### SPRING 2024 SEMINAR SERIES





### Thandazile Moyo

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

# Integrating Sustainability in Minerals and Energy Resource Extraction Education

It is recognized that the transition to clean energy will require significant volumes of minerals, which in the immediate future will be supplied through primary mining. Future energy scenarios going into the next few decades reflect an energy mix that remains blended, with renewables growing in dominance but fossil fuels remaining a key contributor. Extraction, particularly mining, suffers a poor public image and is seen as dirty, non-innovative, and outdated. However, the role of extraction in sustainability has never been stronger, but challenges remain in integrating sustainability and responsible extraction into the education curriculum. Broadly speaking, education for sustainable development (ESD) provides the knowledge, skills, values, and agency to address interconnected global challenges including climate change, loss of biodiversity, unsustainable use of resources, inequality, etc. In this seminar, Moyo will talk about opportunities and experiences in teaching sustainability in mineral and energy resource extraction, and why sustainability literacy is a knowledge gap for the future workforce.

### **APRIL 18**

4 p.m.\* – 5 p.m.

Coffee • Snacks • Connections

#### **EMS ENERGY INSTITUTE**

# C213 Coal Utilization Laboratory



#### **EMS Energy Institute**

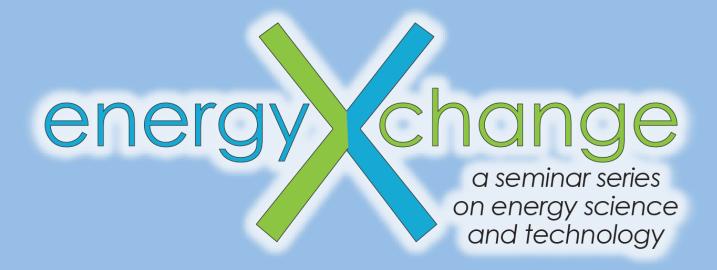
\* Parking is available at the Institute at 4 p.m.

www.energy.psu.edu



Earth and Mineral Sciences
Energy Institute

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#### **FEBRUARY 8**

#### 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

CO<sub>2</sub>-SMART: A New Industry-University Collaborative Research Center for CO<sub>2</sub> Storage Modeling, Monitoring, Analytics, and Risk Reduction Technologies

#### **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<sup>2</sup>M)

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

Integrating Sustainability in Minerals and Energy Resource Extraction Education

#### **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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