**W3192 Multistate Wildland Firefighter Project**

**Accomplishment Report 2021**

**Project Number:** W3192

**Project Title:** Improving Safety and Health of Wildland Firefighters Through Personal Protective Clothing (formerly WDC39)

**Period Covered:** October 2020-October 2021

**Date of Report:** April 19, 2021

**Annual Meeting Date:** April 2, 2021, 8:00-12:00 EST; Meeting held via Zoom conference

**Participants:** “McGuire, Mark (mmcguire@uidaho.edu)- University of Idaho;” “McQuerry, Meredith (mmcquerry@jmc.fsu.edu)- Florida State University;” “Martindale, Addie (addiemartindate@gmail.com) - Georgia Southern University;” “McKinney, Ellen (emckinne@iastate.edu) - Iowa State University;” “Stannard, Casey (stannard@lsu.edu) - Louisiana State University;” “Xia, Sibei (sibeixia@lsu.edu) - Louisiana State University;” “Meyer, Sonya (sonyam@uidaho.edu) - University of Idaho;” “Easter, Elizabeth (Elizabeth.easter@uky.edu) - University of Kentucky;” “Hwang, Chanmi (chanmi.hwang@wsu.edu) - Washington State University;” “Lou, Xingqiu (xingqiu.lou@wsu.edu) - Washington State University;” “Den Hartung, Emil (eadenhar@ncsu.edu) – North Carolina State University (not present at meeting)”

**Officers**

Chair: Meredith McQuerry ([mmcquerry@fsu.edu](mailto:mmcquerry@fsu.edu))

Vice Chair/Secretary: Casey Stannard ([stannard@lsu.edu](mailto:stannard@lsu.edu))

Administrative Advisor: Mark McGuire (mmcguire@uidaho.edu)

**Brief summary of minutes of annual meeting:**

The meeting was called to order by Meredith McQuerry.

Xingqiu Lou is joining the project as the new Washington State University representative. Xingqiu is the new faculty at NC State and focuses on design and technology. Gloria Hwang will be going to North Carolina State University. Gloria will continue to help with Objective 1.

Ellen McKinney will be going to Japan for 6 months to do a Fulbright maybe starting in summer. Final date TBD.

Sonya has an UG student working on Hops fiber- she may join this group.

**NIFA Updates/Reporting Requirements –**

No changes in reporting. Annual meeting report will be due following this meeting- Casey will submit. Can submit a joint repo4t of accomplishments based on what was done in 2020.

**Review of Objectives -**

Ellen suggests creating a living document that will help us keep track of when we plan to do objectives and if we move any milestones to different years, we can keep track of it.

Meredith is working on a funded FEMA project on body scanning female firefighters.

Sibei and Xingquo do you have background in sensors and electronics? Sibei has done some senor projects and knows how to code the sensors. LSU has Shima Sheiki knitting machines which may be used to incorporate sensors. Xingquo has Shima experience too and can work with Sibei on that. Ellen has background in teaching technology in garments. She knows a lot about how to incorporate sensors and technology. Rachel Eike at ISU also is doing interesting work on sensors in embroidery- she may be a good person to incorporate on this topic.

New NFPA standard is being released this year. Will have standards for wildland firefighters on care and maintenance of PPC. Is basically a copy and paste of structural standards-not good for wildland. Meredith and Elizabeth are working on this.

Mark suggests reaching out to WSU engineering faculty who has an excellent background in wearable sensors. Dr. Gozen.

UI also has a school of fire science that may be able to help us connect with participants. WSU has a fire science club too. Gloria has made a folder in the Box account for us to add contacts of important fire science people so we can find participants for surveys.

**Reports from Stations and Institutions for 2021:**

**Florida State University and the University of Kentucky** – Meredith reported that she and Dr. Easter are working on Objectives 2 and 3 of the project. They are conducting a survey of wildland firefighters across the United States regarding the maintenance and care practices of their PPE. Questionnaire on cleaning is out there now. Currently, 62 responses...trying to find more responses.

FEMA Project- looking at female firefighters PPC. Includes wildland firefighters. Major partner is Women in Fire. Hoping to attend large conference in fall to scan and survey lots of people. Also looking at why manufacturers are not producing female gear. Plan to hold focus group with manufacturers to tell them what issues are with female gear. Can’t get wildland PPC people to participate. Sonya will check her manufacturing contacts. Sibei- has previously done this type of anthropometric work where you use an iPad sensor and then upload it into Size Stream. Ellen also mentioned landmarking as a possible issue to consider with these scans.

**University of Idaho and Washington State University** – Sonya and Gloria have created a survey to investigate user needs of wildland firefighters in terms of their PPE. This survey was reviewed by other design members, who suggested changes. IRB docs were developed in the breakout session of the meeting. This work addresses project Objectives 1 and 2.

**Iowa State University** – IA has a structural glove project going. Ellen is getting a lot of ideas about gloves- hardly anything out there about wildland. Suggests that range of motion and mobility studies would be helpful on fit assessment.

**Review Plans and 2021 Goal Setting:**

Two surveys have been developed and one is currently distributed. Design survey will be distributed shortly.

Additional contacts are needed to help locate more wildland firefighters to take the surveys.

Funding Opportunities were discussed. NIOSH grant opens up April 30 and due Nov. 30. Need to be at least $1 million. Should be related to a NIOSH center. Meredith will look to see where these centers are located- see website: https://www.nasdonline.org/agcenter.php Will look into this more once the RFP is sent out.

DHS/FEMA/Fire Safety Prevention program also has funding. Has tricky deadlines- Meredith can email to see when next call will be released.

NFPA funding opportunity- can submit a white paper at any time. This group also send out mini calls via email at random times. This grant could help to bridge our work until a larger grant becomes available.

The listed activities for 2020 are on track to be accomplished in 2021.

**Election of Governing Positions:**

Rather than seeking nominations, the committee requested volunteers for Committee Chair and Secretary.

Meredith McQuerry volunteered to serve as Committee Chair for the coming year.

Casey Stannard volunteered to serve as Committee Secretary and Vice Chair for the same time period.

**Next Annual Meeting:**

The next annual meeting for the committee was tentatively set for Baton Rouge, LA, LSU host institution, in spring of 2022. Casey will send a Doodle Poll to committee members to identify potential dates.

**Accomplishments:**

**Short-term Outcomes:** None for year two.

**Outputs:** surveys were drafted for both the UKY/FSU study and the UI/WSU study. UKY/FSU is actively collecting data. UI/WSU will start data collection in spring.

**Impacts from Year Two:**

1. (relating to Objectives 2 and 3) A survey to investigate how wildland firefighters select and care for their PPE has been distributed. The survey will help determine current practices on care, which will help the researchers to create educational materials with best practices.
2. (relating to Objectives 1 and 2) Researchers at University of Idaho and Washington State University have created a survey to explore PPE needs and current garment shortcomings of wildland firefighters. A survey and all IRB materials were developed and will be distributed in spring.

Respectfully submitted,

Casey Stannard