

Chemical Engineering

POSTER SESSION, 9:00 A.M. – 11:30 A.M

Location Alden Hall

Exploring the Role of Food Processing in Transforming Apple Allergens

Samantha Grahn, Jordan Hodgson, Brian Leverock, Sarah Tozier

Advisor: Stephen Kmietek

Limiting Air Emissions from Cannabis Prod with Biofiltration

William LaCourse, Abigayle McNamara

Advisor: Stephen Kmietek

WPIPA

Carson Kershner, Devin Kunkel, Gregory Phillips, Noah Poulin

Advisor: Stephen Kmietek

Investigating Soil Amendments for Mycoremediation of Heavy Metals

Paige Agostini, Val Corrente, Mya Darrow

Advisors: John Bergendahl (CEAE), Stephen Kmietek, Elizabeth Stoddard (ESS)

Utilizing Microphotocatalytic Packed Beds for Industrial Pharmaceutical Applications

Lucas Anthony, Belle Sethachutkul

Advisors: Stephen Kmietek, Andrew Teixeira

Fabricating Fruit Textures with Continuous Flow Spherification

Abbigaile Cote, Rachel Gealow

Advisor: Andrew Teixeira

Characterization and Post Processing of Medical Grade Quantum Dots

Chloe Hatstat, Oliver Johnson, Omer Roma, Carter Washock

Advisor: Andrew Teixeira

Comparing Oxygen and Radical-Initiated Hydrothermal Liquefaction for Polystyrene Recycling

Isabel Morello

Michael Timko

Ca-Intercalated 1DL with Cementitious Materials

Sean Corman

Ronald Grimm (CBC), Michael Timko

Solvolyis of Biomass Using Crude Methanol

Emma Neumann

Advisors: Stephen Kmietek, Michael Timko, Alex Maag

Plastic to Chemicals

Marissa Burati, Amelia Montgomery, Kristine Roy

Advisors: Michael Timko, Alex Maag

Evaluating Bamboo as a Viable Feedstock for Hydrothermal Liquefaction: Product Analysis, TEA and LCA

Jackson Pelletier, Nick Tomasetti

Advisors: Michael Timko, Timothy Woodard

Optimizing Performance for UV Curable Resin from Recycled Canola Oil

Thomas Boyle (ME), Alaina Ehmer, Julia
Spillane
Advisors: Alex Maag, Mehul Bhatia (ME)

*Development of a Continuous Process for
the Molten Salt Pyrolysis of Polystyrene*
Paige Grisson, Ashley Hutchings
Advisors: Laila Abu-Lail, Ravindra Datta

*Antimicrobial Efficiency of Lactoferrin
Toward Staphylococcus Epidermis Biofilms*
Nicole Calandra, Rayna Jacob
Advisor: Elizabeth Stewart

*Transporter Engineering for Metabolism
Optimization*
Justin Roberts
Advisor: Eric Young

Paclitaxel Transporter Characterization
Aili Bray
Advisor: Susan Roberts

*Varying the Wavelength of Light to Increase
Growth Rate and Paclitaxel Production in T.
Chinensis Plant Cell Cultures*
Taylor Fiore
Advisor: Susan Roberts

*Determining the Antimicrobial Dosage of
PH-Responsive Liposomes Formulated to
Improve Drug Delivery to Staphylococcus
Epidemidis*
Lindsey Gorham, Jane Tucker
**Christina Bailey-Hytholt, Elizabeth Stewart,
Christopher Lambert (CBC)**

*Trophoblast Invasiveness Influencing
Exosome Communication and Lipid*

*Nanoparticle Delivery in the Placental
Microenvironment*
Kerstin Andrews, Adelyn Fisher
Advisor: Christina Bailey-Hytholt

*High Energy Density Magnesium-Air Battery
for Shipping, Rail and Aviation
Electrification and Grid Storage*
Grady Howell (ME), Peter Poulos,
Konstantinos Saranopoulos (ME)
**Advisors: Aaron Deskins, Adam Powell
(ME)**

*Direct Carbon Fuel Cell for Efficient Negative
Emissions Electricity*
Eric Aimone, Jacob Fleischer, Matthew
Ford, Casey LaMarca, Chris Pandapas (ME)
**Advisors: Grant Burrier (SSPS), Adam
Powell (ME)**

*Magnesium Production and Recycling for
Clean Energy*
Dimitry Blazy (ME), Jameson Courtney (ME),
Sarah Fenton, Charles Logman, Connor
Wirsing
Advisor: Adam Powell (ME)

Not Presenting in Chemical Engineering

*Design of a Novel-Absorbing Composites for
Impact-Resistant Transportation and
Defense Applications*
William Brownell, Elizabeth Goncalves,
Isabella Ibrahim (ME), Pedro Salomao (ME)
**Advisor: Diana Lados (ME), Anthony
Spargenberger (ME)**
****Presenting in ME****

Quantifying Residual Sources of PFAS

Megan Manning, Amelia McDonough
(CEAE), Sophia Tomaselli (CEAE)

**Advisors: John Bergendahl (CEAE), Stephen
Kmiotek**

**** Presenting in CEAE****

*Design of a 3D Printable, Scalable Biochar
and Plastic-Based Composite Structure for
Remediation*

Anthony Gilbert, Nikolaus Pallis (CEAE)

**Advisors: John Bergendahl (CEAE), Carrick
Eggleston (CEAE), Brajendra Mishra (ME)**

**** Presenting in CEAE****

*****Not Presenting*****

*Adsorption Method for Gadolinium Species
Differentiation*

**Stephen Kmiotek, Dr. Marie – Noelle Pons
(University of Lorraine, Nancy France)**

Anne Cater, Yashvi Gosalia