

2016 Showcase

Thursday, April 21, 2016
12:30 p.m. to 6:45 p.m.
Kellogg Hotel & Conference Center

Program

Riverside Room

12:30 pm Alumni Award Luncheon (doors open at noon)
2:00 pm Industry Participants Briefing on Program Evaluation
2:15 pm Break

Auditorium

2:30 pm Senior Design Presentations (5 groups - see order on next page)
3:45 pm Break
4:00 pm Senior Design Presentations (4 groups - see order on next page)

Riverside Room

5:30 pm Reception/Student-Industry Interaction and BE 230 Poster Presentations

The Biosystems Engineering Showcase is an annual event that showcases the program and its students. This year we are proud to present ten BE 485/487 Senior Design Capstone project design teams and their work.

These two-semester, 6-credit projects demonstrate the capabilities of students graduating in 2016 from Biosystems Engineering. During the Fall semester, students are assigned to teams and are provided with a real-world engineering design problem that they must address. Faculty advisors along with industry evaluators are assigned to each team as consultants. By the end of the semester, teams submit project proposals with design alternatives, optimization and economic evaluation parameters for faculty review and approval.

During Spring semester, the teams apply their engineering knowledge to verify, prototype and optimize the problem they have undertaken. They do the practical work of designing and, in some cases building prototypes and complete a full design report submitted for faculty and industry evaluator review and critique.

Projects required many hours of hard work by the students. The projects are diverse, but all projects have a common theme linking “systems thinking” and engineering design with a biological process. Showcase is the public presentation of the nine 2016 projects highlighted here.

For more information contact:

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Biosystems Engineering Design Projects
BE 485/487 2014/2015

Presentation order beginning @ 2:30 pm

2:30 pm - Industrial Biosolids Digestion Project

Alexander Bricco, Christine Isaguirre & Michal Mulik

Sponsor: Dow Chemical (under NDA)
Faculty Advisor: Dr. Steve Safferman, P.E.
Evaluators: Mr. Shane Bennett, P.E.,
Mr. Bryce Feighner, P.E. &
Mr. Richard Woodford, P.E.

2:45 pm - Pilot-scale compost unit design: Monitoring chemical degradation

Benjamin Bailey, Joshua Boucher & Yifeng Hu

Sponsor: Dow AgroSciences (under NDA)
Faculty Advisor: Dr. Dawn Reinhold
Evaluators: Ms. Lisa Buchholz,
Ms. Sara Linder &
Mr. Larry D. Stephens, P.E.

3:00 pm - Food Waste Management: Generating a Waste-to-Resource Product

Larry Buckner, Nathan Sobczak, Lauren Strange & Austin Wissler

Sponsor: Meijer (under NDA)
Faculty Advisor: Dr. Ajit Srivastava, P.E.
Evaluators: Ms. Diana Bach,
Mr. Kevin Blue,
Mr. Mitch Miller, &
Dr. Erik Petrovskis, P.E.

3:15 pm - Bio-oil Upgrading Through Continuous Electrocatalytic Hydrogenation

Angela Hoang, Aubrey Proctor, Jack Stephan & Stephen Wilson

Sponsor: Tenneco
Faculty Advisor: Dr. Chris Saffron
Evaluators: Ms. Holly Bowers,
Mr. Andrew Granskog, P.E. &
Mr. Rob Yoder

3:30 pm - Designing a Sustainable Conveyor System: A Frozen Food Application

Austin Ebeling, Nicholas Niedermaier, David Olson & Jacqueline Thelen

Sponsor: JBT FoodTech (under NDA)
Faculty Advisor: Dr. Brad Marks, P.E.
Evaluators: Mr. Dylan Comer,
Ms. Cassandra Edwards,
Mr. Gene Ford &
Mr. Andrew Knowles

Presentation order beginning @ 4:00 pm

4:00 pm - Ultrafiltration of Anaerobic Digestion Effluent for Sustainable Management

John Everett, Robert Munro, Shane Peterson & Charlotte Thomas

Sponsor: MSU Land Management
Faculty Advisors: Dr. Wei Liao, P.E. &
Dr. Tim Harrigan
Evaluators: Mr. Ben Darling,
Ms. Michelle F. Crook, P.E.,
Dr. Jim Wallace, P.E. &
Ms. Amy Yoder

4:15 pm - Optimizing Heat Transfer for Food Industry Application

Brendan Cloonan, Michael Conklin, Natsuki Ikeda & Christopher Walker

Sponsor: Major Food Manufacturer (under NDA)
Faculty Advisors: Dr. Kirk Dolan &
Mr. Phil Hill
Evaluators: Dr. Marialuci Almeida &
Mr. Steve Richey

4:30 pm - Optimizing Purified Water Use for Pharmaceutical Tank Cleaning

Joseph Commane, Jason Petros, Sydney Preston & Jacob Vankeulen

Sponsor: Perrigo (under NDA)
Faculty Advisors: Dr. Susie Liu &
Dr. Jade Mitchell
Evaluators: Mr. Thomas Cornish &
Ms. Ashley Julien

4:45 pm - Label Quality Vision Inspection System

Alexis Baxter, Anna Brunzman, Kyle Brunzman & Paige Crosset

Sponsor: Perrigo (under NDA)
Faculty Advisor: Dr. Dan Guyer
Evaluators: Dr. Jeffrey Mathews,
Mr. Chris Rivard &
Mr. Kirk Walter