One Health, One Future
March 11-14, 2020
I am pleased to welcome you to the University of Alaska Fairbanks and to the first international conference specifically on One Health in Alaska. I was thrilled to see the overwhelming amount of interest as the abstracts came in, as well as the scope of your research underway around the world. After seeing the submissions, we organized the sessions to accommodate as many presenters as possible and to provide even more opportunities for collaboration.

The Center for One Health Research is fairly new at UAF, although many of our faculty have been looking at animal, human and environmental health for decades. The new center aims to take a holistic view of health and well-being, both for individuals and communities, to address some of our most pressing issues.

This One Health approach will help ensure a much better understanding of the root causes of the issues that challenge health and well-being across the human, animal and environmental health interface during a period of unprecedented change. It will also help us identify what makes our communities more resilient as we adapt to new realities.

We’re pleased to partner with the U.S. State Department and various Arctic Council groups as we continue work that began during the past few years.

I’m looking forward to the robust discussions, emerging partnerships and cultural celebrations that will undoubtedly be a part of the next four days as we explore One Health, One Future together.

Arleigh Reynolds, D.V.M., Ph.D., D.A.C.V.N.
Director of UAF’s Center for One Health Research and professor of veterinary medicine
It is my pleasure to welcome you to the University of Alaska Fairbanks Troth Yeddha’ campus for this week’s One Health conference.

Our Center for One Health Research was designed to apply the collective expertise of UAF and our partners to solve some of the world’s grand challenges — the integrated health of humans, animals and the environment in which we live. It is about all of us. The challenges in rural and urban environments are different, but the solutions are in the interconnectedness of the spectrum that exists between the two.

My hope is that connections are formed over the next few days that build long-term partnerships that lead to new research, educational and outreach programs around One Health. These ongoing and meaningful collaborations are key to interdisciplinary initiatives and research. Good luck and best wishes for a productive week.

Daniel M. White
UAF Chancellor
WEDNESDAY, MARCH 11, 2020
DAVIS CONCERT HALL (UNLESS NOTED)

8 a.m.
Registration and coffee

9 a.m.
Welcome and blessing from Interior Athabascan peoples
Rev. Anna Frank | second chief, Denakkanaaga
Steve Ginnis | traditional chief, Gwichyaa Zhee, and director, Fairbanks Native Association
Evon Peter | vice chancellor for rural, community and Native education, UAF

9:30 a.m.
Opening remarks
Daniel M. White | chancellor, UAF

9:45 a.m.
Introduction to the Center for One Health Research
Arleigh Reynolds | director, Center for One Health Research, UAF

9:55 a.m.
“One Health, One Future” video

10:20 a.m.
Coffee break

10:45 a.m.
KEYNOTE
The Right to be Cold
Sheila Watt-Cloutier | environmental, cultural and human rights advocate

12:15 p.m.
Lunch at Dine 49
Wood Center

12:15 p.m.
Indigenous Peoples’ Meet and Greet
An invitation for Indigenous people attending the conference to network and share perspectives about a One Health approach.
Wood Center rooms C/D

12:30 P.M.
Student/presenter roundtable discussion
Wood Center ballroom
Facilitated by UAF’s graduate school dean, Michael Castellini, and a team of BLaST RAMPs who are trained in student success, career advising and One Health Issues.

1:15 p.m
KEYNOTE
Two-eyed seeing: Bridging Indigenous and scientific knowledge improves wildlife surveillance and fosters reconciliation
Susan Kutz | professor, Department of Ecosystem and Public Health, University of Calgary Faculty of Veterinary Medicine

3 p.m.
Coffee break

3:30 p.m.
KEYNOTE
The Arctic Council and One Health: Advancing scientific cooperation via a diplomatic platform
Marcia Bernicat | ambassador and principal deputy assistant secretary, U.S. Department of State.

Panel moderated by Joshua Glasser, U.S. Department of State

4:45-6 p.m.
Poster session
Wood Center multilevel lounge

6-8:30 p.m.
Opening reception
UAF Patty Center
With live music by Marc Brown and The Blues Crew!
21 and older, ID or passport required.
All thematic sessions will be moderated by John Riordan, John Riordan & Associates, or Pips Veazey, associate project director, Alaska EPSCoR, UAF.

**8 a.m.**
Registration and coffee

**8:20 a.m.**
Opening remarks
Anupma Prakash | provost, UAF

**8:30 a.m.**
Mental health and well-being: Session 1
These sessions will discuss social, environmental and cultural changes that have impacted the mental and behavioral health of people in the circumpolar North, and how a holistic One Health approach may be used to address them.

**KEYNOTE**
One Arctic — One Health
Arja Rautio | University of Oulu, Finland
A review of various multidisciplinary projects that research the effects of climate change and permafrost thaw on Arctic populations, and include a One Health and a community-based participatory approach.

Brief (10-minute) panel presentations followed by Q&A.

Human seroprevalence to eleven zoonotic pathogens in the US Arctic, Alaska
Michael Bruce | Center for Disease Control

An internet-based therapeutic tool for American Indian/Alaska Native adults with post-traumatic stress disorder: User testing and developmental feasibility study
Denise Dillard | Southcentral Foundation

Preventing suicide by promoting social connectedness in Alaska Native communities through culture
Georgianna Ningelook | University of Alaska Fairbanks

Alaska traditional foods movement
Melissa Chlupach | University of Alaska Anchorage

The interactive relationship of human health, animals, and the environment: A psychological perspective
Dani Sheppard and Jen Peterson | University of Alaska Fairbanks

Emotions and behaviors in environmental identity development: A child’s perspective
Carie Green | University of Alaska Fairbanks

Healing relational wounds for Indigenous child well-being
Jessica Saniguq Ullrich | University of Washington

**10:20 a.m.**
Coffee break

**10:50 a.m.**
Mental health and well-being: Session 2
These sessions will discuss social, environmental and cultural changes that have impacted the mental and behavioral health of people in the circumpolar North, and how a holistic One Health approach may be used to address them.

Brief (10-minute) panel presentations followed by Q&A.

Suicide risk and resilience among Alaska Native and American Indian people: A multi-faceted approach
Julie Beans | Southcentral Foundation

The Greenlandic school system in relation with helping children whose families are struggling with social issues
Kevin Rafiie | University of Versailles Saint-Quentin-en-Yveline and University of Greenland

Building school-community connections and positive youth development in rural Alaska Native communities through Intergenerational Dialogue Exchange and Action
Inna Rivkin, Ellen Lopez and Donald Charlie | University of Alaska Fairbanks

Permafrost thaw and well-being
Ulla Timlin | University of Oulu, Finland

The One Health Clinic: Integrated health care for people experiencing homelessness with animals
Vickie Ramirez | Center for One Health Research, University of Washington

Healing through food and culture — Incorporating sustainable agriculture into Indigenous food systems
Eva Burk | University of Alaska Fairbanks
10:50 a.m. | Concurrent session
Quality, safety and security of air, water and built infrastructure
ELIF 301/305
Many circumpolar North communities are facing extreme environmental changes, such as warming, precipitation swings, thawing permafrost and erosion. Infrastructure construction in the circumpolar North must consider not only a rapidly changing environment but also designs and materials that meet the needs of the communities while minimally impacting the animals and environment they live with and depend upon.

KEYNOTE
Reduced demand, intelligent supply: Wall assemblies and energy systems for a northern climate
Aaron Cooke | architect/project manager, Cold Climate Housing Research Center, Alaska
An overview of the integrated truss wall system, retrofit and new construction options with vertical truss exterior insulation systems, including contractor education/training.

Brief (10-minute) panel presentations followed by Q&A.

Cut below zero: When to harvest trees to promote burning of dry wood
Jessie Young-Robertson | University of Alaska Fairbanks

A super-efficient home in rural Alaska through One Health lens
Tom Marsik | UAF Bristol Bay Campus

New prospects for reducing microplastics pollution in the Arctic through bio-based alternatives to plastics
Philippe Amstislavski | University of Alaska Anchorage

Clean indoor air and lower environmental impact: Heat recovery ventilation in cold climates
Vanessa Stevens | Cold Climate Housing Research Center

Community water service and incidence of respiratory, skin, and gastrointestinal infections in rural Alaska, 2013–2015
Michael Bruce | Centers for Disease Control

12:30 p.m.
Lunch at Dine 49
Wood Center

12:30 p.m.
Side meetings | Center for One Health Research working groups
Wood Center rooms C/D, E/F

12:30 P.M.
Student/presenter roundtable discussion
Wood Center ballroom
Facilitated by UAF’s graduate school dean, Michael Castellinii, and a team of BLAST RAMPs who are trained in student success, career advising and One Health Issues.

1:30 p.m.
Mental health and well-being: Session 3
These sessions will discuss social, environmental and cultural changes that have impacted the mental and behavioral health of people in the circumpolar North, and how a holistic One Health approach may be used to address them.

Brief (10-minute) panel presentations followed by Q&A.

Warrior canine therapy for veterans and service members with PTSD: Investigating areas of change
Kirsten Hagen | University of Alaska Fairbanks

One Health insights from a youth dog mushing program in rural Alaska reflected through photovoice and digital storytelling
Jacques Philip | University of Alaska Fairbanks

Arctic solastalgia: Exploring climate change mental health strategies
Stacey Fritz | Department of Interior, Bureau of Land Management, Arctic District Office

Interdisciplinary methodology in quality of life research
Siri Tuttle | University of Alaska Fairbanks

Aġġirugut, sayakturugut: We are dancing, we are healthy.
Heidi Aklaseaq Senungetuk | University of Alaska Anchorage
1:30 p.m. | Concurrent session
One Health policy and data management
ELIF 301/305

Presentations within these two highly important and multidisciplinary areas show the common challenges as well as the opportunities unique within One Health. The way in which data is collected and managed will play a significant role in the development of One Health approaches particularly important and sensitive when data acquisition and policy formation involve community stakeholders.

KEYNOTE
Climate Change — policy as a tool for systemic change
Nikoosh Carlo | founder and chief strategist, CNC North Consulting

Policy is a tool for systemic change and has a key role in driving climate change solutions. Equity within the policy and research process and engagement of Indigenous leadership must be central to the development of policies and research agendas to help achieve actionable solutions.

Brief (10-minute) panel presentations followed by Q&A.

Moving One Health knowledge to policy action
Chiara Arellano | Brown University

Public-private partnerships for data management
Pips Veazey | University of Alaska Fairbanks, and Vanessa Raymond | Axiom Data Science

Tribal stewardship for One Health
Carrie Stevens | University of Alaska Fairbanks

Rabies management in the North: Analysis of Alaska, Northwest Territories and Svalbard
Karsten Hueffer | University of Alaska Fairbanks

Canary database 2.0: Decoding health messages from animal sentinel events
Peter Rabinowitz | Center for One Health Research, University of Washington

Climate change is animal health
Colleen Duncan | Colorado State University

3:15 p.m.
Coffee break

3:45 p.m.
Mental health and well-being: Panel discussion
Interventions to increase Indigenous well-being

Sean Topkok, Dance performance
dance performance as illustration of cultural healing

Panel discussion
- Heidi Aklaseaq Senungetuk, University of Alaska Anchorage
- Jacques Philip, University of Alaska Fairbanks
- Inna Rivkin, University of Alaska Fairbanks
- Georjiana Ningeulook, University of Alaska Fairbanks

Questions and answers

5:20-6:30 p.m.
Poster session
Wood Center multilevel lounge

6:30 p.m.
“We Breathe Again” movie screening
FRIDAY, MARCH 13, 2020
DAVIS CONCERT HALL (UNLESS NOTED)

8 a.m.
Registration and coffee

8:30 a.m.
Opening remarks
Larry Hinzman | vice chancellor for research, UAF

8:40 a.m.
Antimicrobial resistance and zoonotic diseases
Climate change is a potential driver of zoonotic disease threats across the circumpolar North. The use of antimicrobials and the resultant development of resistance to them is becoming a global issue. This session will look at One Health approaches to prioritizing, understanding and managing these problems.

KEYNOTE
The Canadian Arctic One Health Network
Emily Jenkins | Department of Veterinary Microbiology, University of Saskatchewan, Canada

Strong connections among the land, wildlife and people in the North necessitate a One Health approach to address complex challenges at the interface of human, animal and ecosystem health. The North continues to face health disparities and food and water insecurity, and climate change at rates faster and greater than the global average. Infectious diseases will emerge in a future of climate change, and zoonoses continue to pose threats to wildlife and public health. Find out more about monitoring efforts, including for rabies, foodborne parasites and vector-borne diseases.

Brief (10-minute) panel presentations followed by Q&A.

Priority zoonotic diseases for One Health collaboration in Alaska
Tom Hennessy | University of Alaska Anchorage

Comparison of ecological niches of rabies in Alaska and Canada for public health: Urbanized outbreak clusters dominate in the landscape of northern America
Falk Huettmann | University of Alaska Fairbanks

Avian influenza in a changing Arctic climate
Peter Rabinowitz | CHanGE, University of Washington

Isolation of multidrug-resistant bacterium in urban wildlife. What is in your backyard?
Grace Leu-Burke | University of Alaska Anchorage

Recovering the resistome: Genomics of antimicrobial resistance in Interior Alaska
Devin Drown | University of Alaska Fairbanks

One Health AMR surveillance in the Salish Sea and surrounding areas
Lauren Frisbie | Center for One Health Research, University of Washington

10:20 a.m.
Coffee break and OneTree Alaska local birch syrup tasting with silver dollar flapjacks

10:50 a.m.
Food safety and security
Many if not most of the communities in the circumpolar North are at risk of being food insecure. This is true for both small isolated subsistence communities and larger urban areas. This session will examine these issues through a One Health lens to explore root causes and seek to develop sustainable solutions.

Brief (10-minute) panel presentations followed by Q&A.

Where will you keep it fresh, and how will you put it up?
Art Nash | University of Alaska Fairbanks

Food, culture and change in environment
Gert Mulvad | University of Greenland Ilisimatusarfik

Malignant transformation of tapeworms infecting rock ptarmigan in Iceland: Case study for food safety of Arctic wild meat
David Bruce Conn | Harvard University Museum of Comparative Zoology and Berry College One Health Center

Profiles of paralytic shellfish toxins and correlations to phytoplankton blooms in Southeast Alaska communities
Savannah Miller | The University of North Carolina at Wilmington

One Health in the Bush — An overview of One Health issues concerning residents of Northwest Alaska
Claudia Ihl | University of Alaska Fairbanks, Northwest Campus, Nome

Survey of potato diseases, Alaska food security and export market prospects
Jenifer Huang McBeath | University of Alaska Fairbanks

12:30 p.m.
Lunch at Dine 49 in the Wood Center

12:30 p.m.
Side meetings | Center for One Health Research working groups
Wood Center rooms C/D, E/F

12:30 p.m.
Side meetings | Student/presenter roundtable discussion
Wood Center ballroom
Facilitated by UAF’s graduate school dean, Michael Castellini, and a team of BLaST RAMPs who are trained in student success, career advising and One Health Issues.
1:30 p.m. | Concurrent session
Chronic disease and cancer, contaminant surveillance and biomonitoring
ELIF 301/305

Many circumpolar residents live lifestyles close to the environment. Many aspects of this lifestyle promote health, but environmental changes have also increased potential exposure to contaminants that have been associated with enhanced risk of developing cancer and chronic diseases. This session explores what is known about these disease risks and current biomonitoring for contaminants.

KEYNOTE
Environmental contaminants: An Arctic perspective of a global problem
Jim Berner | former science director, Alaska Native Tribal Health Consortium

Brief (10-minute) panel presentations followed by Q&A.

Contaminants in Arctic human populations and the changing climate
Khaled Abass | Arctic Health, University of Oulu, Finland

The Alaska EARTH longitudinal cohort study: Results from a 10-year follow-up
Julie Beans | Southcentral Foundation

Regional variations and drivers of mercury and selenium concentrations in Steller sea lions
Lorrie Rea | University of Alaska Fairbanks

Chronic diseases in Southeast Alaska: Is there a dioxin connection?
Anita Moore-Nall | University of Alaska Anchorage

The impacts of water quality and dissolved organic matter on contaminant fate and transformation in high-latitude surface waters
Jennifer Guerard | University of Alaska Fairbanks

1:30 p.m.
One Health education and science communication | Session 1

Education and communication is the foundation for development and success. These speakers will discuss how a One Health approach can be integrated into the K-12 and postsecondary education system to support students throughout the circumpolar North. Science communication doesn’t stop in school, and scientists are often challenged to communicate their findings in ways that lay audiences can understand. Strategies for understanding the challenges and improving communication will be presented in this session.

KEYNOTE
Sustainable knowledge — Making education meaningful for the next generation
Marit Honerød Hoveid | professor, Department of Education and Lifelong Learning, Norwegian University of Science and Technology, Norway
Halvor Hoveid | professor, Department of Teacher Education, Norwegian University of Science and Technology, Norway

The role education can play in terms of developing a sustainable future has to take into account what counts as knowledge for students. Making education meaningful requires that the knowledge students work with also makes sense for them in their local contexts. This talk will address some epistemological questions in relation to knowledge in education and exemplify with a project that has been developed in math education among Sami students in Finnmark, Norway. We argue that various knowledge forms cannot be ignored in a One Health approach to education.

Brief (10-minute) panel presentations followed by Q&A.

RxOne Health: Competency-based, experiential education for the next generation of One Health practitioners
Woutrina Smith | University of California, Davis

Air-tight: Authentic active learning and PM2.5 research in grades 6-12
Christina Buffington | University of Alaska Fairbanks
Renee Parsley | Lathrop High School

The RASOR program: Connecting rural Southeast students through community-based research
Ellen Chenoweth | University of Alaska Southeast

Cultivating diversity, equity, inclusion and access within the International Arctic Research Center at the University of Alaska Fairbanks
Elena Sparrow | University of Alaska Fairbanks

Teachings from relatives, land and ancestors: Indigenous science methods for One Health
Doreen E. Martinez | Colorado State University
### 3:10 p.m.  
**Coffee break**

### 3:40 p.m.  
**One Health education and science communication | Session 2**

Education and communication is the foundation for development and success. Speakers will discuss how a One Health approach can be integrated into the K-12 and postsecondary education system to support students throughout the circumpolar North. Science communication doesn’t stop in school, and scientists are often challenged to communicate their findings in ways that lay audiences can understand. Strategies for understanding the challenges and improving communication will be presented in this session.

### KEYNOTE

**Science communication in Alaska: What makes it so special**  
Lisa Busch | director, Sitka Sound Science Center

Science communication is an integral part of One Health. With good communication, researchers and community members can engage in sharing information about animal, environmental and human health. But there are challenges to communication and a need for more research, more training and a central place for science communication resources.

Brief (10-minute) panel presentations followed by Q&A.

- **Applying local observations for One Health**  
  Erika Lujan and Mike Brubaker | Alaska Native Tribal Health Consortium

- **Things to think about (other than running away) when a journalist wants to talk to you**  
  Lois Parshley | University of Alaska Fairbanks

- **What does mammalian hibernation have to do with human health?**  
  Brian Barnes | University of Alaska Fairbanks

- **The ECOHAB acronym to teach One Health connections between humans, animals and environments**  
  Peter Rabinowitz | Center for One Health Research, University of Washington

- **OneTree Alaska: Rearing the next generation of forest stewards**  
  Janice Dawe | University of Alaska Fairbanks

### 5:30-6:30 p.m.  
**Open discussion | Engaging rural and Alaska Native youth in STEM**  
Wood Center ballroom

We want to hear from students! We’d like you to share thoughts and strategies on how to better engage Alaska youth in science, technology, engineering and math (STEM) programs. We want to know what is and isn’t working, and hear your ideas on how to make these programs more useful for Alaska’s high school, undergraduate, graduate and out-of-school youth.

### 6:30 p.m.  
**“Atta” movie screening**

### 8-10 p.m.  
**Live music by Sourdough Rizers**  
The Pub, Wood Center

A culture of its own: Hot and rising alt-bluegrass and swing out of Fairbanks, Alaska. Vocal harmonies and superhero guitar will groove your heart!
SATURDAY, MARCH 14, 2020
DAVIS CONCERT HALL (UNLESS NOTED)

8 a.m.
Registration and coffee

8:30 a.m.
Morning address (via video)
Jim Johnsen | president, University of Alaska

8:40 a.m.
Impacts of climate change on One Health issues
The interdependence of human, animal and environmental health leads to all of these being significantly affected by climate change. This session will explore the impact of climate change on the people and animals of this region with an eye on mitigating problems and preparing adaptive responses to current trends.

KEYNOTE
Climate change in Alaska: Impacts on health
John Walsh | chief scientist, International Arctic Research Center, University of Alaska Fairbanks

Climate change has impacted Alaska in subtle ways, ranging from the state’s vegetative landscape to patterns of land use and even land ownership. In this presentation, we will highlight several major climatic trends in Alaska over the past 50 years, including the trends of extreme events that are among the most consequential manifestations of climate change. The most notable impacts fall into several categories, including effects of warmer temperatures on invasive species and harmful algal blooms; effects of longer drier summers on air quality through wildfire smoke and road dust; and increases in hazards associated with thinning ice, thawing ground and flooding.

Brief (10-minute) panel presentations followed by Q&A.

Environmental change is reflected in marine wildlife health
Shannon Atkinson DeMaster | University of Alaska Fairbanks

A systematic pan-Arctic analysis of rain on snow and extreme precipitation events and their impacts on human-environment systems
Matthew L. Druckenmiller | National Snow and Ice Data Center, University of Colorado Boulder

Tracking Arctic coastal changes through a collaborative network of northern Alaska coastal Indigenous communities
Donna Hauser | University of Alaska Fairbanks

Exploring the effects of Arctic fox ecology on rabies epidemiology in northern Quebec using a spatially explicit, individual-based model
Agathe Allibert | University of Montreal

Reindeer herding and coastal pastures: Adaptive responses to interacting changes
Hovelsrud Grete | Nord University, Norway

Using Inuit Qaujimajatuqangit to understand the stressors that affect muskoxen (Ovibos moschatus) in a rapidly changing Arctic
Juliette Di Francesco | University of Calgary

Vector-borne nematodes in the future Arctic
Antti Oksanen | Finnish Food Authority

10:20 a.m.
Coffee break

10:45 a.m.
Emerging themes from the conference
This session offers a platform to exchange ideas on One Health themes emerging from the conference. The session will begin with panel participants on circumpolar One Health perspectives and insights gained during the conference. We envision these discussions to build on conference session themes and expand beyond them to generate new insights for One Health research and collaborations from local to circumpolar scales. We welcome all participants to join this interactive wrap-up dialogue session of the One Health, One Future conference.
Panel discussion moderated by Tuula Hollmen, UAF

12:15 p.m.
End of formal programing

12:15 p.m.
Separate registration required for the following session
Lunch in the ballroom

1 p.m.
Roundtable discussion with One Health stakeholders
Operationalize One Health — Where do we go from here?
Vernae Angnaboogok | cultural sustainability advisor, Inuit Circumpolar Council, Alaska
Wood Center ballroom

The purpose of this session is to take stock on progress toward circumpolar One Health cooperation under the Arctic Council project, One Health, One Arctic (2015-present), and to identify plans for a sustainable future of the One Health network.

Participants from all Arctic Council member states and permanent participant organizations are invited to offer views on ways that the knowledge sharing, exercises and joint investigations embodied in the project can remain robust, regardless of future Arctic Council activities.

This session will be deliberative and nondecisional.

2:30 p.m.
End of conference
Handicap parking permits are available through the Alaska Division of Motor Vehicles.

For up-to-date parking information, visit [www.uaf.edu/parking/](http://www.uaf.edu/parking/) or call 474-7275.
FOOD AND DRINK

Arctic Java, Wood Center first floor
On-the-go coffee, espresso, baked goods, sandwiches and salads

Dine 49, Wood Center second floor
Serving lunch buffet (Included with registration; name badge required.)
Snacks and bottled sodas available for purchase. Dinner buffet for purchase.

The Pub, Wood Center first floor
Beer, wine, nonalcoholic beverages, light snacks.
Live music March 13. Must be 21 and older, a passport/U.S. driver’s license required.

All-day coffee and tea break service (Included for conference registrants.)
May be found in the following areas:
Fine Arts Complex in the Regents’ Great Hall (March 11-14)
ELIF (March 12 and 13 only)
Wood Center ballroom (March 14, afternoon break only)

See the registration desk for more information about hours.

CONFERENCE LOGIN

This allows participants to bypass the guest login on campus WiFi
Login: OneHealth
Password: OneHealth2020