



Celebrate

NATIVE AMERICAN HERITAGE MONTH

We believe science creates opportunities and shapes our world.

Countless scientific and technological accomplishments influence our lives and form the framework for our modern society, and most are led by individuals whose stories often go untold. As we honor Native American Heritage Month, we are pleased to highlight people whose groundbreaking accomplishments contributed to scientific understanding, broke barriers in aerospace and engineering, helped improve lives of countless

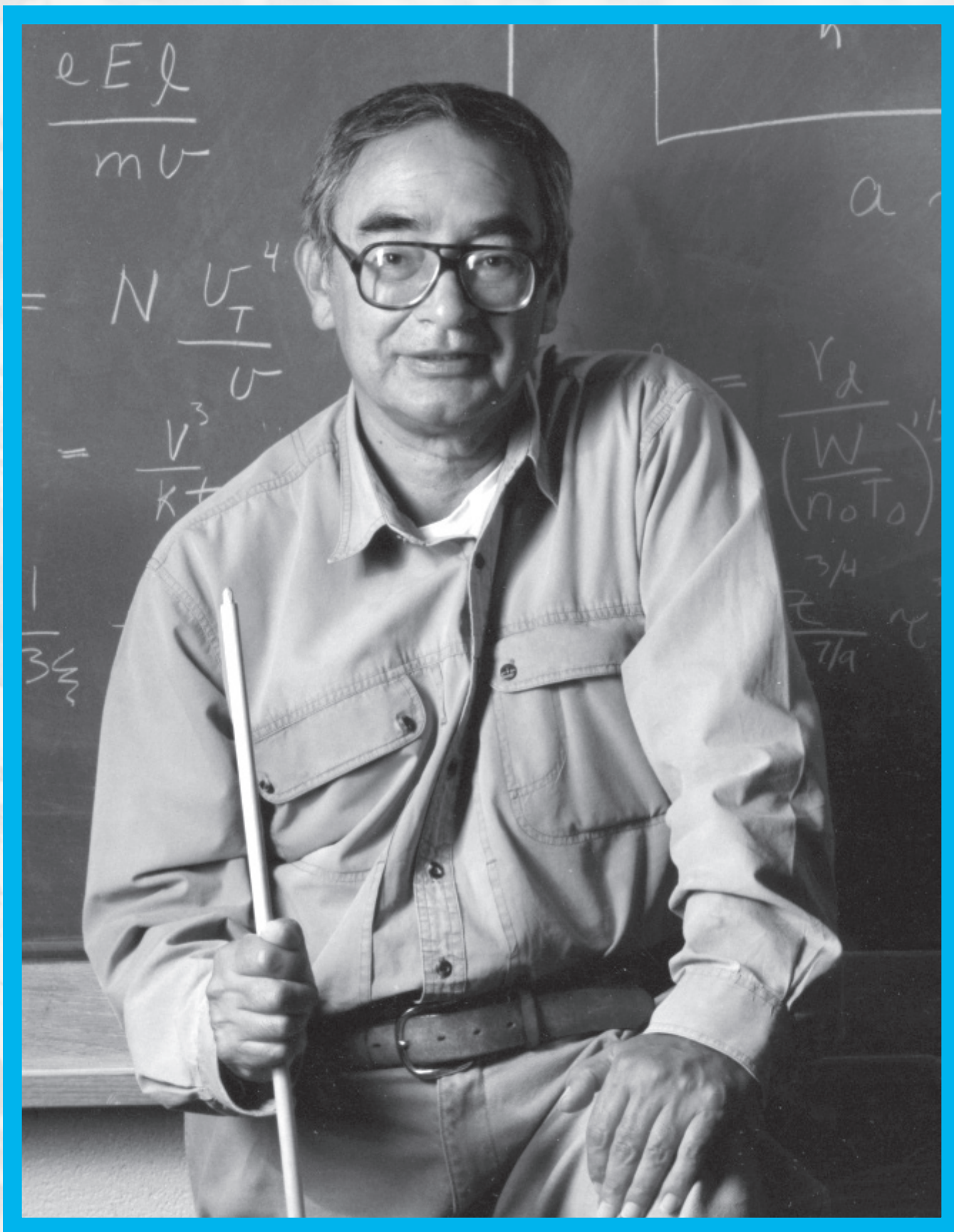
communities, and made connections between different ways of knowing. Many of these individuals are still living and working today across the country and around the world.

By making observations, asking questions, and striving to understand how aspects of our world are connected, each of us is an explorer. At the Buffalo Museum of Science, we hope all of our guests will be inspired to seek out hidden stories, and recognize their own potential to explore, to discover, and to advance our society.

DR. FRED BEGAY

1932-2013

NAVAJO >> PHYSICIST



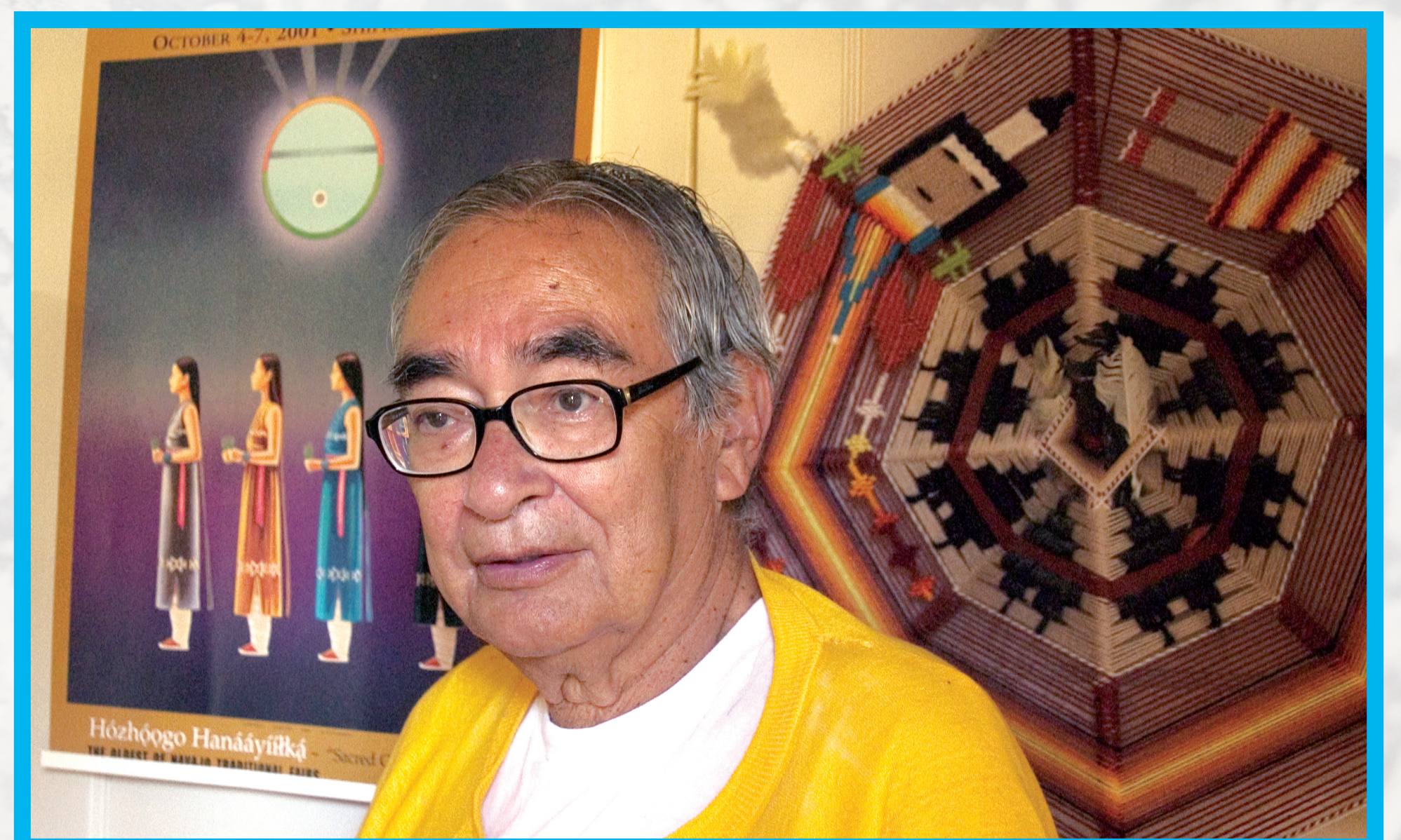
“I think the key point is that I learned to think abstractly and develop reasoning skills when I was growing up, learning about lasers and radiation in the Navajo language.”

Fred Begay was a nuclear physicist who also linked modern science with traditional Diné (Navajo) concepts. Before embarking on a near 30-year career at the Los Alamos National Laboratory, and studying gamma rays and solar neutrons for NASA, he was trained as a farmer in a government-run residential school.

“The first day at the federal government Indian school they told us that the Navajo language was inferior, that our religion was inferior, that our culture was inferior, and that we would be punished if we were caught praying in the Navajo language.”

After serving as air-rescue during the Korean War, Begay attended the University of New Mexico, earning three degrees including a PhD in nuclear physics.

From 1972 - 1982, Begay worked with Fred Stevens, Jr. investigating parallels between Indigenous knowledge and scientific concepts including tsa’jilgish (radiation) and hatsoo’algha k’aa (lasers). They shared their research in Navajo- and English-language workshops as “The Physics of Laser Fusion,” and as a paper “Navajo View of Radiation”.



DR. RODNEY C. HARING

SENECA >> HEALTH DISPARITIES RESEARCHER - ARTIST



“Research is useless if it just sits in a book somewhere. It needs to leave the bookshelf and get into the community.”

Dr. Rodney Haring, MSW is the Director of the Roswell Park Center for Indigenous Cancer Research (CICR). A member of the Seneca Nation of Indians (Beaver Clan), Haring has worked as an advocate for public health throughout Indigenous communities, addressing disparities in healthcare stemming from historical trauma and other systemic inequities, and encouraging resiliency within Indigenous societies.

In addition to his work with CICR, he is also a research faculty at Roswell Park Comprehensive Cancer Center’s Office of Community Outreach and Engagement,

Department of Cancer Prevention and Control and adjunct faculty at the Native American Research and Training Center, University of Arizona.

In August 2020, Haring was named to the COVID-19 Prevention Network (CoVPN) Native Expert Panel, formed by the National Institute of Allergy and Infectious Disease (NIAID) and led by Diné (Navajo) scientist Dr. Dave Wilson. This panel was formed to ensure that Indigenous voices and points of view are present in conversations about clinical trials.

LACROSSE: THE POWERHOUSE OF LIFE

is on loan for display at the
Buffalo Museum of Science thanks to
the generosity of Dr. Rodney Haring
2019

Community collaborative piece by traditional wooden lacrosse stick maker Rodney Haring, world-renown Seneca artist Carson Waterman, and weaver Brody D. Jimerson.

The ancient Indigenous art of steam-bending, wood-carving, and weaving of ancestral lacrosse sticks are a cultural form of resistance and resilience. These works share Indigenous Knowledge in lacrosse teachings as medicine, art, and community wellness.

This art piece is a “story stick” speaking to science technology engineering art and math (STEAM) and Indigenous Ways of Knowing. Fashioned with mitochondria and woven with a raw-hide DNA strand 3-dimensional helix, the stick includes both STEAM and the DNA of Lacrosse as a way of life, medicine, and healing-the fabric of life among tribes in the region.

DR. ELIZABETH LAPENSÉE

ANISHINAABE & METIS >> GAME DESIGNER-RESEARCHER



“We don’t need to spoon-feed culture to people. It’s an important aspect of our sovereignty that we are able to express ourselves at the level we want to, not on behalf of trying to reach everyone all the time.”

Elizabeth LaPensée, Ph.D., is an artist, designer, writer, and researcher who focuses on Indigenous self-determination in media such as games, comics, and animations. Her award-winning works include a 2018 Guggenheim Fellowship to support her virtual reality game *Along the River of Spacetime*, featuring Anishinaabe scientific teachings and water and stars.

A professor of Media & Information and Writing, Rhetoric, & American Cultures, LaPensée creates opportunities to empower Indigenous youth and university students to be producers of new media including video games and digital animation, while encouraging self-expression through creations which connect to their communities and culture.

Using game aesthetics and mechanics that reflect Indigenous teachings and ways of knowing, LaPensée draws from reciprocal relationships with fluent language speakers, storytellers, knowledge carriers, and her family to bring authentic Indigenous representation to experimental media. In games, players become co-creators of their own experiences, and as a designer and mentor LaPensée hopes to see future game frameworks embedded with Indigenous ways of knowing.



ANGELA SIDNEY

1902-1991

TAGISH AND TLINGIT >> LANGUAGE PRESERVATION



“Well, I have no money to leave for my grandchildren. My stories are my wealth!”

Language carries the history and mindset of the people that speak it. Around the world, Indigenous communities have endured centuries of systemic erasure - and too often Indigenous languages are lost or endangered. Thankfully, there are those who are working to document and revitalize many of these languages.

Angela Sidney was also known as Ch'óonehte' Ma in Tagish and Stóow in Tlingit. She was one of the last living speakers of the Tagish language. Skilled in the art of storytelling, she recorded oral histories and publishing books of traditional songs and stories. She also recorded the names of locations within the Southern Yukon in both Tagish and Tlingit- language.

Sidney's contributions have proven integral to ethnographic and linguistic studies of the northern regions of what is now Canada. Perhaps most importantly, her work ensured that the traditions of her people were recorded for future generations.



ROSE BEAR DON'T WALK

BITTERROOT SALISH AND CROW
» ETHNOBOTANIST - POW WOW DANCER



“It wasn’t until I realized the depth of plant knowledge the Salish people had and how I had been a small link in that chain since I was young that I realized I was a Salish scientist. All of the traditional practices I had been brought up doing were, in essence, based in science.”

Rose Bear Don't Walk is a Bitterroot Salish and Crow woman promoting health equity through education on traditional food plants. Initially influenced by her family of lawyers she earned a Political Science degree from Yale University, but a course on the politics of food systems inspired her to continue graduate studies in biocultural restoration and traditional ecological knowledge (TEK) at SUNY Environmental Science and Forestry School. She transferred to University of Montana to complete her Masters in Environmental Studies focusing on Salish food systems and wellbeing as balanced by culture, traditional plant knowledge, and health.

500 Women Scientists awarded Bear Don't Walk a Fellowship of the Future funding her "Recovering our Roots" project. Project goals include building Salish food-plant educational

materials combining botanical identification, ecology, preservation and traditional knowledge, as well as creating a website to explore knowledge of all Salish tribes across North America and to make ethnobotany more accessible. Most Indigenous knowledge is shared through oral history and hands-on experiences which creates cultural bonds that are lacking when culture is separated from knowledge.



MARY G. ROSS

1908-2008

CHEROKEE >> ENGINEER



“AISES tries to mesh [traditional culture and technology] together, which is evident at each annual convention. A Council of Elders, who grew up in the Indian tradition and represent various tribes, is in attendance for lectures, discussions, and to educate the younger generation in the old ways. After all, there is a lot of ancient wisdom from Indian culture that would help solve the problems of today.”

Born in Oklahoma in 1908, Mary Golda Ross was a member of ḌḥḄᵱ̣ᵱ̣T (Aniyunwiya), also called the Cherokee Nation. After earning her master's degree in 1938, she moved to California where she became the first female engineer at Lockheed, where she worked from 1942 until 1973.

After her retirement from Lockheed, she worked to support women and Indigenous youth pursuing engineering careers through her participation with the American Indians in Science and Engineering Society (AISES).

At Lockheed, she designed crafts to be used in aerospace, including the Agena rocket program. She was also the only woman on the original team of the secretive Skunk Works project, which created innovative aircraft concept designs for space travel. Her concept designs included crafts for manned and unmanned space flight, as well as satellites and vehicles for use in interplanetary space travel.



ORONHYATEKHA / PETER MARTIN

1841-1907

MOHAWK >> PHYSICIAN - COLLECTOR



*“There are a thousand Peter Martins
but there is only one Oronhyatekha.”*

Oronhyatekha (Peter Martin), born on the Six Nations Reservation near Brantford, Ontario, was a Kanien'kehá:ka (Mohawk) physician, scholar and collector. Although he adopted many aspects of white Victorian culture, he is known for maintaining his Indigenous identity while encouraging the preservation and continuation of Indigenous culture and language.

He earned his medical degree in 1867 from the Toronto School of Medicine, after which he practiced medicine in a number of places, including London, ON and Buffalo, NY.

During Victorian times, it was popular for those with some wealth to collect natural history items from around the world. In fact, this is also how the Buffalo Museum of Science's collection began. Dr Oronhyatekha was no different.

While leading the Independent Order of Foresters, a fraternal institution in Canada, he built one of the first Indigenous-founded museums in North America. In 1911, these items, now known as the Oronhyatekha Historical Collection, were transferred to the Royal Ontario Museum in Toronto, Canada.



SUSAN LA FLESCHÉ PICOTTE

1865-1915

OMAHA >> PHYSICIAN



“(on racism of doctor) It was only an Indian and it did not matter. The doctor preferred hunting for prairie chickens rather than visiting poor, suffering humanity.”

Born on the Omaha Reservation in Nebraska, Susan La Flesche was the first Native American woman to become a physician in the United States. She was driven to study medicine based on racial inequities she witnessed as a child on her reservation. A sick Indigenous woman died in her community because the local white doctor refused to treat her based on her race.

After graduating from medical school from the Women’s Medical School of Pennsylvania, she returned to the Omaha Reservation to work as the physician at the boarding school run by the US Office of Indian Affairs. She used her position to care for the larger community, making house calls day and night.

She spearheaded work on a number of public health issues that affected her community, including sanitation, hygiene, and alcoholism. She also worked to combat the spread of tuberculosis. She campaigned for a hospital to be built on the reservation and, in 1913, one was established and named in her honor.



WHAT'S IN A NAME?

Do you ever cringe when someone gets your name wrong? Names are powerful signifiers of identity. When we use the name that a person asks us to use for them, we demonstrate our respect for their culture and language.

When talking about Native groups or people, use the terminology the members of the community use to describe themselves collectively, this is called an endonym or self-designated name. Names assigned to groups by someone outside of the group are exonyms. While some exonyms are simply what people were called by their neighbors, others are the results of attempting to translate names from their original language, and some are derogatory terms based in prejudice and fear.

There is no single Native American culture or language. Native Americans are both individuals and members of a tribal group. To find out which term is best, ask the person or group which term they prefer. Here are just a few of the traditional names of Indigenous peoples living in what is now known as North America, but there are hundreds more.

EXONYM	ENDONYM
Navajo	Diné
Seneca	Onöndowa'ga:'
Cherokee	DhB@œT / Aniyvwiyaʔi
Mohawk	Kanyen'keha:ka
Huron	Wendat / Wyandot
Cayuga	Gayogohono
Onondaga	Onondagaono
Oneida	Onyot'aa:ka'
Omaha	Umo ⁿ ho ⁿ
Blackfoot	Siksikawa
Nez Perce	Nimipu
Apache	Ndeh
Comanche	Nũmũnũũ