

# Firefighter Emergency Cooling System

Spring 2001

**Project:** CO<sub>2</sub> Cooled Firefighter Suit for both Pre-cooling and Emergency Cooling Situations

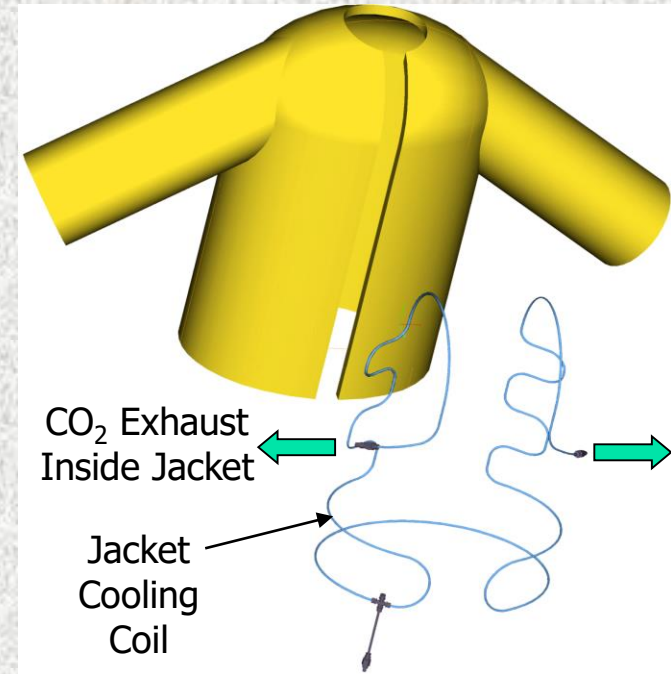
**Team (L to R):** Joe Strickland , Karl Hamand, Matthew Walker, Rosalin Irwan, and Nate Mueller



**Matthew Walker  
In Full Testing Gear**

## Objectives:

- Extend firefighter's work time by pre-cooling
- Available for about 30 seconds of emergency cooling
- Accessible between shifts
- Light-weight addition to gear
- Simple to operate
- Uses non-flammable cooling fluid (CO<sub>2</sub>)



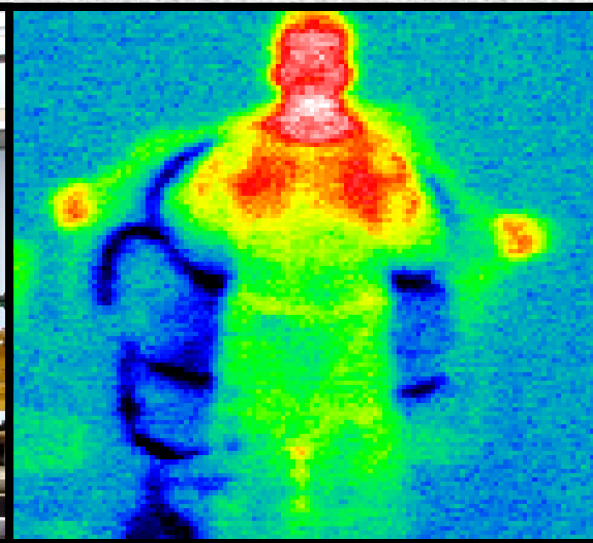
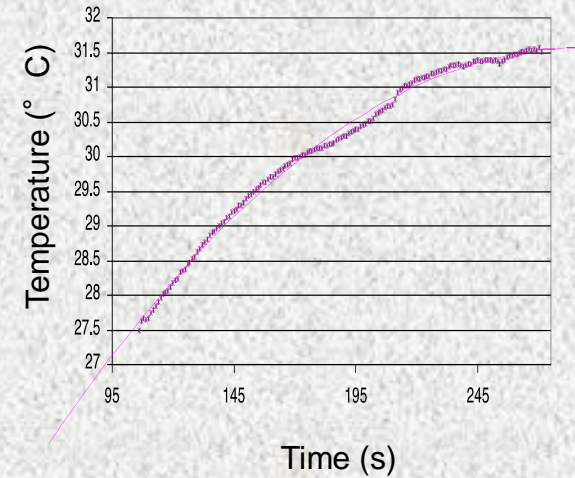
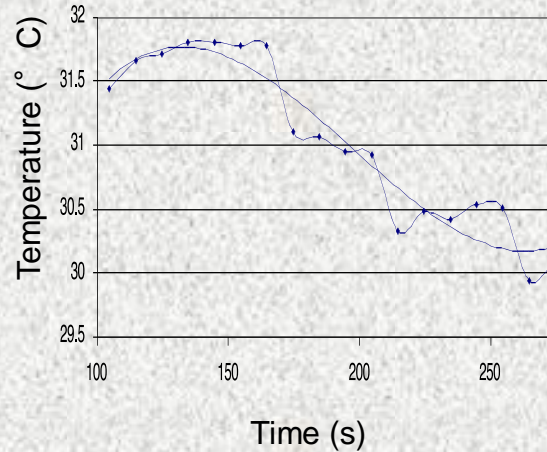
Connected to  
Fire Engine  
CO<sub>2</sub> Source  
for Pre-cooling

**OR**

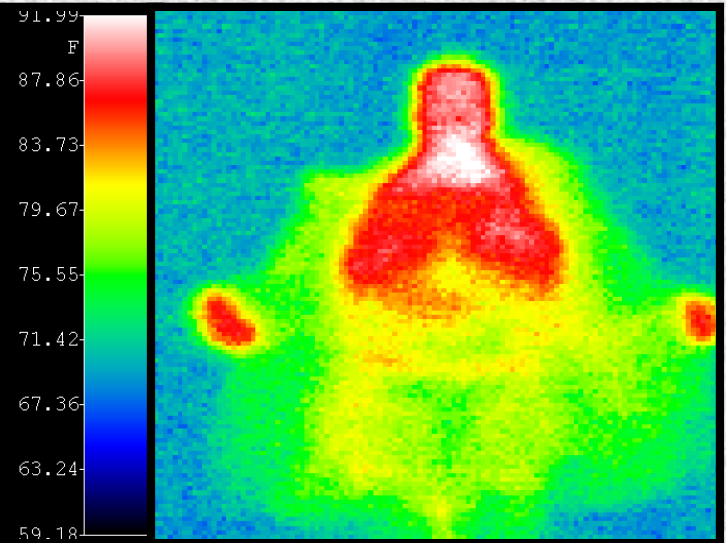
Small Carry-on  
CO<sub>2</sub> Cylinder  
for 30 Second  
Emergency  
Cooling

## Results

- Prototype effectively delays body temperature rise
- System provides no impedance to firefighter's working ability
- System extends work time and increases manpower
- System adds only 1.5 lb of Weight



**With Cooling System**



**Without Cooling System**