



### **A81 Forensic Research Outdoor Station (FROST): The Implementation of a Cold-Climate Forensic Anthropology Research Facility**

*Jane Wankmiller, PhD\*, Northern Michigan University, Dept of Sociology and Anthropology, 2400 Jamrich Hall, Marquette, MI 49855; and Scott Demel, PhD, Northern Michigan University, Dept of Sociology and Anthropology, 2400 Jamrich Hall, Marquette, MI 49855*

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After attending this presentation, attendees will better understand the importance of collaboration between university, community, law enforcement, and government entities in support of the successful implementation of a forensic anthropology research facility.

This presentation will impact the forensic science community by bringing attention to the processes that were implemented as part of the creation of the FROST at Northern Michigan University (NMU) and by highlighting some of the work that is expected to result from collaborations established between NMU and other research and law enforcement entities.

Casework and research have identified the need for climate-specific research that can inform the forensic community regarding the taphonomic processes associated with the postmortem deposition of human remains. Seven decomposition/taphonomy research facilities already exist in various sub-climates of the continental United States and one in Australia, making FROST the eighth facility of its kind in the world and the only one located in a cold climate. Particularly relevant to research at FROST will be the effects of deep snow and the freeze-thaw cycle on the decomposition of human remains. Additionally, the facility's location in Marquette, MI, with its proximity to Lake Superior and several cold-water inland lakes, has the potential to allow for research that will lead to a greater understanding of the effects of the cold, freshwater lacustrine environments on changes associated with decomposition and other taphonomic effects.

The early successes at FROST and its acceptance by the citizens in the local area, the university, and the law enforcement community can be attributed to extensive outreach, collaboration, and public communication about the facility and its potential benefits to the forensic sciences, law enforcement, and missing persons cases. Prior to conducting any research on the human donors at FROST, several baseline studies are being conducted that have developed collaborative relationships between NMU's Sociology and Anthropology Department and other departments, allowing for faculty and student engagement with the facility and increasing the sense of ownership and community within the university. Interdisciplinary baseline studies at the facility, all of which involve students, include entomological and zoological surveys, a soil chemistry/composition/pH analysis, a Ground Penetrating Radar (GPR) survey, a micro-climate/weather assessment, a Light Detection and Ranging (LIDAR) survey, and archaeological shovel test pits. Results from these baseline studies are included in this presentation.

Stewardship of the 2.5 acres of land that will be occupied by the facility and its parking and outbuildings was transferred to NMU from the Marquette Branch Prison property by the state of Michigan, a process that involved discussion and considerable cooperation on the parts of the university, local law enforcement, the prison wardens, the Michigan State Police (MSP), and the local community, where town hall-style meetings and public forums were held to ensure transparency and education of the various stakeholders. The land allocated to FROST is located approximately four miles from NMU's main campus; it is in an open field, non-residential area, screened from public view. The area (approximately 1.5 acres) includes a security fence with privacy screening and plans are in place to ensure limited access and 24-hour security, including some access oversight by prison personnel — a collaboration that is ideal for maintaining the integrity and security of the facility.

Although the program and the facility are in their infancy, FROST is already well-established as the product of extensive collaboration and communication between NMU and stakeholders of varying interests and backgrounds who have a common goal of advancing forensic science research in a cold climate and contributing to the improvement of methods and techniques used by forensic anthropologists, forensic scientists, and law enforcement

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#### **Forensic Anthropology, Taphonomy, Collaboration**