

INSTITUTIONAL EXAMPLE

“LEADERS UNITED FOR POSITIVE ENERGY (LUPE)”: OCTOBER 2019

- Nine-day experiential learning course in Arizona surrounding sustainable practices for the mining industry supported by *100,000 Strong in the Americas* 2018 Innovation Fund
For more, visit: <https://nau.edu/cie/leaders-united-for-positive-energy/>
- Five Participating institutions:
 - Northern Arizona University (Flagstaff, Arizona)
 - Universidad Tecnológica de Hermosillo (Hermosillo, México)
 - Universidad Nacional de Tucumán (Tucumán, Argentina)
 - Centro Austral de Investigaciones Científicas (Ushuaia, Argentina)
 - Universidad Nacional de Tierra del Fuego (Ushuaia, Argentina)
- The program explored the following as related to mining:
 - **Science:** resources of the regions represented
 - **Policy:** development of policy in diverse countries
 - **Social Justice:** the impacts of mining on local communities
 - **Industry:** operations, services & corporate social responsibility



PARTNERS
of the AMERICAS



Funded by:

ExxonMobil

Proposal Partners:



UNIVERSIDAD
NACIONAL
DE TUCUMÁN



C A D I C



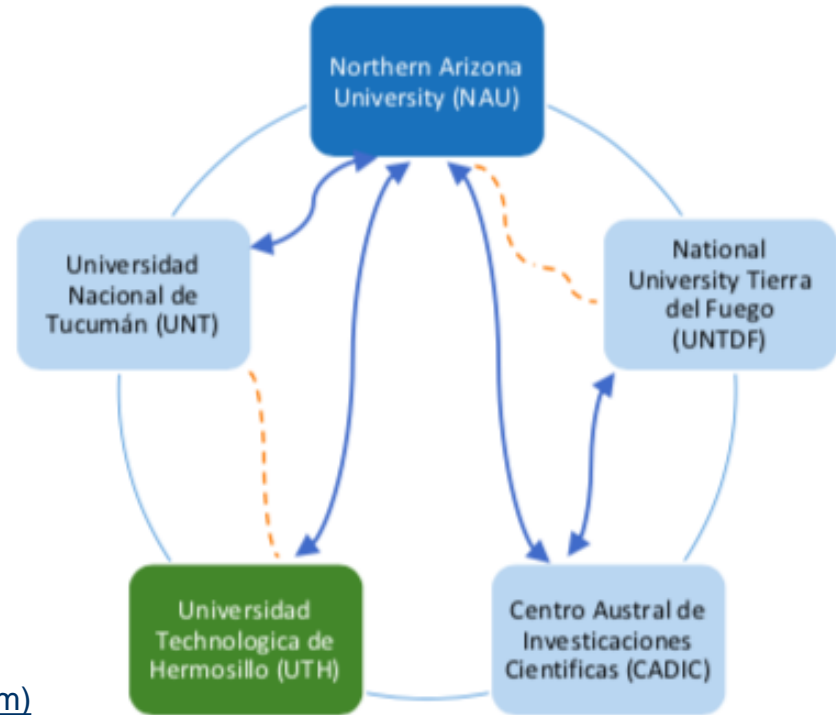
CONICET



Universidad Nacional de Tierra del Fuego,
Antártida e Islas del Atlántico Sur

PROGRAM OBJECTIVE:

**CREATE A
PARTNER NETWORK
THAT FOSTERS AND
PROMOTES SUSTAINABILITY**



Institutional Connections (pre-program)

Solid blue line = existing partners

Orange dash line = desired partnerships

STATE OF PARTNERSHIPS PRE-LUPE

Partner	Agreement	Activities / Interactions	Students Involved	Strategic Interests/Connections
Universidad Nacional de Tucuman (UNT) Tucuman, Argentina	YES 2:1 Exchange Agreement, 2015	2 2014 100k grant-funded field course & exchange	8 – field course 7 – exchange	Interest in connecting with UTH (Hermosillo) specifically in the area of mining (lithium).
Universidad Tecnológica de Hermosillo (UTH) Hermosillo, Mexico	YES Collaborative Academic Agreement, 2017	4 (short-term exchange/mobility activities)	Approx. 14 students Approx. 17 faculty	Mutual connection with Arizona-Mexico Commission
Centro Austral de Investigaciones Cientificas (CADIC) Ushuaia, Argentina	YES Research-based, 2013	NAU research internships abroad 2013-2018 via NSF IRES grant	23	NAU faculty based at CADIC
Universidad Nacional de Tierra del Fuego (UNTDF) Ushuaia, Argentina	NO	0	0	Interest: Connect NAU research students to academic coursework at UNTDF

ROOTING AROUND COMMON THEMES:

THE LAND & ITS PEOPLE

Indigenous Communities	Natural Resources	Social Impacts of Mining
Northern Arizona		
Navajo, Hopi	Uranium, Coal, Power Plants	<ul style="list-style-type: none"> Water contamination (uranium, arsenic) & water allocations (coal plant instead of people) Livestock (food supply) Sulphur and carbon emissions from coal burning Providing jobs in a limited job market
Northern Argentina		
Atacama, Toba/Qom, Guaraní, Chané, Quechua, <u>Wichí</u>	Lithium, Oil, Natural Gas	<ul style="list-style-type: none"> Mercury and heavy metal contamination in surface water from mining (Agriculture/food) Soil contamination (Agriculture/food) State development plans for mining take away indigenous lands without consultation Water table contaminated from oil pumping (Drinking water) <ul style="list-style-type: none"> High levels of hydrocarbons High levels of lead and mercury
Southern Patagonia		
<u>Mapuche</u> , Ona, Tehuelche, <u>Yamana</u>	Oil, Coal, Natural gas, Hydroelectric power (dams)	<ul style="list-style-type: none"> Water table contaminated from oil pumping (Drinking water) <ul style="list-style-type: none"> High levels of hydrocarbons High levels of lead and mercury Fracking from oil extraction waste dumping on indigenous lands Oil companies violating the right of the indigenous people to participate in natural resource management on their lands
Sonora, Mexico		
Mayo, Yaqui, Pima, Seri, <u>Cucapá</u> , Papago, <u>Guarijio</u>	Copper, Graphite, Silver, Gold, Lead, Tungsten, Fisheries	<ul style="list-style-type: none"> Copper sulfate contaminating surface water (rivers) Other mining spills causing severe contamination in other rivers of Sonora Wells used for livestock and crops shut down due to contamination

How To...



Identify the Right Partner(s)



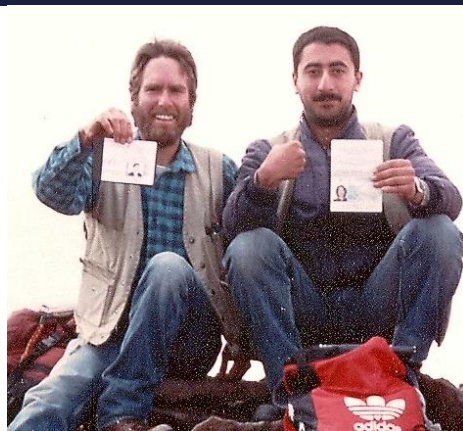
Manage Partner Relations throughout
Proposal & Program Development



Maintain Partnerships after Programs

IDENTIFYING THE RIGHT PARTNER(S)

- What is the opportunity?
 - Target research areas or disciplines
 - Make connections, be curious, root around a common cause or theme
 - Envision the bigger picture
- Who are my existing partners?
 - Strength of institutional contacts
 - Alignment of academic strengths and goals
- How do I find a new partner?
 - Network through campus and existing partner contacts
 - Attend conferences and fairs
 - Research institutions that fit areas of interest
 - Share information with potential partners



Michael Ort (NAU) and Robert Lencina (UNT) in Jujuy, Argentina in 1987 at the Panizos volcano.



Lencina, Allen & Ort with M. Larrea (Argentine Ministry of Ed), M. Huug (US State Dept) in Buenos Aires, August 2018 – 100k event.



Left: Innovation Fund grant recipients with Partners of the Americas & US State Dept. staff at CONAHEC, Las Cruces, NM in Spring 2019.

PARTNER RELATIONS THROUGHOUT PROPOSAL/PROGRAM DEVELOPMENT

- Share the idea
 - **Invite open discussion**
- Identify and articulate the proposal/program vision, goals and **LIST OF NEEDS** from your partner
 - **Send clear, concise communications**
 - **Set clear and attainable deadlines**
- Involve your partner in the program planning process, but also...
- Be prepared to take the lead and do a lot of the heavy lifting!

LEADERS UNITED FOR POSITIVE ENERGY

Three countries of the Americas, exploring a sustainable future in energy together.

PROJECT OVERVIEW

Every day, millions of people around the world depend upon the delivery of power to their homes and businesses in order to live and work. Corporations, governments and organizations work together to not only ensure that these resources arrive safely and efficiently, but they also play active roles in each step of an elaborate process, including the navigation of community relations, regulations and policy, and ultimately - implementation of infrastructure for resource extraction, refinement and delivery.

The rich natural resources of the western hemisphere in particular have propelled the development of expansive energy industries, the exploration of new frontiers, the teaching of valuable lessons, and the application of best practices for supplying energy. Looking ahead, it is important for higher education institutions of the Americas to collaborate on the preparation of innovative workforces who can respond to the rising energy demands of our global society while considering the added pressures these demands place on our climate and communities.

In order to prepare future leaders and professionals in the complexities of global energy, **Leaders United for Positive Energy (LUPE)** is a collaborative experiential learning initiative among five higher education and research institutions from three countries of the Americas: the United States, Argentina and Mexico. To take place in **October 2019**, the structure of LUPE will bring 20 students, faculty and investigators northbound from Argentina and Mexico to Arizona to participate in a **nine-day interdisciplinary field course** to exchange knowledge in **science, social justice and industry** by studying (1) the geology of each region represented and its natural energy resources, (2) the role and perspective of communities influenced by the power industry, and (3) the operations of industry and the services they provide.

OBJECTIVES & PROJECTED OUTCOMES

- Create a partner network of higher education institutions in the Americas
- Provide mentorship models to strengthen institutional partner relationships
- Facilitate new opportunities for the exchange of students, faculty & collaborative research between institutions
- Share methods of community inclusion throughout the process of energy production
- Serve as models of effective education diplomacy in furthering national & global strategies & priorities
- Learn, share & apply newly acquired knowledge of best industry practices & public-private partnerships at corporate & governmental levels

PARTICIPATING INSTITUTIONS

1. Northern Arizona University (Arizona, USA)
2. Universidad Nacional de Tucumán (Tucumán, Argentina)
3. Universidad Nacional de Tierra del Fuego (Ushuala, Argentina)
4. Centro Austral de Investigaciones Científicas (Ushuala, Argentina)
5. Universidad Tecnológica de Hermosillo (Hermosillo, Mexico)

COMMUNITY & INDUSTRY INVOLVEMENT

NAU is working with Arizona state offices such as the Arizona-Mexico Commission and corporations like Freeport McMoRan for support and to further develop the program agenda.

LIST OF NEEDS FROM PARTNER INSTITUTIONS

1. Letter of support for proposal submitted to Kristin Allen at kristin.allen@nau.edu no later than September 20th
2. Determined plan of action & written articulation for awarding credit to students participating in program

MAINTAINING PARTNERSHIPS AFTER PROGRAMS

- Routine communication
 - **Check-ins**
 - Email, WhatsApp
 - **Periodic video calls**
 - **Holiday greetings**
 - **Add to institutional mailing lists**
- Proactively engage with your partner to find new ways to collaborate
- Share what you and your partners are doing!
 - **Via conferences, social media**

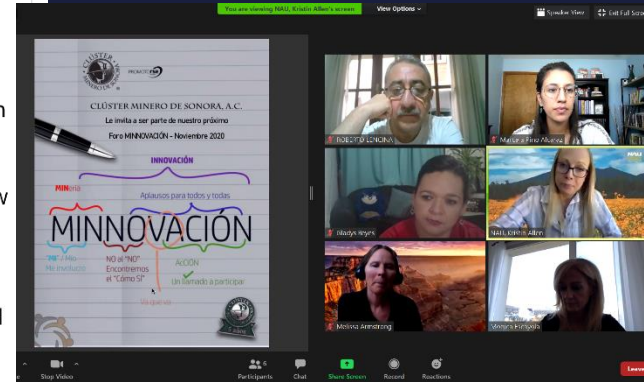
Partners of the Americas

May 21 • 🌐

Students and faculty from the [#100KStrongAmericas](#) "Leaders United for Positive Energy (LUPE)" 2019 program virtually reunited in April from Tucumán and Ushuaia, Argentina 🇦🇷, Hermosillo, Mexico 🇲🇷 and Flagstaff, Arizona 🇺🇸. They shared news of their home countries, how they are coping with [#COVID19](#), and how they spread positive energy by discussing ways to form partnerships. Thank you for continuing to show the importance of connections, whether in person or virtual! 🤝

LUPE was a nine-day experiential course in Arizona that brought together 20 students and faculty from across scientific disciplines and from 3 different countries to look at solutions for a more sustainable and ethical future in the mining sector. Read more: <https://bit.ly/3cMdmtd>

NAU Center for International Education
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[#internationaleducation](#) Northern Arizona University



Above:
Screenshot of current planning efforts
for LUPE presentation at
Sonora's Mining Cluster
Virtual Global Conference:
MINNOVACIÓN
November 25th | 9 am-12 pm (MST)

More info:
www.clusterminerosonora.com





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