COLLEGE OF ENGINEERING
School of Mining Engineering & Mineral Resources

GRADUATE STUDIES
Informing safe, sustainable mining

Break new ground in extraction and processing, improve operations, and turn waste into consumer products.

RESEARCH FOCUS AREAS
- Geophysical sensing techniques
- Mineral & chemical characterization
- Mineral processing, geometallurgy & extractive metallurgy
- Rock strength, fracturing & excavation
- Sustainability & development
- Technology & automation

ONE-OF-A-KIND RESOURCES
- **Geotechnical Center of Excellence:** multidisciplinary risk mitigation
- **Hyperspectral Mine Consortium:** ultramodern data collection
- **Mine Automation and Autonomous Systems Lab:** advanced autonomous lab systems
- **San Xavier Underground Mining Lab:** industry-level training

DEGREES
PhD • MS • ME *(online option)*

CERTIFICATES WITH ONLINE OPTIONS
- Mine Production & Information Technology
- Mineral Processing & Extractive Metallurgy
- Mining Occupational Safety & Health
- Rock Mechanics

ARIZONA
No. 1
U.S. copper production
(USGS)

> " Participating in the master's program at the mining department has been an incredible experience. It has opened up new avenues for my career and connected me with a network of peers and mentors who are equally passionate about making a difference in our field. "
>
> - Pedro Lopez, MS student

FUNDING OPTIONS THROUGHOUT DEGREE LIFECYCLE

APPLICATION DEADLINES
Fall *– All Programs*
Domestic: July 15 | International: April 30
Funding Consideration, All Students: Jan. 15
Spring *– ME and Certificates Only*
Domestic: November 18
International online: Nov. 18,
International on campus w/Visa: Sept. 30

CONTACTS
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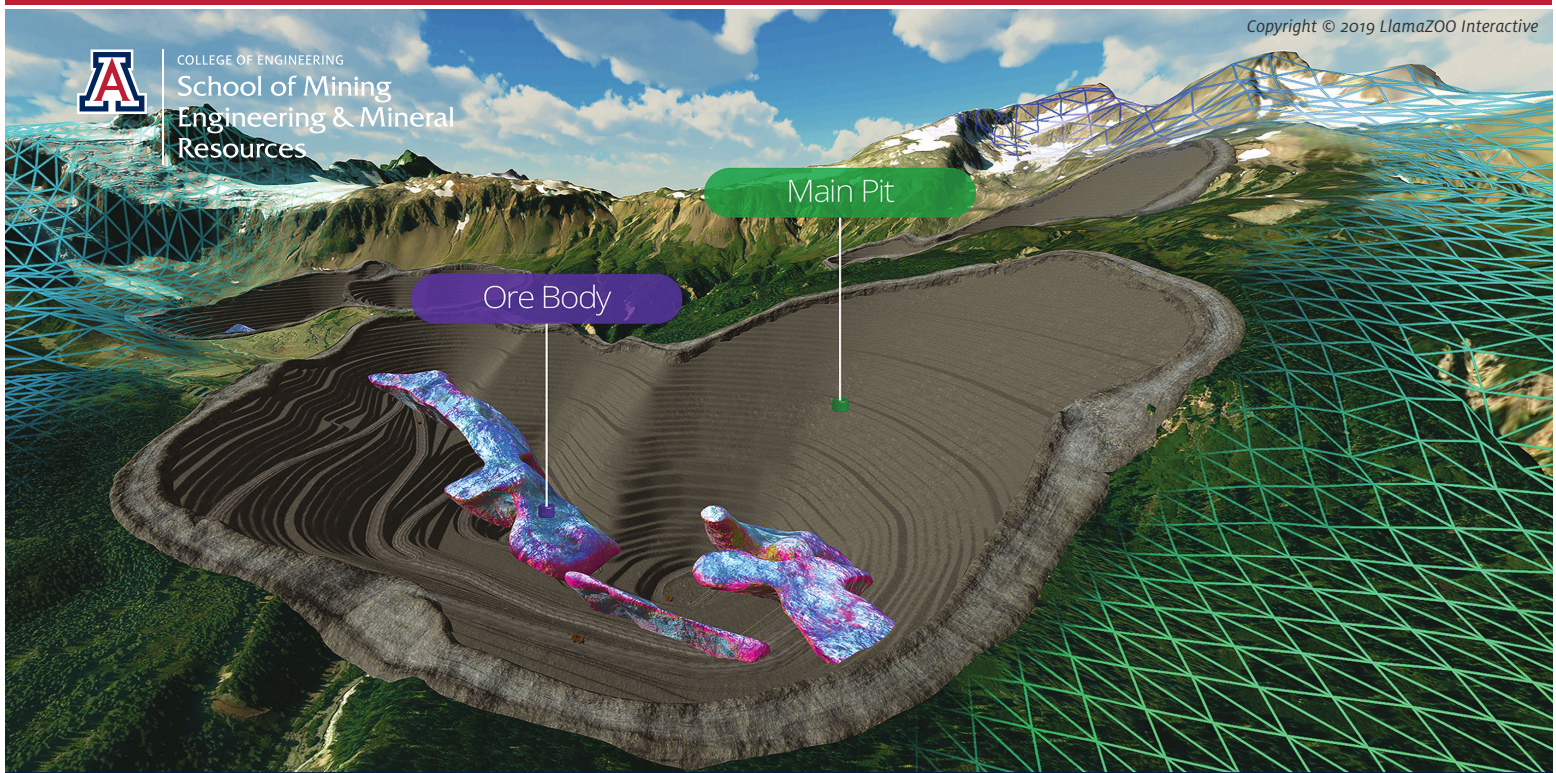520.621.6686

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▶ ▶ ▶ **mining.arizona.edu**

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Ore Body

Main Pit

" Between having their own student run mine and strong industry connections, the MGE program at the U of A provided me with the exact right experience in and out of the classroom to exceed in my professional career' "

- Brody Rastall, ME graduate, Staff Engineer, WSP

FACULTY EXPERTISE

Angelina Anani – angelinaanani@arizona.edu
system modeling and optimization • planning and production scheduling • sustainable mining systems • equipment reliability studies • tunneling and underground works • energy and water efficiency • ethnographic research • machine learning • 3D planning • supply chain

Isabel Barton – fay1@arizona.edu
geometallurgy • materials characterization • economic geology • geochemistry • extractive metallurgy • mineralogy

Bo Hyun Kim – bohyunkim@arizona.edu
rock mechanics • ground control engineering • underground excavation stability • numerical modeling • stress redistribution and confinement loss • pillar and roof failure mechanisms • dynamic loading and rockburst mechanics • forensic geomechanics • mine-scale geomechanical design • coupled field–numerical validation

Samuel Lolon – ndlovus@arizona.edu
underground mine planning • mine ventilation • mine health and safety • safety-based design • feasibility studies • mining project management

Kray Luxbacher – kraylux@arizona.edu
ventilation • atmospheric monitoring • risk assessment and management • fire simulation sensing and characterization

Moe Momayez – moe.momayez@arizona.edu
geomechanics • ground control • slope stability monitoring • geosensing • big data • machine learning • health and safety • ventilation • nondestructive testing • renewable energy

Selo Ndlovu – ndlovus@arizona.edu
hydrometallurgy • bioleaching • extractive metallurgy • mineral processing • recycling

Dean Riley – deanriley1@arizona.edu
mapping acid mine drainage • hyperspectral imaging and advanced sensors • geometallurgy • mineral exploration • mine tailings

Nathalie Risso – nrisso@arizona.edu
mine automation and operations • renewable energy and sustainability • machine learning • cyber-physical systems • process optimization • data mining

Victor Tenorio – vtenorio@arizona.edu
underground mine design • mine examination and valuation • underground mine design • digital mining • moon mining • smart mining technologies • decision support systems

Muhammad Waqas – waqas@arizona.edu
discrete element modeling • artificial intelligence modeling • mining equipment operations • geomechanics

Edward Wellman – ecwellman@arizona.edu
rock mechanics • engineering geology • geotechnical monitoring • tunneling and underground construction • tailings design and construction • mine reclamation

Jinhong Zhang – jhzhang@arizona.edu
mineral processing • froth flotation • surface chemistry • water treatment • atomic force microscopy

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