

June 15, 2020 - June 19, 2020

Indigenous Innovations

at the Nexus
of Food, Energy, and Water
Systems



Co-InFEWS



DGE# 1633740



THE UNIVERSITY OF ARIZONA
COLLEGE OF AGRICULTURE & LIFE SCIENCES

Environmental Science



Superfund Research Program
The University of Arizona



BLUM CENTER
FOR DEVELOPING ECONOMIES



UNIVERSITY OF
SOUTH FLORIDA

Strong
COASTS

PROGRAM

Monday, June 15th - First Session

Recommended Background Resources

Diné College:

- [Diné College Website](#)
- [Diné College introduction movie](#)
- [Diné College earns No. 5 spot as highest ranked tribal college in U.S.- Navajo-Hopi Observer](#)

InFEWS Background:

- [NSF InFEWS](#);
- [NSF Research Traineeship \(NRT\) Program](#)
- [University of Arizona IndigeFEWSS](#);
- [UC Berkeley InFEWS](#);
- [University of South Florida STRONG CFEWS](#)

Welcome and Orientation

Introduction to the workshop, including discussions about working together with Indigenous and community leaders, environmental professionals, and InFEWS educators.

Introductions for Indigenous representatives: Navajo, Pinoleville Pomo, Maya, and Belize.

Welcome from:

- James Tutt, Dean of the School of STEM at Diné College
- Charles Roessel, Diné College President
- Avery Denny, Diné Hatałi, Traditional Medicine Practitioner

10:00AM-12:00PM PDT

11:00AM-1:00PM MDT

12:00PM-2:00PM CDT

1:00PM-3:00PM EDT

InFEWS Background and Goals

Overviews of programs, participants and workshop goals

Presented by:

- Alice Agogino, UC Berkeley InFEWS Faculty
- Karletta Chief, U.Arizona InFEWS Faculty
- Maya Trotz, USF InFEWS Faculty
- Don Robinson, Diné College InFEWS Faculty
- Vinod Lohani, NSF, NRT Program Director



PROGRAM

Monday, June 15th - Second Session

Recommended Background Resources

COVID-19's Impact on Diné College and The Navajo Nation:

- High Country News, May 19, 2020: [COVID-19 impacts every corner of the Navajo Nation](https://amp-daily--times-com.cdn.ampproject.org/v/s/amp.daily-times.com/amp/3155999001?usqp=mq331AQFKAGwASA%3D&_js_v=0.1)
- https://amp-daily--times-com.cdn.ampproject.org/v/s/amp.daily-times.com/amp/3155999001?usqp=mq331AQFKAGwASA%3D&_js_v=0.1
- Navajo-Hopi Observer: [Diné College researchers believe more reasons behind high Covid-19 Cases on Navajo](#)
- Desoto and Hakim: [Medical Basis for Increased Susceptibility of COVID-19 among the Navajo and other Indigenous Tribes.](#)
- [Suggested Video CBS news](#)

COVID-19 & FEWS Challenges on The Navajo Nation

Panel Discussion moderated by Dr. Karletta Chief
Panelists include:

- Joseph "Angel" DeSoto, MD, Ph.D., Faculty at Diné College
- Shazia Tabassum Hakim, Ph.D., Faculty in Microbiology at Diné College
- Sriram Shamasunder, Co-Founder of the HEAL Initiative at the University of California San Francisco
- Duane "Chili" Yazzie, President of the Navajo Nation Shiprock Chapter
- Mae-Gilene Begay, Director of the Community Health Representative Program Response,
- Sunny Dooley, Diné Cultural Expert and Storyteller

1:00PM-2:30PM PDT
2:00PM-3:30PM MDT
3:00PM-4:30PM CDT
4:00PM-5:30PM EDT



PROGRAM

Tuesday, June 16th - First Session

Recommended Background Resources

UC Berkeley-Pinoleville Pomo Nation Collaboration

- <https://blumcenter.berkeley.edu/news-posts/a-decade-of-development-engineering-with-the-pinoleville-pomo-nation/>
- <https://blumcenter.berkeley.edu/news-posts/educational-access-and-exchange-at-heart-of-blum-center-pinoleville-pomo-nation-collaboration/>
- <http://www.ppnenvironmental.com/331/>

University of Arizona's Indige-FEWS Initiatives

<https://www.youtube.com/watch?v=Hgujp19nNP0>

https://www.youtube.com/watch?time_continue=12&v=hA8i6LXyzBA&feature=emb_logo

University of South Florida with the University of the Virgin Island's STRONG-FEWS

<https://www.youtube.com/watch?v=GWx7OfBCduM>

<http://www.strongcoasts.org/wp-content/uploads/2020/06/Bios-NSF-2019-Strong-Coasts-Food-energy-water-field-course-4.pdf>

Indigenous FEWS:

Past Practices and Innovations

Presentations and Discussion, moderated by Cara Duncan Shopa
Indigenous co-innovation discussion of NRT FEWS programs, including a cross-pollination of best practices, challenges, and achievements across participants. Presentations from sponsoring programs:

- Systems Training for Research ON Geography-based Coastal FoodEnergy Water Systems, rebranded as Strong Coasts, University of South Florida with the University of the Virgin Islands' STRONG-FEWS, presented by Dr. Maya Trotz and Dr. Rebecca Zarger
- STEM Training for Actionable Research and Global Impact, University of California - Berkeley's Blum Center, presented by Dr. Alice Agogino and Dr. Yael Perez, in collaboration with Angela James, Vice Chair, the Pinoleville Pomo Nation, and Michelle Baker, EPA
- Indigenous Food, Energy, and Water Security and Sovereignty, University of Arizona and Diné College, presented by Dr. Karletta Chief and Benita Litson

10:00AM-12:00PM PDT

11:00AM-1:00PM MDT

12:00PM-2:00PM CDT

1:00PM-3:00PM EDT



PROGRAM

Tuesday, June 16th - Second Session

Recommended Background Resources

Perry H. Charley's Research

- [Nukescape: Uranium Impacts on Diné Lands by Perry H. Charley](#)
- [Helping Mother Earth Heal: Diné College and Enhanced Natural Attenuation Research at U. S. Department of Energy Uranium Processing Sites on Navajo Land](#)
- [Navajo Uranium Education Programs: The Search for Environmental Justice](#)

Dr. David Begay's Research

- [The Whole Universe Is My Cathedral: A Contemporary Navajo Spiritual Synthesis](#)
- [Paradox and Transformation. International Journal of Applied Science and Sustainable Development \(IJASSD\)](#)

Diné Traditional FEWS Framework

Presentations and Discussion

Keynote Speakers:

- Perry H. Charley, Diné College InFEWS Faculty
- David Begay, PhD, Associate Research Professor in the UNM College of Pharmacy, Albuquerque, NM.

1:00PM-2:30PM PDT

2:00PM-3:30PM MDT

3:00PM-4:30PM CDT

4:00PM-5:30PM EDT



PROGRAM

Wednesday, June 17th - First Session

Recommended Background Resources

Peter Littlehat, Indian Health Service (IHS)

- <https://www.youtube.com/watch?v=XOcVEITYx1I&feature=youtu.be>

Rex Kontz, Navajo Tribal Utility Authority (NTUA)

- <https://www.ntua.com/index.html>

Suzanne Singer, Native Renewables

- <https://therevelator.org/native-renewables-singer/>
- <https://www.nativerenewables.org>

Benita Litson, Diné College Land Grant Office (LGO)

- https://www.dinecollege.edu/about_dc/land-grant-office-lgo/

Stephanie Hall, Tolani Lake Enterprises

- <https://www.tolanilake.org/home>
- <https://www.nhnews.com/news/2016/oct/04/tolani-lake-enterprises-explores-leupp-feed-lot/>

FEWS Systems on The Navajo Nation

Panel discussion moderated by Dr. Karletta Chief

Discussions of investigating and communicating nature and science in society.

Panelists include:

- Rex Kontz, NTUA
- Suzanne Singer, Native Renewables,
- Benita Litson, Diné College Land Grant Office
- Stephanie Hall, Tolani Lake Farms

10:00AM-12:00PM PDT

11:00AM-1:00PM MDT

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1:00PM-3:00PM EDT



PROGRAM

Wednesday, June 17th - Second Session

Recommended Background Resources

Kim Tallbear's Research

- [Genomic articulations of indigeneity](#)
- [Standing With and Speaking as Faith: A Feminist-Indigenous Approach to Inquiry](#)

Wahleah Johns, Native Renewable's Navajo Clean Energy Program

- [Native Renewables: Navajo Clean Energy Program](#)
- [Wahleah Johns Provides Her Tribal Land with Electricity](#)

Nonabah Lane, Navajo Ethno-Agriculture

- [Navajo Farming](#)

Emma Roberts, Navajo Water Project's DigDeep

- [The Navajo Water Project](#)
- [AZ Central: Navajo Nation's water shortage may be supporting COVID-19 spread](#)
- [National Sea Grant Law Center: ABA Committee Webinar Discusses COVID-19 Impacts on Navajo Nation](#)

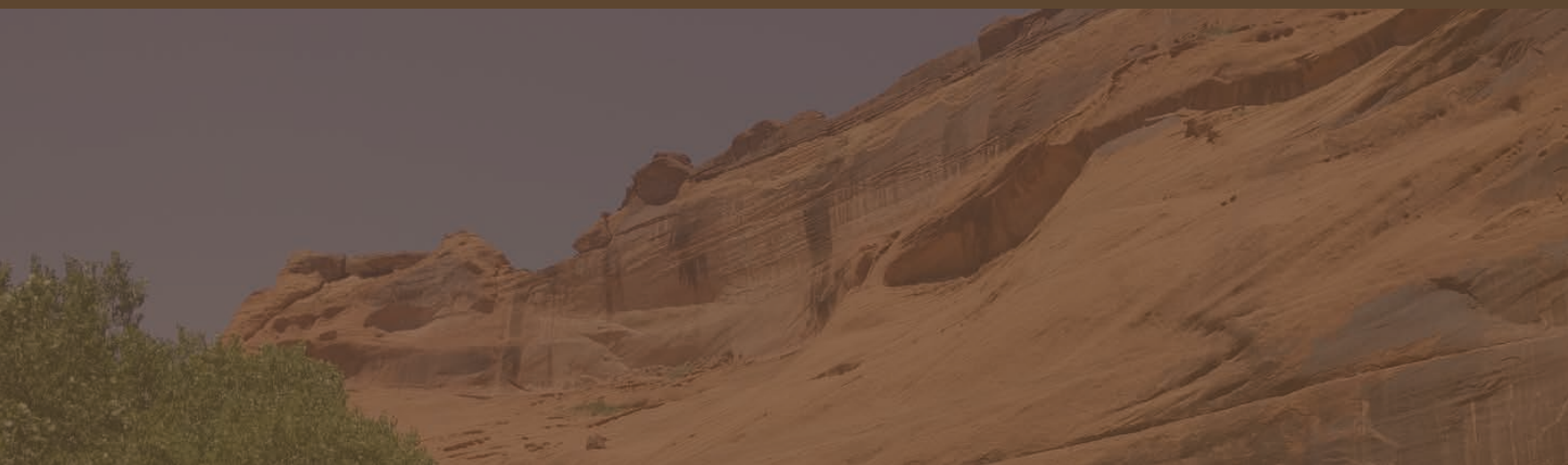
Decolonizing FEWS Innovation - STEAM Panel Discussion

Panel discussion moderated by Dr. Valerie Shirley & Nikki Tulley

Contextualizing innovation within Indigenous communities through both science and art. Inclusion of Art in STEM (STEAM). Topics surround what can be learned through using different methodologies. Panelists include:

- Christine Ami, Diné College Professor
- Kim Tallbear, PhD, University of Alberta Professor,
- Wahleah Johns, Native Renewables
- Nonabah Lane, Navajo Ethno Agriculture
- Emma Robbins, Dig Deep, Navajo Water Project

1:00PM-2:30PM PDT
2:00PM-3:30PM MDT
3:00PM-4:30PM CDT
4:00PM-5:30PM EDT



PROGRAM

Wednesday, June 17th - Third Session



Student Session

Student Networking

Opportunity for undergraduate and graduate student moderators, note takers and interns to meet and network. Additional time to prep for Thursday breakout sessions!

3:00PM PDT

4:00PM MDT

5:00PM CDT

6:00PM EDT

Symbolic Expression of FEWS

Shaandiin Tome, a filmmaker and director from Albuquerque, New Mexico.

- Mud (Hashtl'ishnii) - Short Movie. Starring: Trini King, Forrest Goodluck, Ernest David Tsosie; Producer: Aroonsri Khamsamran; Director of Photography: Mike Maliwanag



PROGRAM

Thursday, June 17th - First Session

Recommended Background Resources

[Social Factors in the Age of Social Media: Transdisciplinary Co-Design with the Pinoleville Pomo Nation](#)

What is Co-Design of FEWS Innovations in Indigenous Communities?

10:00AM-12:00PM PDT
11:00AM-1:00PM MDT
12:00PM-2:00PM CDT
1:00PM-3:00PM EDT

Workshop Session Facilitated by Dr. Yael Perez and InFEWS graduate fellows

Interdisciplinary and inter-institution collaboration discussion including discussion of best practices and recommendations for implementation. Discussion moderated by InFEWS trainees inviting conversation across previous days' discussion topics. This session will facilitate teaching of co-innovation of FEWS with Indigenous and developing communities through the following breakout sessions:

- FEWS Sovereignty and Environmental Justice
- Resilience to COVID-19 and other pandemics
- Health and Wellbeing
- Digital Transformations in Access and Development
- Sustainable FEW Systems
- Multi-generational Perspectives on FEWS
- STEAM Education: Broadening Participation
- Language and Cultural Brokers

For [further reading and a full list](#) of breakout sessions.



PROGRAM

Thursday, June 18th - Second Session

Recommended Background Resources

STAR School

- https://sites.google.com/starschool.org/newsite#h.p_4zWTIdidgrsC
- <https://azcharters.org/star-schools-story/>

Pomo Youth College and Career Success

<http://www.pomoedusuccess.org>

FEWS Innovation and learning with K-12 Indigenous Students

Virtual field trip and Q&A moderated by Dr. Yael Perez

- Mark Sorenson, Director and CEO of Star (Service to All Relations) Charter School hosts a virtual Field Trip
- Zhao Qiu, Self-Governance Administrator, Pinoleville Pomo NationThe Pomo Youth College and Career Success Project Director

1:00PM-2:30PM PDT
2:00PM-3:30PM MDT
3:00PM-4:30PM CDT
4:00PM-5:30PM EDT



PROGRAM

Friday, June 19th - First (only) Session

Opportunities, Networking, and Next Steps

Discussion of funding opportunities, proposal best practices and successful inter-institution collaborations.

Presenters include:

- John Weishampel, [NSF](#)
- Erin Riley, [NIFA-USDA](#)
- Timonie Hood, [EPA](#)
- Carl Etsitty, [USDA-APHIS](#) Tribal Liaison
- Lura "Jody" Chase, [NSF TCU Program](#)
- Aaron Slater, Navajo Nation Officer, [MIT SOLVE](#)

10:00AM-12:00PM PDT

11:00AM-1:00PM MDT

12:00PM-2:00PM CDT

1:00PM-3:00PM EDT

Final Remarks and Closing



BIOS

Listed in Alphabetical Order (last name)

Alice M. Agogino, Ph.D., is the Roscoe and Elizabeth Hughes Professor of Mechanical Engineering and Director of the Berkeley Energy and Sustainable Technologies (BEST) Lab. She also serves as the Education Director of the Blum Center for Emerging Economies and Chair of the Development Engineering Graduate Group. She is PI for the NSF NRT trainee grant #1633740 (NRT-INFEWS: STEM Training for Actionable Research and Global Impact) sponsoring this workshop. She received a Ph.D. from Stanford University, M.S. from UC Berkeley and B.S. from University of New Mexico. <https://best.berkeley.edu/best-director-alice-m-agogino><https://best.berkeley.edu/best-director-alice-m-agogino>

Christine Ami, Ph.D., is Faculty in the Social and Behavioral Sciences Department at Diné College in Tsaile, Arizona. Christine teaches Anthropology, History, and Indigenous Research Methodologies and Methods. Ami received her doctoral degree in Native American Studies with an emphasis in Diné Studies, Animal Studies and Decolonial Studies at the University of California, Davis. Christine's research investigates the nuances of traditional butchering of sheep throughout the Navajo Nation. Additionally, as the Navajo Cultural Arts Program (NCAP) Grant Manager at Diné College in Tsaile, Arizona, Christine is responsible for programing associated with the Navajo Cultural Arts Certificate Program, the Navajo Cultural Arts Apprenticeship Program as well as various cultural arts lectures and workshops offered throughout the year. <https://www.dinecollege.edu/academics/meet-the-instructors/>

Torren Anderson is a storyteller, author and photographer. He has worked in the field of education for over twenty-five years. He received his MA in International Education and is certified to teach English as a foreign language from University of Arizona's Center for English as a Foreign Language. He uses storytelling, photography, and writing as a tool for self - exploration and investigation of environmental issues. He has designed workshops and programs about creative writing, reading, digital storytelling, memoir, revision, poetry, and myths/fables. <https://torrananderson.com/about/>

Michelle Baker works for the U.S. Environmental Protection Agency's Region 9 Office in San Francisco, and is the Disaster Recovery Coordinator for the Commonwealth of Northern Mariana Islands (CNMI). In this role, Michelle assists the CNMI implement their smart, safe growth strategy. In addition, she manages funds appropriated through the Disaster Relief Act of 2019 to improve solid waste management in the CNMI. <https://blog.epa.gov/tag/green-building/page/2/>



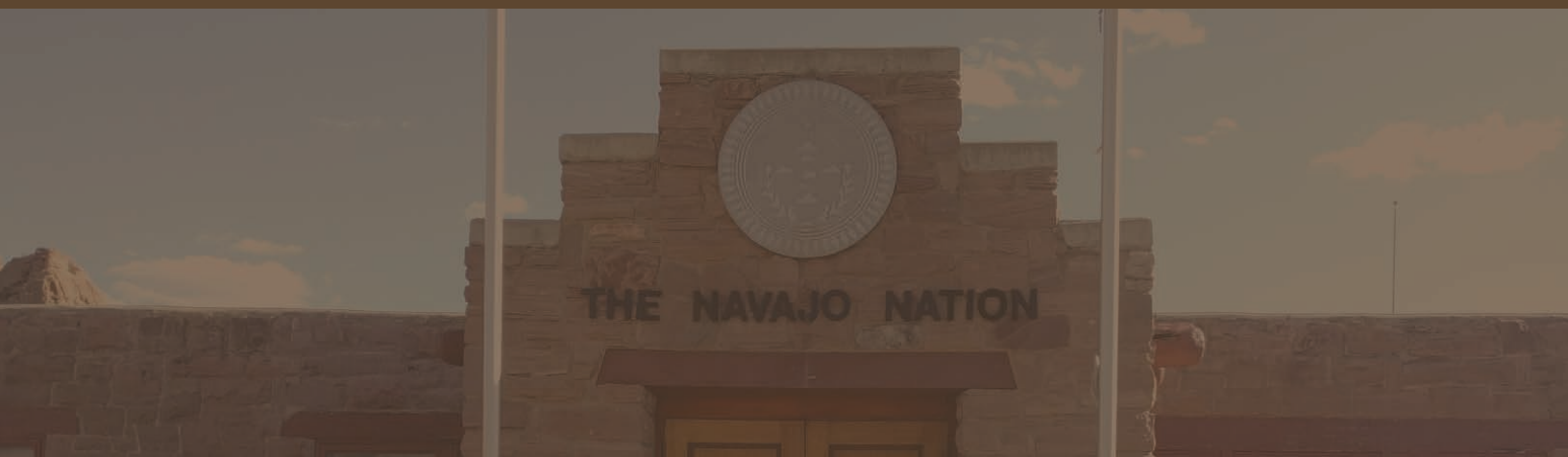
BIOS

Listed in Alphabetical Order (last name)

Mae-Gilene Begay, MS is Diné (Navajo), her maternal clan is Salt and paternal clan is Bitterwater. She is Chair for the American Public Health Association Community Health Workers. She manages Navajo Nation Tribal programs that provide community outreach and health education. She conducts program/policy planning and development and ensures conformity to tribal policies. She collaborates with tribal and non-tribal resources to enhance and expand service delivery. Ms. Begay holds various leadership, administrative, and supervisory positions in health, foster care, adoption, behavioral health, youth empowerment, and Indian Health Services. <https://ptriv.sched.com/mgbegay>

David Begay, Ph.D., is a member of the Navajo Nation. He received his B.A. and M.A. from the University of Arizona, Tucson, in Political Science with a concentration in Policy Analysis and Indian Policy and Law Studies. He received his Ph.D. from the California Institute of Integral Studies, San Francisco, CA, with a concentration in Indigenous Education and Application of Traditional Knowledge. David is Adjunct faculty at Northern Arizona University, Flagstaff, in the Department of Physics and Astronomy. He is VP for the Indigenous Education Institute, Santa Fe, NM and works with the University of California, Berkeley, Space Sciences Laboratory through a grant from the National Science Foundation (NSF). He also works with the University of Notre Dame, through a grant from the National Aeronautics Space Administration (NASA). David is a cultural consultant to many organizations and corporations both in the United States and internationally. He is raised with the deep cultural knowledge, tradition, and language of his people. <https://www.journeyoftheuniverse.org/bios/david-begay>

Perry H. Charley is a Professor at Diné College. In his research, Charley teaches his interns the Diné conception of and relationship to the environment and the natural elements of life. These are strongly linked to the use of core ancient Diné principles and values which should guide environmental and public health research. In 2018, Charley and his programs became involved with a \$429,467 US EPA grant to study the effect of uranium pollution on the health of livestock near mine areas in the Cove region of the Navajo Nation. https://www.dinecollege.edu/about_dc/uranium-impact-study/



BIOS

Listed in Alphabetical Order (last name)

Lura "Jody" Chase, Ph.D., is at NSF in Education and Human Resources Human Resources Development (HRD). Jody has worked directly with tribal colleges since 1994, when she managed the Rural Systemic Initiatives (RSI) Program. Since 2002, Jody has managed the Tribal Colleges and Universities Program (TCUP), which supports STEM capacity-building and instructional improvement in Tribal colleges, Alaska Native-serving, and Native Hawaiian-serving institutions of higher education. She holds a Ph.D. in Biochemistry from the University of Nevada Reno, and undergraduate and graduate degrees in organic chemistry from her home state of Mississippi.

Karletta Chief, Ph.D., is an Assistant Professor and Extension Specialist in the Department of Soil, Water, and Environmental Sciences at the University of Arizona in Tucson, AZ. Dr. Chief research focuses on how Indigenous communities will be affected by climate change and collaborated in an interdisciplinary group of scientists including hydrologists, system dynamic modelers, and social scientists to determine how hydrological models can be improved to identify and mitigate risks to these vulnerable populations.
<https://profiles.arizona.edu/person/kchief>

Avery Denny is a Hataalii and Diné Studies Faculty at Diné College. As a Hataalii with the Diné Medicine Man's Association, he is a singer of the Blessing way/Hózhóójí, Protection Way/Naayée'eeji, and Klay'jiih Hatal', The Night Chant. A Hataalii holds the highest standard in the community practicing the Navajo Traditional Healing Ceremonies. These ceremonies last two, five and nine nights. These ceremonies are known as a Hatal' or Nahaghá. This skill as a healer is like being a physician. <https://www.dinecollege.edu/academics/meet-our-faculty/>

Joseph "Angel" de Soto, MD, PhD, holds a B.S. in Biophysical chemistry from La Sierra University, an M.D. in Medicine and a Ph.D. in Pharmacology from Howard University. Dr. de Soto is currently working on his third doctorate (DSS) in Strategic Studies in National Security and Intelligence at National American University. His current research is in Translational Oncology and Healthcare Disparities. <https://www.dinecollege.edu/academics/meet-our-faculty-stem/>

Sunny Dooley is the founder of the Hané Storytelling Festival for Indigenous storytellers and received the award of Olive B. O'Connor Distinguished Visiting Professor of Literature and Storyteller-in-Residence at Colgate University. Sunny was the only Native storyteller to be included in the Women's Chautauqua Institute. In 2006, Sunny received the Navajos Making a Difference Award at the annual Navajo Studies conference. <http://sunnydooley.weebly.com/>



BIOS

Listed in Alphabetical Order (last name)

Cara Duncan Shopa, MS, is the program coordinator for the University of Arizona NSF-NRT “Indigenous Food, Energy, and Water Security and Sovereignty.” After receiving her MS in Clinical Psychology from Emporia University, she worked in the field of education for over 20 years, as a psychology instructor and providing psychoeducational assessment and support services for children. Cara also managed volunteer and support group programming for Supporting Kidds, a bereavement center, and provided bereavement and trauma counseling for children and families. After falling in love with Tucson, Cara moved to Arizona and found a home at the University of Arizona, contributing to graduate student programming and FEWS sustainability initiatives.

Carl Etsitty, is the Plant Protection and Quarantine Tribal Liaison for the USDA-APHIS. The Animal and Plant Health Inspection Service is a multi-faceted Agency with a broad mission area that includes protecting and promoting U.S. agricultural health, regulating genetically engineered organisms, administering the Animal Welfare Act and carrying out wildlife damage management activities. These efforts support the overall mission of USDA, which is to protect and promote food, agriculture, natural resources and related issues.
<https://www.aphis.usda.gov/aphis/home>

Shazia Tabassum Hakim, PhD, is a Microbiologist/Bacteriologist with expertise in Public health services, research, academics, diagnostics, molecular biology & cell culture techniques. She has 19+ years of bench experience at numerous Clinical/Diagnostic & Research laboratories of Pakistan & US (particularly as Microbiologist & Serologist). She also served as Chairperson and Professor, Dean Faculty of Science & Research at Jinnah University for Women, Karachi, Pakistan. She has educational certifications and qualifications in Medical Laboratory Technology, Microbiology, Biosafety and SOTL in Microbiology.
<https://www.omicsonline.org/speaker/shazia-tabassum-hakim-jinnah-university-for-women-pakistan/>



BIOS

Listed in Alphabetical Order (last name)

Stephanie Hall, Executive Director of Tolani Lake Farms, grew up in Leupp, AZ, where she helped her family at Beaver farm with her family's horses and sheep. After she graduated high school, she joined the U.S. Army as a public affairs specialist and traveled the world on assignments and one deployment to Afghanistan. After she was honorably discharged, she pursued and was awarded a Bachelor's of Arts in Anthropology with a minor in Ethics from Southern Methodist University in Dallas, TX. Stephanie is a proud mother and daughter and hopes to strengthen her family and community by helping to develop and implement community-based projects. <https://www.tolanilake.org/about-us/staff-interns>

Timonie Hood works for the U.S. Environmental Protection Agency's Region 9 Office in San Francisco on Zero Waste and Green Building. The region serves 148 federal recognized tribes, the Pacific Islands, Arizona, Nevada and California. She has been fortunate learn from and work tribal and island community leaders. She worked on EPA's Tribal Green Building Toolkit, was the EPA lead for the development of Guam's Zero Waste Plan, and has worked on a wide range of EPA funding and communications initiatives. <https://www.architecturalintelligence.org/ai19-timonie-hood>

Angela James is Vice Chair of the Pinoleville Pomo Nation. Pinoleville is one of ten independent Sovereign tribes in Mendocino County, California, each governed by their own constitution and tribal laws. She works with UC Berkeley's CARES (Community Assessment of Renewable Energy and Sustainability), initially to co-design sustainable housing for low-income families of her 300-person nation. <http://www.pinolevillepomonation.org/tribal-government/tribal-council/>

Wahleah Johns is the Co-Founder and Executive Director and a member of the Navajo (Diné) tribe and comes from the community of Forest Lake, Arizona atop Black Mesa. Wahleah's work with the Black Mesa Water Coalition and Navajo Green Economy Coalition has led to groundbreaking legislative victories for groundwater protection, green jobs, and environmental justice. In 2019, she was awarded the Nathan Cummings Foundation Fellowship. <https://www.nativerenewables.org/who-we-are>



BIOS

Listed in Alphabetical Order (last name)

Rex Kontz is the deputy general manager for the Navajo Tribal Utility Authority (NTUA). The NTUA was established on January 22, 1959, to address the absence of utilities on the 27,000 square-mile Navajo Nation. Since then, NTUA has grown into a self-sustaining, not-for-profit, successful tribally-owned enterprise. NTUA is organized for the operation, maintenance and expansion of electric, communications, natural gas, water, wastewater and generation, including photovoltaic (solar) services for the Navajo people at a low and reasonable cost. In addition to providing multi-utility services, other objectives of NTUA are to promote employment opportunities on the Navajo Nation, and to improve the health and welfare of the residents of the Navajo Nation while raising the standard of life.

<https://www.ntua.com/contact-us.html>

Nonabah Lane is a sustainability specialist and entrepreneur in environmental and culturally conscious business development, energy education, and tribal community commitment. She is a co-founder of Navajo Ethno-Agriculture, a farm that teaches Navajo culture through traditional farming and bilingual education, and is active in promoting and developing tribal sustainable energy strategies. <https://www.media.mit.edu/people/n.lane/overview/>

Benita Litson is the Director of Diné College-Land Grant Office. Ms. Litson has served in this capacity for 9 years, providing professional experiences in project development for Navajo Ranchers and Farmers by offering technical service around rangeland management, conservation planning workshops, and various extension and outreach programs. In addition to her responsibility to the Navajo Communities, she has developed a Natural Resource Certificate Program and serves as an Instructor for the program's courses at Diné College.

<http://www.deapschool.org/the-deap-team1.html>



BIOS

Listed in Alphabetical Order (last name)

Vinod Lohani, Ph.D., is an NSF Program Director (NRT, Innovations in Graduate Education (IGE), and CAREER programs) in the Division of Graduate Education. He is on leave as a Professor of Engineering Education and a W.S. "Pete" White Chair for Innovation in Engineering Education at Virginia Tech (VT). He received his undergraduate engineering degree in India, M.S. at the Asian Institute of Technology, Thailand and Ph.D. in civil engineering from VT. His research interests are in the areas of computer-supported research and learning systems, engineering education, hydrology, and international collaboration. He is founding director of an interdisciplinary lab called Learning Enhanced Watershed Assessment System (LEWAS) at VT. This lab is a unique real-time high frequency water and weather monitoring research and education lab on VT campus and has an associated cyberlearning system called the Online Watershed Learning System (OWLS). In 2011, he was awarded the American Society for Engineering Education International Division's Global Engineering & Engineering Technology Educator Award.

<https://enge.vt.edu/People/researchfaculty/vlohani.html>

Yael Perez, PhD, is a Research Fellow at the Blum Center and the InFEWS Program Coordinator. She holds a PhD in Architecture from the UC Berkeley. Her scholarship focuses on co-design methodologies and technologies to support and empower communities and design practitioners in fostering sustainable development. Currently, she leads the Blum Review on Development Impact, a repository of Development Engineering case studies. For over a decade, she has been collaboratively leading CARES—Community Assessment of Renewable Energy and Sustainability—a team of UC Berkeley faculty and students working with Native American Citizens in their pursuit of sustainable development. Before joining the Blum Center, she was a visiting scholar at IIT Mandi (India). <https://blumcenter.berkeley.edu/about/team/>

Zhao Qiu is the Self-Governance Administrator, Pinoleville Pomo Nation; The Pomo Youth College and Career Success Project Director. In 2016, Pinoleville Pomo Nation was awarded a 4-year Indian Education Demonstration Grant #S299A160006 under the Department of Education to support Native American students (pre-K to 12th Grade) to achieve college and career success. This project partners with Ukiah Unified School District (UUSD), collaborated with other tribes in the greater Ukiah area and non-profits to implement three major strategies to address critical challenges faced by the Native students in the Ukiah, CA area: 1.) Community Cultural Education 2.) Enhancement of Academic and Family Support 3.) Mentoring and Academic Counseling. <https://www.kzyx.org/post/native-american-cultural-educators-seek-expand-understanding#stream/0>



BIOS

Listed in Alphabetical Order (last name)

Erin Riley is a National Program Leader in the Division of Community and Education at the United States Department of Agriculture's National Institute of Food and Agriculture. As the National Program Leader, she provides program management and oversight on 1994 Research, Education Equity, Extension Capacity and Special Emphasis, 1994 Institutions Endowment Fund and the Federally Recognized Tribes Extension Grant Program.

<https://content.govdelivery.com/accounts/USDANIFA/bulletins/1c6c709>

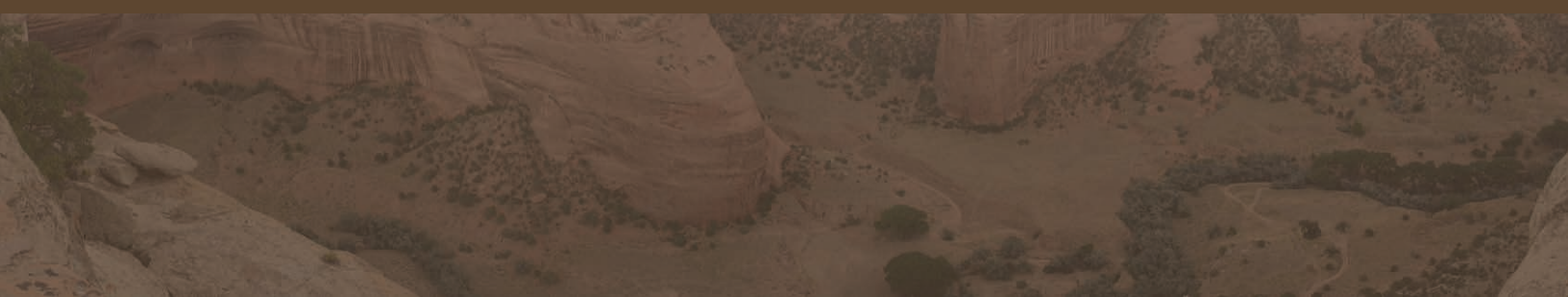
Emma Robbins, is the Navajo Water Project Director at Dig Deep. She is a native artist, activist, and environmentalist originally from the Navajo Nation in Arizona. She completed her BFA at the School of the Art Institute of Chicago and studied Contemporary and Modern Latin American Art in Argentina. She currently splits her time between Los Angeles and the Rez, with her dog Cindy Sherman, where she works as American Projects Director for digdeep.org, providing families on the reservation with clean, running water.

Donald Robinson, PhD, is an Associate Professor in the School of STEM at Diné College in Tsaile, AZ. Dr. Robinson is past Chair of the Science Division and is the Principle Investigator for the NSF TCUP grant, STEM 2020, responsible for starting BS degrees in Biology, and Secondary Education Science and Math at Diné College. This grant also supports student research internships, including students participating in this CoInFEWS Workshop. Dr. Robinson is also PI for EPA grants to study watershed and livestock contamination from abandoned uranium mines. Past research involved behavioral health promotion through alternative medical systems, including the practice of Transcendental Meditation.

https://warriorweb.dinecollege.edu/ICS/Faculty__Staff/Donald_Robinson/

Charles Roessel, PhD, is the former Director of the Bureau of Indian Education (BIE) where he oversaw 183 K-12 schools and two Tribal Colleges and Universities. As the Director, Dr. Roessel spearheaded a \$1 billion reform and reorganization effort that focused on tribal sovereignty, self determination and self-governance as a cornerstone of school improvement. Prior to his work at the BIE, Dr. Roessel served as the Superintendent of Rough Rock Community School where he implemented a Navajo Language Immersion program, improved the financial operations, and secured \$56 million in funding that resulted in the construction of a new elementary school, dormitories and renovation of the high school.

<https://nativenewsonline.net/currents/dine-college-names-charles-monty-roessel-permanent-president/>



BIOS

Listed in Alphabetical Order (last name)

Sriram Shamasunder, MD, PhD, is an Associate Professor of Medicine at UCSF, and co-founder and faculty director of the HEAL Initiative, a health workforce strengthening fellowship working in Navajo Nation and 9 countries around the world. He obtained his Diploma in Tropical Medicine & Hygiene in 2013. Throughout the last decade he has spent several months out of every year in underserved settings around the world including South Los Angeles, rural Liberia, Haiti, Burundi, and rural India. <https://profiles.ucsf.edu/sriram.shamasunder>

Suzanne Singer is a member of the Navajo (Diné) tribe and grew up in Flagstaff, Arizona. She co-founded the non-profit organization Native Renewables in 2016 to solve energy access challenges for 15,000 families in the Navajo Nation who live without electricity. Singer earned a PhD and MS in Mechanical Engineering from the University of California, Berkeley, where she investigated thermal transport in thermoelectric materials, and a BS in Mechanical Engineering from the University of Arizona. <https://www.c3eawards.org/suzanne-singer>

Mark W. Sorensen, PhD, is the co-founder, Governing Board President, and CEO of The STAR (Service To All Relations) School, the first off-grid solar and wind powered public elementary school in the U.S. As an administrator, Dr. Sorensen work has focused on improving the quality of Native American and Native Hawaiian education by developing place-based, full service, culturally relevant and ecologically sensitive schools. He has a doctorate in Educational Leadership from Northern Arizona University. As a trainer, author, and speaker on place-based education, Dr. Sorensen has helped to develop and encourage green schools in Indigenous communities across the United States. <https://www.greenschoolsalliance.org/about/board-bios>

Kim Tallbear, PhD, is an Associate Professor at the University of Alberta. Dr. Tallbear is working to build a research and training program at the University of Alberta that is focused on Indigenous peoples' engagements with science and technology as those fields and projects serve Indigenous self-determination. Dr. Tallbear is interested in the historical and ongoing roles of science and technology (technoscience) in the colonization of Indigenous peoples and others. Additionally, she is concerned with research, collaborations, and teaching Indigenous, postcolonial, and feminist science studies analyses that enable not only critique but generative thinking about the possibilities for democratizing science and technology. <https://kimtallbear.com/>



BIOS

Listed in Alphabetical Order (last name)

Maya A. Trotz, Ph.D., born in Georgetown, Guyana is an Associate Professor of Civil and Environmental Engineering at the University of South Florida (USF), Tampa. She works at the nexus of geochemistry/water quality and global/community sustainability and education with current and previous student research projects in Barbados, Guyana, Trinidad and Tobago, Jamaica, Bolivia, Liberia, Madagascar, Mali, and Peru. Maya's interests are interdisciplinary, transdisciplinary, applied and seek to forge non-traditional university partnerships. <https://www.mayatrotz.com>

James Tutt, M.Ed., Dean of the School of STEM at Diné College in Tsaile, AZ. He previously worked as an administrator at Diné College's Shiprock campus from 1975 to 1988. He is the former president of Navajo Technical College. Tutt, who is from Red Valley, Ariz., is a graduate of Fort Lewis College in Durango, Colo., and Western New Mexico University. <https://www.dinecollege.edu/academics/school-of-science-technology-engineering-and-math/>

John Weishampel, Ph.D., is an NSF Program Director in the Division of Graduate Education (NRT). He is on leave from the University of Central Florida, where he has served as a Professor in Biology and Associate Dean of the College of Graduate Studies. His primary research interest is in the field of landscape ecology, i.e., how landscape pattern influences ecological processes and biodiversity. Using simulation models coupled with field observations, he explores how the interplay between abiotic conditions (e.g., habitat structure, natural and anthropogenic disturbance regimes) and biotic processes (e.g., competition, dispersal, growth, succession) governs the behavior of plants and animals at landscape scales. <https://sciences.ucf.edu/biology/person/john-weishampel/>



BIOS

Listed in Alphabetical Order (last name)

Duane “Chili” Yazzie is the President of the Shiprock Chapter of the Navajo Nation. Yazzie, who is better known as “Chili,” became a voice for the Navajo people and began paving a path of “peaceful resistance” on which he has walked since. Yazzie’s experiences as an activist earned him a place on the Navajo Nation Human Rights Commission, formed in 2008 in response to the Clint John shooting. He served as chairman of the commission for four years. He traveled to the United Nations Permanent Forum on Indigenous Issues and other international forums promoting Native rights. He also helped put in place Memoranda of Understanding between the Navajo Nation and seven of its 13 border towns, including Farmington. <https://indiancountrytoday.com/archive/the-reasonable-radical-duane-yazzie-s-career-of-activism-and-service-cR9me1DqB0CUQ6fwAhLtOQ>

Rebecca Zarger, PhD, is a cultural anthropologist at the University of South Florida. For more than a decade (2000-present) Zarger has explored the ways environmental knowledge, practice, and meanings are learned, taught, and transformed by children and their families in Q’eqchi’ and Mopan Maya communities in Belize. Since 2008, she has worked on the interdisciplinary project “Development and resilience of complex socioeconomic systems: A theoretical model and case study from the Maya Lowlands” to study the relationships between cultural landscapes, climate change, and the resilience of complex sociopolitical systems in the Maya lowlands of southern Belize, supported through the NSF Human Social Dynamics program. <http://rzarger.blog.usf.edu/>

