



# Role of Public-Private Partnerships at Universities in Kazakhstan and the U.S.

Kazakhstan-U.S. University Consortium Partnership Program  
Thematic Webinar

September 10, 2024

# Today's Session

- Welcome! Introductions and Announcements
- Role of Public-Private Partnerships at Universities in Kazakhstan and the U.S.:
  - Raymond DeVito, Michigan State University
  - Almagul Turdagaliyeva, Atyrau Oil and Gas University
  - Amy Greenwald Foley and Tracy Shickel, University of Delaware
- Discussion
- Office hour (optional)

# MICHIGAN STATE UNIVERSITY

- Founded 1855 as Agricultural College of the State of Michigan
- First institution of higher learning in the US to teach scientific agriculture
- Renamed Michigan State University in 1964
- Today 51,316 students and 5,696 faculty and academic staff
- In 2023 \$844M in research expenses, \$25.2M in corporate awards
- Public-Private partnerships are managed through the MSU Innovation Center



MICHIGAN STATE UNIVERSITY  
**INNOVATION CENTER**



**SPARTAN INNOVATIONS**  
MSU RESEARCH FOUNDATION

# Strategies for fostering impactful public-private partnerships

- Dedicated business group dealing with university-industry contracting
- Areas of growth within MSU aligned with identified industry needs
- Strategic faculty groupings or centers aligned with industry needs
- True collaboration with industry not just funding
- Some collaborations are business area focused; some technology area focused
  - Business focused – automotive, medical, agriculture
  - Technology focused – semiconductor, synthetic diamond

# Successful public-private collaboration - Automotive

- Major collaboration with Michigan based auto manufacturer
- Multiple projects completed with new projects identified every year
- Early-stage collaboration between MSU researchers and industry scientists and business leaders to identify mutually beneficial topics of investigation
- Each research team has both MSU and industry scientists active in the work
- New faculty hires influenced by this collaboration
- Valuable IP portfolio has been generated
- This interaction has spun out opportunity for (non-overlapping) technology-based collaborations with other automotive industry players

# Lessons Learned

- Physical proximity helps
- Early-stage interactions are important
- Best results are when research team has both MSU and industry scientists active in the work, not just funding
- Aligning of interests not just work for hire
- IP sharing is very challenging
- In the US, basic university expertise is usually from government sponsored work, but when possible, keep specific industry sponsored projects separate from specific government sponsored projects





ATYRAU OIL AND  
GAS UNIVERSITY



# INTERNATIONAL COLLABORATION

Atyrau Oil and Gas University  
named after S. Utebayev

The mission of  
the University  
Training professionals  
and researchers for  
energy industry

22 Programs bachelor degree

7 Programs master degree

2 Programs PhD

5 Programs MBA



Colorado School of Mines  
 University of Reading  
 Lincoln University  
 RWTH Aachen  
 Beijing Institute of Technology  
 Technological University of Petronas  
 China University of Petroleum-Beijing at Karamay

## FACULTIES

Oil and Gas Faculty

Institute of Petrochemical Engineering and Ecology

Faculty of Industrial Technology

Faculty of Information Technology

## ACADEMIC PARTNERS



РГУ нефти и газа им. Губкина



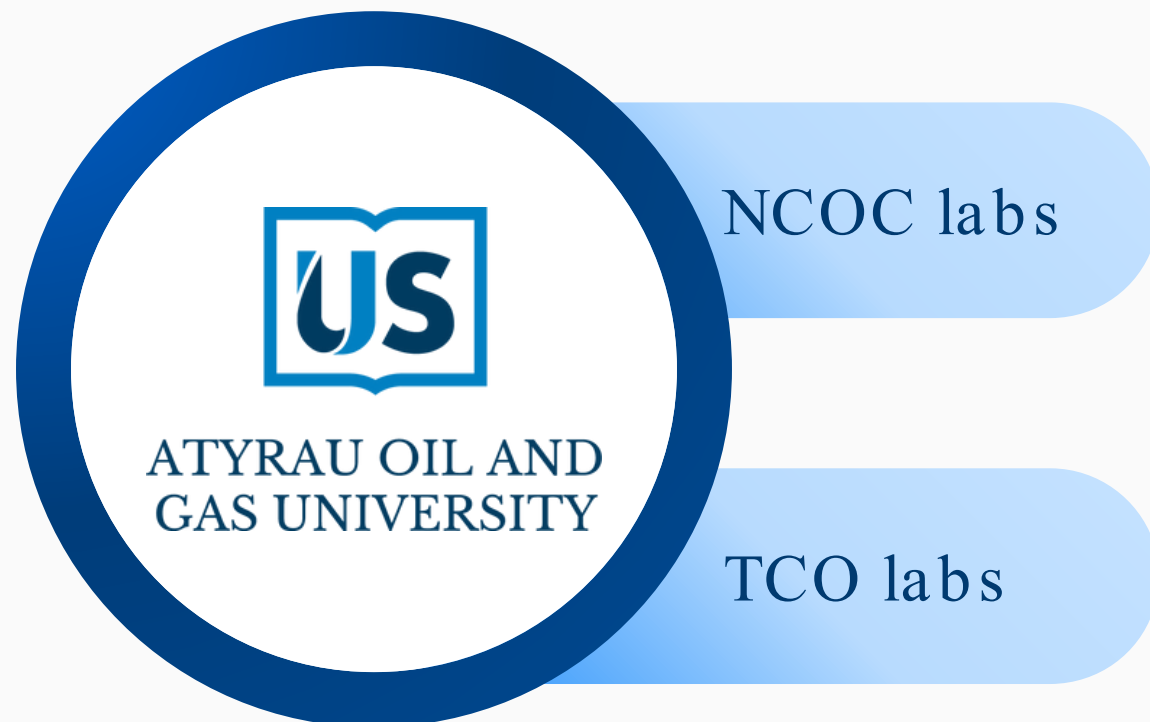
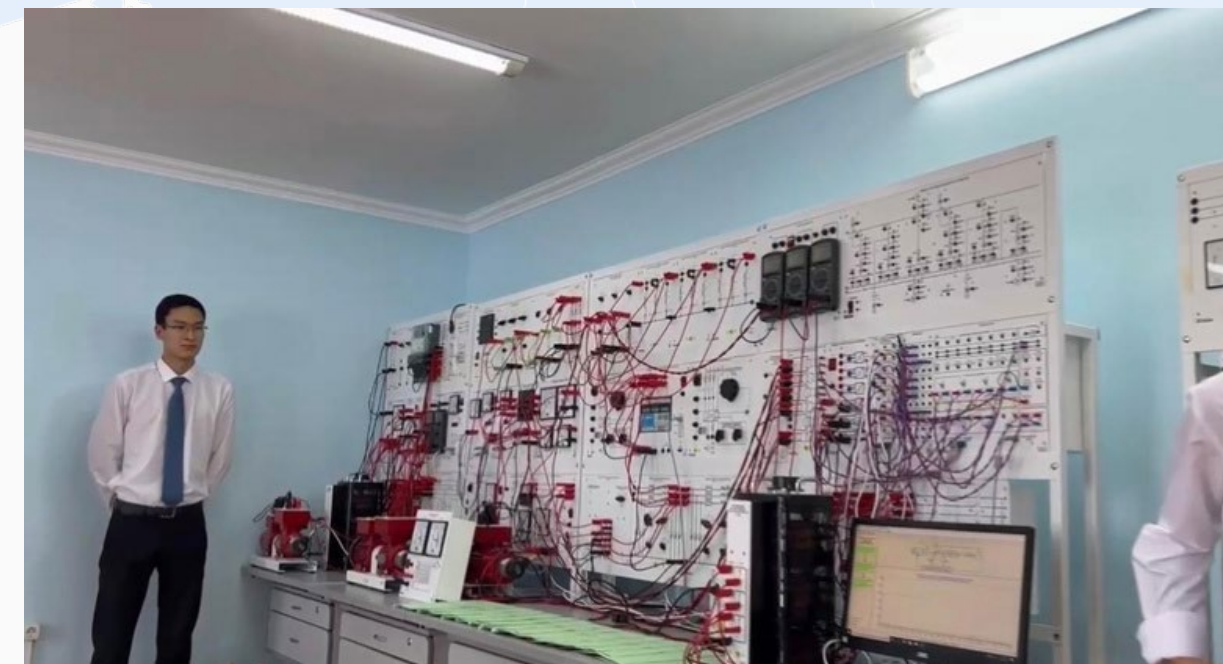
## INDUSTRIAL PARTNERS





INDUSTRIAL UNIVERSITY with own R&D developments and patents, supplying energy sector of the Caspian sea region.

The specialized industrial university is actively implementing the integration process **“Education-Industry-Science-Business”**, which is based on bringing the educational infrastructure closer to real production conditions through the introduction of modern technologies into the educational process.







# rompetrol

In April 2023, the university delegation signed an agreement with Rompetrol, which includes internships for students and teachers in the Chemical technology of organic substances”, “Automation and control”, “Technological machines and equipment” based on the Petromidia Oil Refinery in Romania.

Students completed an international internship in Romania at the Petromidia Oil Refinery. The practice is designed taking into account the sequence of the plant's technological process and the step-by-step study of all processes.







Society of Petroleum Engineers

## SPE Caspian Technical Conference and Exhibition

26 – 28 November 2024 | Atyrau,  
Kazakhstan

JOIN THE EVENT PROGRAMME

SPONSORSHIP & EXHIBITION ENQUIRIES

SPE provides shared expertise, resources, and life-long learning opportunities to fuel the success of our members and the future of the industry.



Society of Petroleum Engineers

октября – 2 ноября 2018 года | Дворец Независимости, Астана, Казахстан

## SPE Caspian Technical Conference and Exhibition

In November 26-28, 2024 an extensive technical programme will feature the best peer-selected papers covering all the industry disciplines, latest technologies, industry best practice and also emerging topics such as the Energy Transition.





## September 23-24, 2024

September 23	Conference Day	Conference at the campus of Atyrau Oil&Gas University
September 24	Caspian Day	City tour & Shipping along Ural river to Caspian delta



The Caspian Sea is the world's largest inland body of water, often described as the world's largest lake and sometimes referred to as a full-fledged sea. It lies between Europe and Asia east of the Caucasus, west of the broad steppe of Central Asia, south of the fertile plains of Southern Russia in Eastern Europe, and north of the mountainous Iranian Plateau. It covers a surface area of 371,000 km<sup>2</sup>



# AOGU proposal beyond Oil & Gas for cooperation



- Water conservation & Management
- Recycling of plastic and polymer waste
- Production of hydrogen and low-carbon gases from plant and polymer waste
- Production of non-fossil and renewable energy





ATYRAU OIL AND  
GAS UNIVERSITY

THANK YOU FOR YOUR  
ATTENTION!



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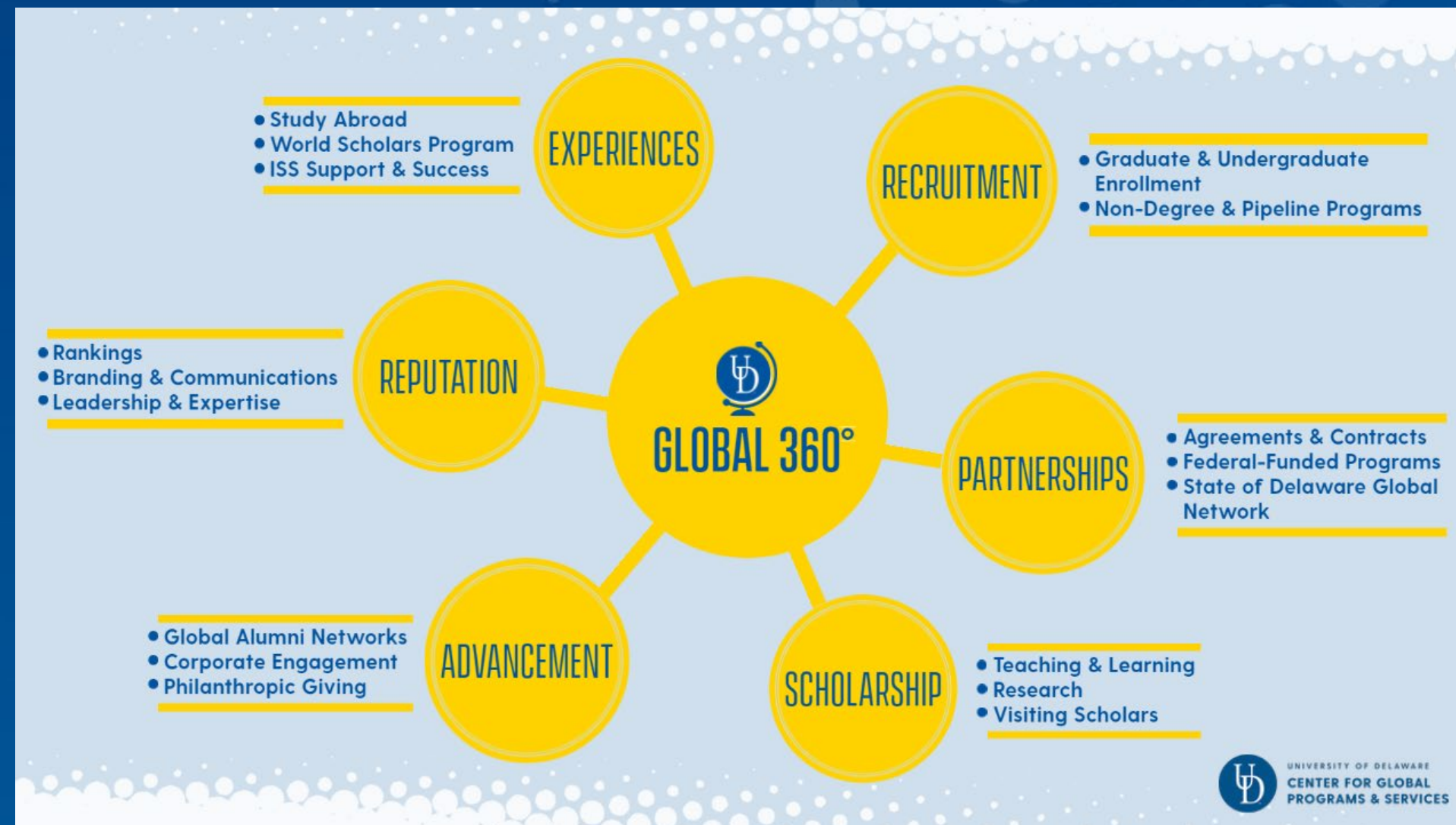
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# Public – Private Partnerships











- 272-acres land acquired by UD in 2009
- Former automobile assembly plant
- Shovel-ready
- Transit-oriented
- Opportunity Zone designated
- >1.2 million ft<sup>2</sup> office, manufacturing and laboratory space including start up incubation
- >\$0.6 billion investment
- Public-private partnership models
- Collaborators and tenants must be aligned with University's research and education mission







- Sited on STAR Campus 10 years ago and was the first anchor tenant with 50 acres
- Publicly traded
- Over 800 employees in Newark and growing rapidly
- Renewable hydrogen and robust innovation pipeline







- HQ for NIIMBL and UD Centers and Institutes.
- Many labs are designed to host collaborating scientists from academia, government, and industry.
- Core facilities – gene sequencing, bioimaging, bioinformatics data science.
- Waters Corporation Immerse Delaware.





## A Novel Partnership Model of Collaboration between Discover Bank, University of Delaware and Delaware Technology Park

Mission: To address the national financial health crisis and to improve access to financial systems in underserved populations and communities

Fintech Innovation Center: 100,000 square feet 6-story building to include private industry, non-profits, start-up companies and academia

Capital: CRA (through Discover Bank), New Markets Tax Credits and Opportunity Zone investment in resident start-ups

Tenants: mixture of companies, non-profits, UD academic units that are aligned around the mission







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# Discussion

# Office Hour – Open Q&A