INTERNAL GRADUATION PROJECT

COOLING GARMENTS FOR FIRST RESPONDERS

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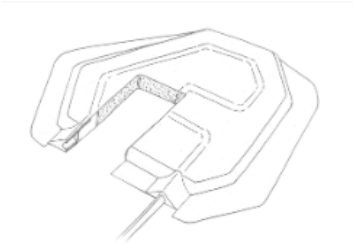
INTRODUCTION

First responders like the police, ambulance and fire brigade have to wear heavy and protective clothing for longer periods of time, often in hot environments. Cooling is currently done with passive cooling vests which are first pre-cooled in the freezer and last only 20 to 30 minutes. Active cooling vests pump cold water to a series of flexible tubes. In this project, we will explore a new way of cooling using foam elements which are expected to have both a better cooling efficiency and a higher wearing comfort.

The project will be in collaboration with a company that has experience with manufacturing first responder protective garments.

Protective garment for first responders



New, foam-based cooling pad

Cooling shirt prototype of a previous project

YOUR ASSIGNMENT

You will develop and test a new type of soft, water perfused cooling pads and make a functional prototype of a shirt that can be used in combination with existing protective garments.

WORK AND LAB INFRASTRUCTURE

The prototyping and testing part will be mostly done in the Applied Labs in which we have the infrastructure and technical support.