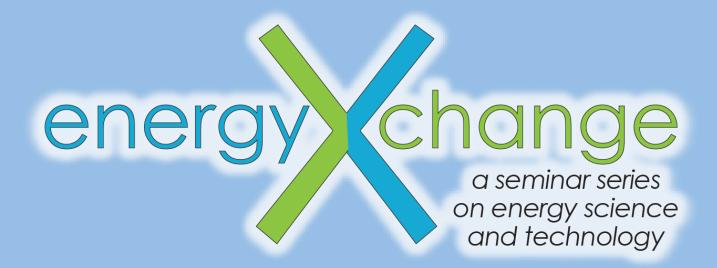
SPRING 2024 SEMINAR SERIES





Eugene Morgan

Associate Head for
Undergraduate Education
Undergraduate Program Chair
of Energy Engineering
Associate Teaching Professor,
John and Willie Leone Family
Department of Energy and
Mineral Engineering

CO₂-SMART: A New Industry-University Collaborative Research Center for CO₂ Storage Modeling, Monitoring, Analytics, and Risk Reduction Technologies

Geologic CO₂ storage (GCS) is a critical tool in addressing climate change because it is one of the most viable options for reducing CO₂ emissions to the atmosphere. The successful implementation of GCS hinges on scientific and technological advances in multi-physics flow modeling, subsurface monitoring and data analytics, and risk assessment and mitigation strategies. This Industry-University Collaborative Research Center for geologic CO₂ Storage Modeling, Monitoring, Analytics, and Risk Reduction Technologies (CO₂-SMART) aims to create a multidisciplinary synergistic research program to accelerate safe and cost-effective deployment of commercial-scale GCS through industry-driven research projects and a well-integrated workforce development plan. The center, led by USC, with a partner site at Penn State, will focus on advancing the current understanding of the complex CO₂-brine-rock interactions in storage formations and developing modern Al-enriched GCS technologies to enable safe, efficient, and cost-effective GCS implementation. The center's research will be performed collaboratively between USC's team of experts in engineering, computing, and related fields, and Penn State's expertise in geosciences, energy policy, and economics. The center's work will be guided by an Industry Advisory Board (IAB) who will bring together key players in industry, government, and academia. This will set CO₂-SMART apart from existing consortia and prepare the center for contributing to successful large-scale deployment of GCS.

FEBRUARY 8

4 p.m.* – 5 p.m.

Coffee • Snacks • Connections

EMS ENERGY INSTITUTE

C213 Coal Utilization Laboratory



EMS Energy Institute

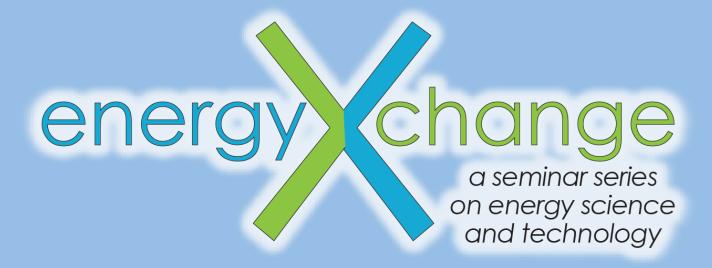
* Parking is available at the Institute at 4 p.m.

www.energy.psu.edu



Earth and Mineral Sciences
Energy Institute

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FEBRUARY 8

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FEBRUARY 22

TBD

TBD

TBD

MARCH 14

Erica Smithwick

Director of the Earth and Environmental Systems Institute and Distinguished Professor of Geography

Penn State's Climate Consortium: Partnerships for People and the Planet

MARCH 28

Sarma Pisupati

Professor of Energy and Mineral Engineering, Chemical Engineering, and Director of the Center for Critical Minerals (C^2M)

Mineral Security Challenges in Meeting the Goal of Net-Zero Carbon Emissions by 2050

APRIL 18

Thandazile Moyo

Assistant Professor of Energy and Mineral Engineering John and Willie Leone Family Department of Energy and Mineral Engineering

TBD

MAY 9

Joshua Robinson

Associate Dean for Graduate Education and Research (Acting)

Silicon Carbide: The Critical Semiconductor for the Energy Transition

Coffee • Snacks • Connections

4 p.m.* – 5 p.m.

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