constraints. The teams will be told at the time of the competition the distance that the car must travel and the specified cargo that the vehicle will carry. Entries deemed unsafe by the judges will be disqualified. The winner will be determined by a combined score, for traveling the correct distance, and for creativity. Teams compete at the regional conferences, and the winner of each regional conference will compete at the national conference.

Safety Inspectors

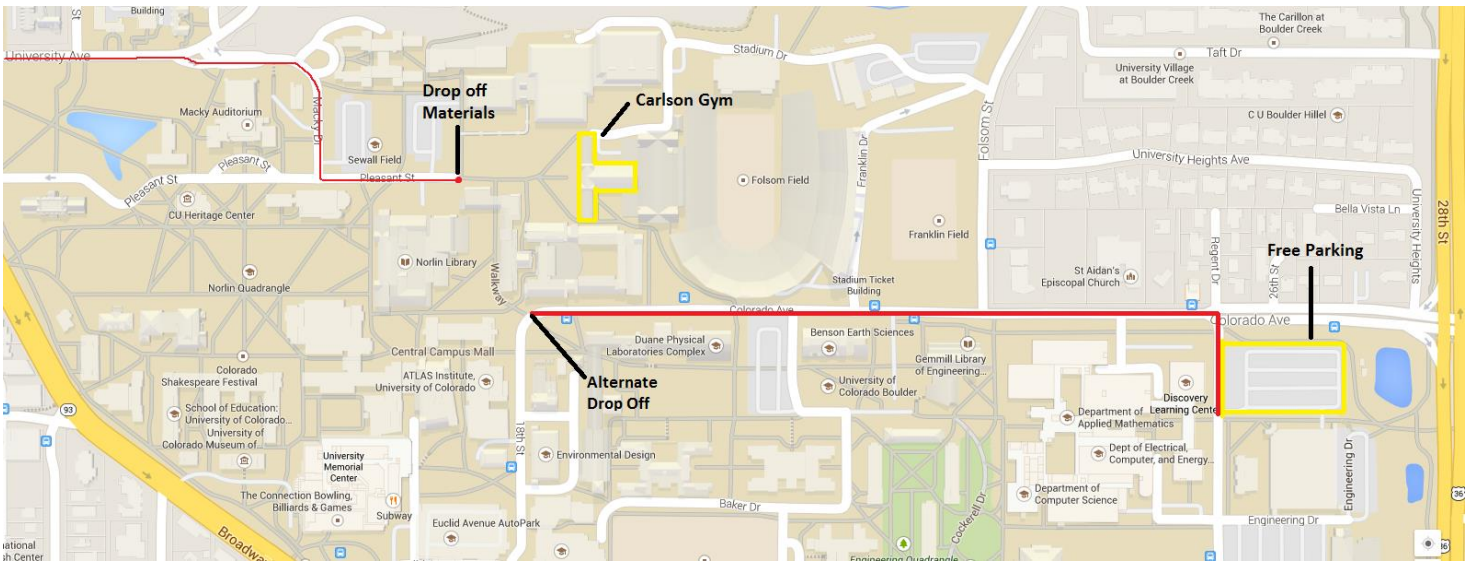
- Dave Dixon, Main safety coordinator, South Dakota School of Mines and Technology
- Wendy Reed, Chemstations, Inc.
- Tony Butterfield, University of Utah
- Brian Daly, FLUOR
- Frank Bowman, University of North Dakota

Awards

1st Place: $200 and 1st place trophy
2nd Place: $100 and 2nd place ribbon
3rd Place: Honorable mention ribbon
4th Place: 4th place ribbon
5th Place: 5th place ribbon

Ribbon for Spirit of Competition

Directions for Dropping Off Chem-E Car Materials



Chem-E Car Descriptions

Arizona State University
Car Name: H_2 Desperado
Team Members: Cody Shelden, Andrew Roberts, Adam Midkiff, Daniel Jameson.

Colorado School of Mines
Car Name: The Orecart
Team Members: Trevor Haak, Sabrina Linn, Alokya Perera, Kelly Churchill, Dmitriy Sagadiev, Vanessa Wagner, Magnus Chun, Bryan Weaver, Grant Sheridan, Andoni Eck, Ryan Orr, Tabitha Kalin, Matthew Rehberg

Colorado State University
Car Name: H_2GO
Team Members: Janel Abbott, Nathan Reed, Lamia Dawahre, Lindsey Nevin, Casside Wright, Bradley Evans, Seth Thompson

New Mexico Institute of Mining and Technology
Car Name: The Geber
Team Members: Torrie Sewell, Madeleine Bodine, Carson Laudadio, Danielle Richards, Kevin Reed, Jacob Sibert, Sasha Egan

New Mexico State University
Car Name: Billy the Skid aka The Rolled Enchilada
Team Members: Eric Delong, Josh Catanach, Diego Gomez, Andy, Nancy Torres, Andrew Miller, Lizeth Medrano, Andy Reyes-Tovar, Veronica Sanchez, Alyssa Ramirez, Arlenne Torres

South Dakota School of Mines and Technology
Car Name: Aluminati
Team Members: Seth Ostlie, Joseph Lyon, Naomi Pulscher, Patrick Holland, Axel Bost, Dustin Hachmann, Eduardo Perez, Daniel Cerfus, Daniel Seilkop, Kayla Kaasa, Will Rude

University of Arizona
Car Name: Shiloh
Team Members: Brian Gerwe, Jerad Dunevant, Kari Hernandez, Kate Li, Phil Befus, Elliott Connor, Jim Denker, Nick Ashley, Matt Kim, Megan McGuckin, Derek Peterson, Cris Mariscal, Rachel Braun, Ben Wu, Ryan Dormond, Matt Fry, Ryan Murphy, Matt Bahr

University of Colorado
Car Name: Turbo Buffalizer 6000 Remix
Team Members: Neil Hendren, Katie Oswalt, Charles Mullins, Dixa Gautam, Tyler Gossett, Andres Gandara, Cole Heggem, Elijah Holland, Jason Christianson

University of North Dakota
Car Name: Steve
Team Members: Mitchell Hunt
Samantha Sandeen, Andrew Eerdman, Ryder Shallbetter, Jacob Brewer, Nayana Batham

University of New Mexico
Car Name: Lucky Lobo
Advisor:
Team Members: Nicholas Baker, Samuel Greenblat, Timothy Torres, Charles Harris, Gretta Evans, Nicole Habbit, Julian Vigil, Phil Van-Every, Frank Salas, Shabab Saad, Steven Nery, Najeeb Shamoon

University of Utah
Car Name: Carbon Electra
Advisor:
Team Members: Preston Isom, Melissa Puga, Taylor Bassett, Kelsey Thomson, Alberto Martinez, Austin Elphick, Nigel Long, Steve Stafsholt, Elena Shanin, Will Nguyen.

University of Utah
Car Name: HydroJohn Carvolta
Advisor:
Team Members: Alberto Martinez, Austin Elphick, Nigel Long, Steve Stafsholt, Elena Shanin, Will Nguyen, Victor Crane, Jon Lamb

Chem-E Jeopardy

Overview

So you think you know chemical engineering? Well now you can finally put your knowledge to use. With questions developed by CU Boulder students and Chevron Vice-President Mike Wirth, this Chem-E Jeopardy will have you laughing and scratching your head. Prizes will be awarded!

If you're participating in Chem-E Jeopardy, please make sure that you arrive promptly at 4:30 PM.

Saturday, 4:30 PM
Math 100

Proctor
Seina Soufiani

MC
Dr. Janet deGrazia

Friday Night Social

Overview

Battle of the Bands
UMC Glenn Miller Ballroom

Friday night, CU's Program Council is hosting a free Battle of the Bands concert. At this event, various student bands will be performing at the UMC Glenn Miller Ballroom (University Memorial Center) and competing for prizes. Come enjoy some live music and an electric atmosphere!

Saturday Night Banquet and Award Ceremony

Overview
JSCBB Lobby
7:00 PM – 10:00 PM

Come and enjoy a banquet dinner, a beautiful Colorado sunset behind the Flatirons and a speech by Al Weimer. Following dinner will be an award ceremony for the Chem-E Car Competition, Paper Competition, and Jeopardy.

Guest Speaker: Dr. Al Weimer, Professor and C2B2 Executive Director

Abstract:
The country and the world need you to be innovative, to take risks, to be ethical, to work hard, to solve major problems, and above all – to lead! We need you today more than ever!

Saturday Night Social

Overview
Pearl Street
10:00 PM

The Saturday night social is an event on Pearl Street, a local outdoor mall that provides a hip and fun atmosphere for students on Saturday nights. Here, there are bars, candy shops, ice cream shops, toy shops, retail stores, book stores and so much more. Sometimes, you can catch a street performance too! We will be hosting a scavenger hunt (with prizes for the winner) that will let you further explore this area. If you're feeling adventurous, feel free to go out on your own as well!

Scavenger hunt lists will be distributed immediately following the banquet.

Sunday Morning Social

Overview
What's Boulder without an outdoor activity? As a final farewell, we will have a hiking trip to Chautauqua Park (aka the beautiful backdrop to every evening's sunset). This is a five minute drive from the hotel. Difficulty level is moderate, but well worth the gorgeous sights. At the park, there is also a grass field to play games or soak in some Colorado sunshine before you leave.

Sponsors

Thank you to our wonderful sponsors!

Gold Level:

Silver Level: