

# NANOVATION PRIZE Laila Aukee

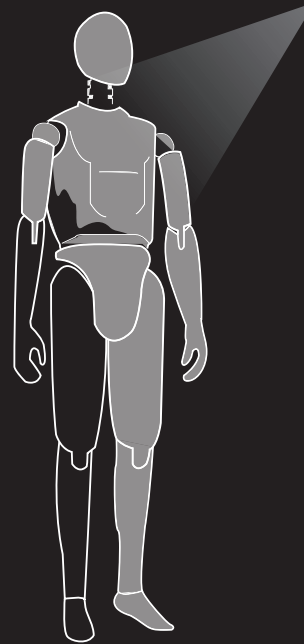
## Project: SmartDummy

The invention is a microencapsulation coating for crash test dummies, which can show bodily injuries more effectively than existing technologies. Microcapsules, that are tuned for varying resistance to pressure, burst to cause a chemical reaction resulting in luminescence of varying intensity.

### SMARTDUMMY

Laila Aukee  
Nanovation  
12. 14. 2010

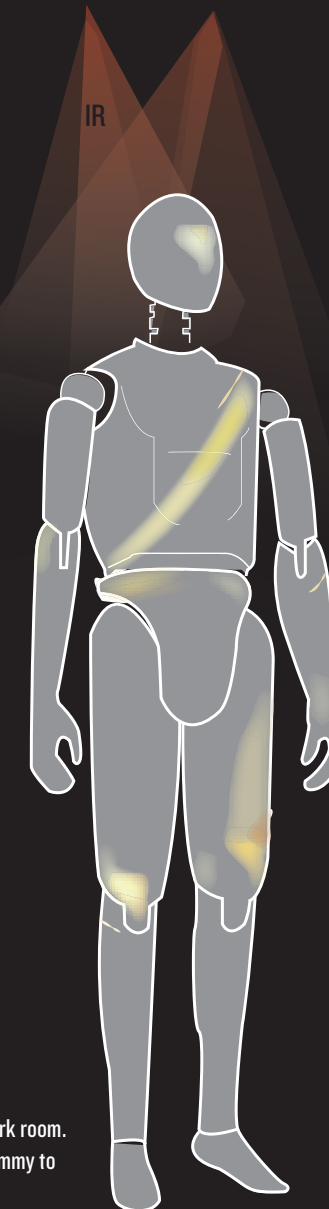
Sequence of Use • 8



1. Spray coating on Dummy



2. Place Dummy in Car



3. Run Test

4. Place Dummy in a dark room.  
Shine IR light on the dummy to  
reveal visible light.  
Read and record visible light with  
a brightness sensor.



5. Remove Coating with a  
Solvent for possible reuse

## HONORABLE MENTION Colette Bazirgan

### Project: Vapor Harvest System

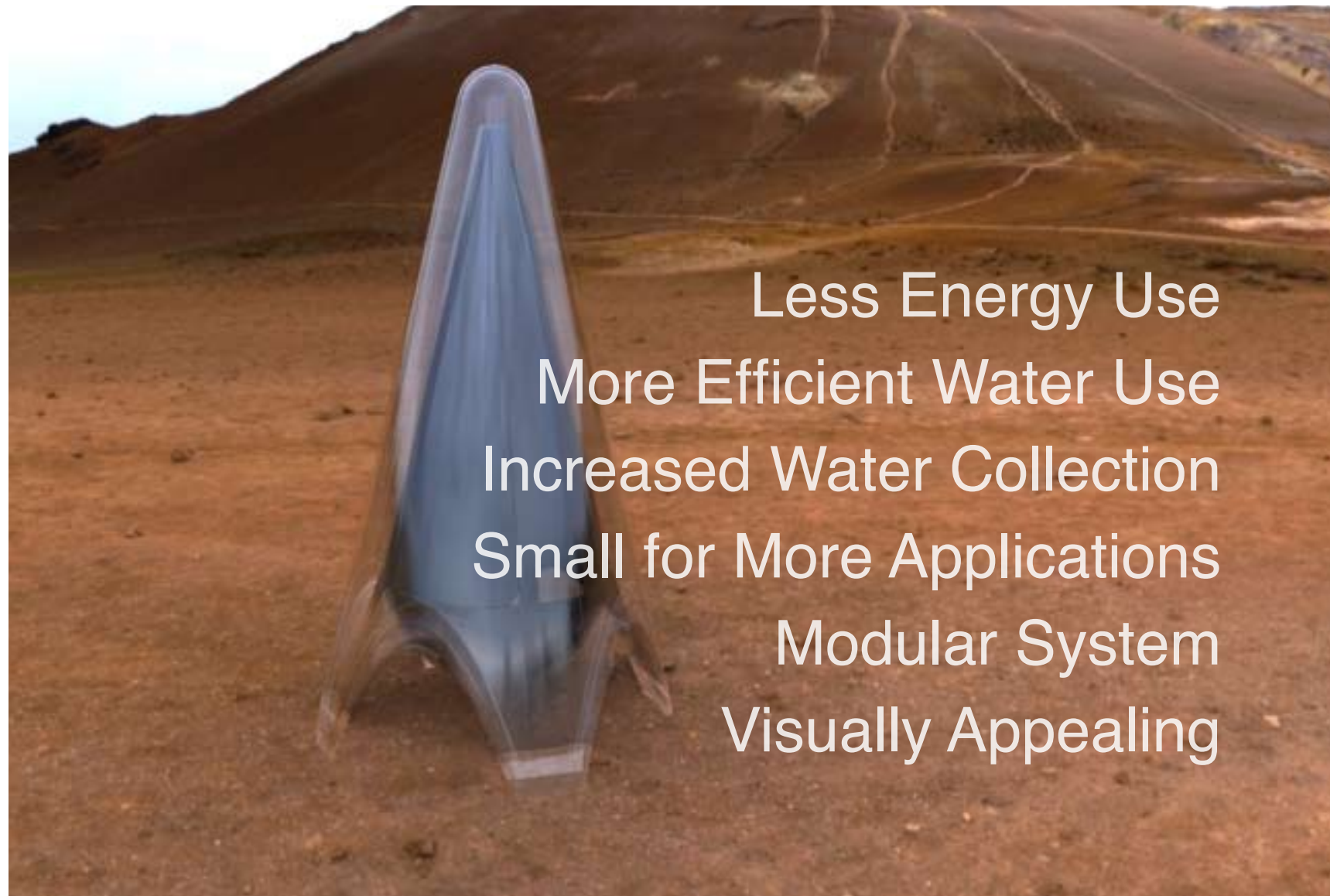
The invention is a water harvesting system for arid climates. A surface patterned with hydrophilic and hydrophobic regions draws moisture from air. As it forms into liquid, a nanostructured metal wicks the fresh water into a reservoir for use.

## VAPOR HARVEST SYSTEM

Colette Bazirgan

## THE BENEFITS

Compared to current water harvesting and irrigation systems, my design has a lot of benefits. By passively collecting water in areas where precipitation is little to none, and sometimes evaporation steals what little moisture is available, it has the potential to make better use of arid areas and increase their growth potential. It could increase food supply without increasing groundwater extraction. It could enable areas to grow more food locally. Also, it could eliminate the need and expense for desalination processes.



Less Energy Use  
More Efficient Water Use  
Increased Water Collection  
Small for More Applications  
Modular System  
Visually Appealing

CITATION Megan Yuen  
Project: Firefighter Turnout Gear

The invention is firefighter turnout gear that is lighter and easier to move in. It also offers great heat protection and reduced heat stress, while protecting users from impact. The design includes Nomex impregnated with RP50, protective shear-thickening pads, and Lenzing FR for wicking body moisture.

megan yuen | nanovation | fall 2010



- areas shaded in blue will always be dry because they are constantly exposed to air
- moisture absorbed into Lenzing FR lining will be wicked to dry areas to keep wearer cool and comfortable

Lenzing FR  
lining