

# Minnesota Center for Prion Research and Outreach

The Minnesota Center for Prion Research and Outreach (MNPRO) will be a multi-disciplinary center at the University of Minnesota focusing on the biology and epidemiology of human and animal prion diseases and related protein-misfolding disorders.

MNPRO will be a hub for combating neurodegenerative diseases, and will convene a range of U of M faculty and external collaborators to conduct research with a broad impact on protein-misfolding diseases such as Alzheimer's disease, Parkinson's disease, ALS, and emerging prion diseases such as chronic wasting disease.

## A vision for research and outreach



### Comparative medicine & biology

Convening diverse expertise in animal health, cellular and protein biology, ecological modeling, and human and animal protein-misfolding diseases



### Think-tank environment

Creating an incubator for cutting edge science and exploring new ideas to develop innovative strategies for combatting neurodegenerative disease



### Strategic research priorities

Developing next-gen diagnostic tools, and leading the charge on genetic testing, environmental studies, and zoonotic risk assessment



### Coordination and collaboration

Aligning efforts of multistate partners, and engaging stakeholders through research and outreach initiatives

*CWD has spread to 26 US states since it was first detected in Colorado in the 1960s*



## CWD: A pressing need for research

Chronic wasting disease (CWD) is a contagious, fatal neurological disease affecting deer, moose, elk, reindeer, and caribou.

CWD is prion disease, and is similar to bovine spongiform encephalopathy ("mad cow disease"), scrapie, and Creutzfeldt-Jakob disease.

Currently, there is no evidence that CWD poses a risk for humans; however, the Centers for Disease Control and Prevention recommend that people do not consume meat from animals known to be infected.

## Why the University of Minnesota

The University of Minnesota is uniquely prepared to address neurodegenerative diseases. As a comprehensive university with a diverse realm of expertise, the U of M has many of the necessary tools to safely and efficiently address these diseases. Our science is grounded by our location at the intersection of four environmental biomes, making our results relevant to a broad swath of North America.

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## Research and Outreach Priorities

Chronic wasting disease (CWD) is an emerging prion disease requiring immediate national attention. Despite decades of research, many aspects of CWD prion biology and epidemiology remain unknown, and diagnostic tests for the rapid and robust identification of CWD prions are lacking.



CWD Watch features a series of resources related to College of Veterinary Medicine research and response to chronic wasting disease. Check it out for scientific and animal health-based evidence to help you understand what is known and not yet known about CWD and its impact.  
[z.umn.edu/CWDWatch](http://z.umn.edu/CWDWatch)

### Research Priorities



#### RAPID CWD DIAGNOSTICS AND SURVEILLANCE

Develop CWD tests that can be used in environmental samples, live deer, and hunter-harvested deer



#### BIOREPOSITORY FOR PRION RESEARCH

Establish a frozen tissue database of samples of North American cervids including CWD positive and negative material



#### ENVIRONMENTAL IMPACT STUDIES

Develop prion control and decontamination strategies, including carcass management and ecological remediation



#### HUMAN DIMENSIONS OF PRION DISEASES

Assess the zoonotic risk of CWD and integrate community priorities, human values, and behavior with CWD management

### Outreach Priorities



#### DISSEMINATE RESEARCH TO KEY STAKEHOLDERS

Engage stakeholders, such as federal, state, and tribal agencies, to inform, facilitate, and disseminate research



#### ENGAGEMENT WITH TRIBAL NATION PARTNERS

Collaborate with Native American tribal nations to build surveillance networks and incorporate Tribal priorities into CWD management



#### DEVELOP PRION-FOCUSED CURRICULA

Create educational curricula focused on prion biology, ecology, epidemiology, wildlife management, and public health



#### TRANSLATION OF SCIENCE TO POLICY

Transform CWD data into information that informs control policies for decision makers at state and federal levels