

Pneumatic Actuator



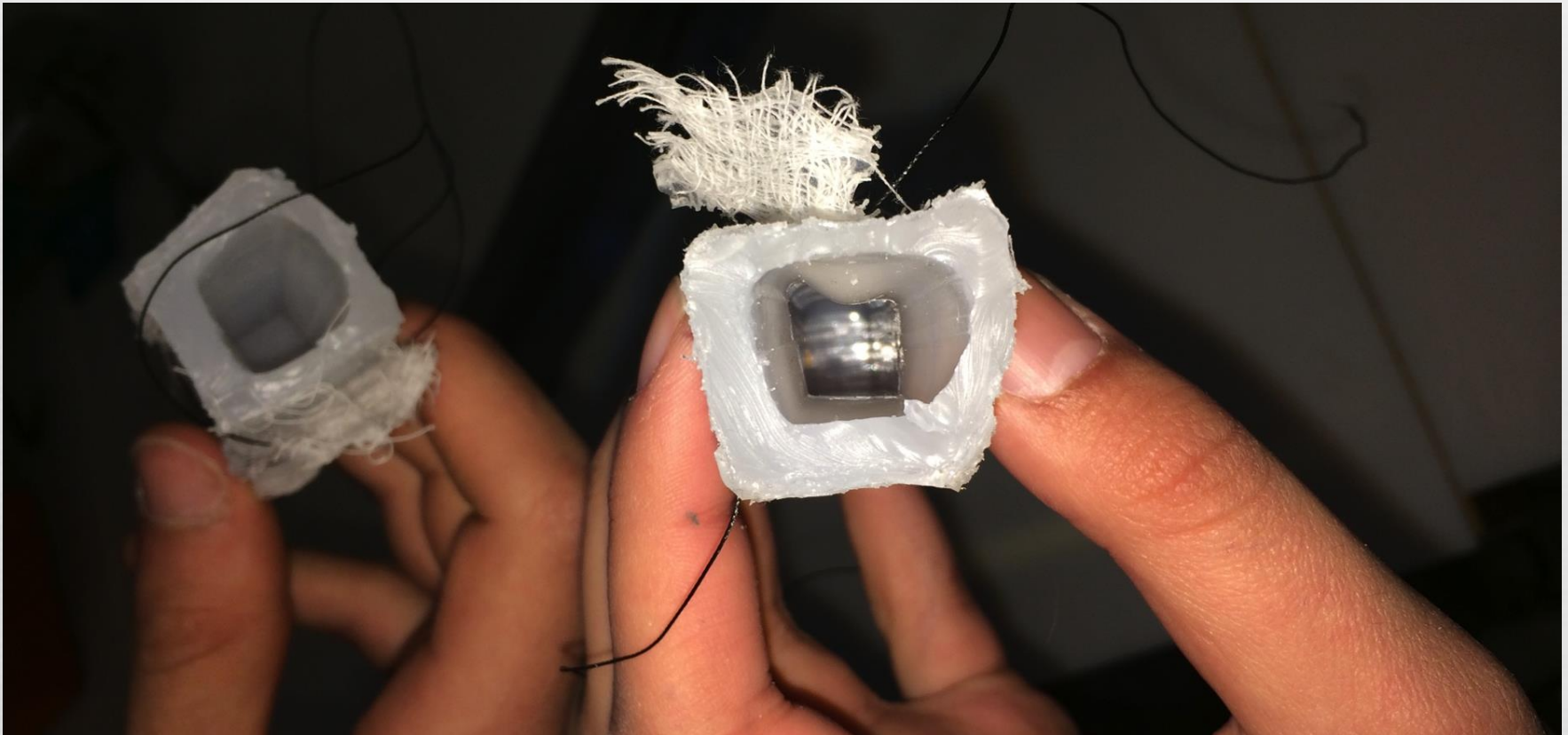
By Fai Almulla and Seth Zegelstein

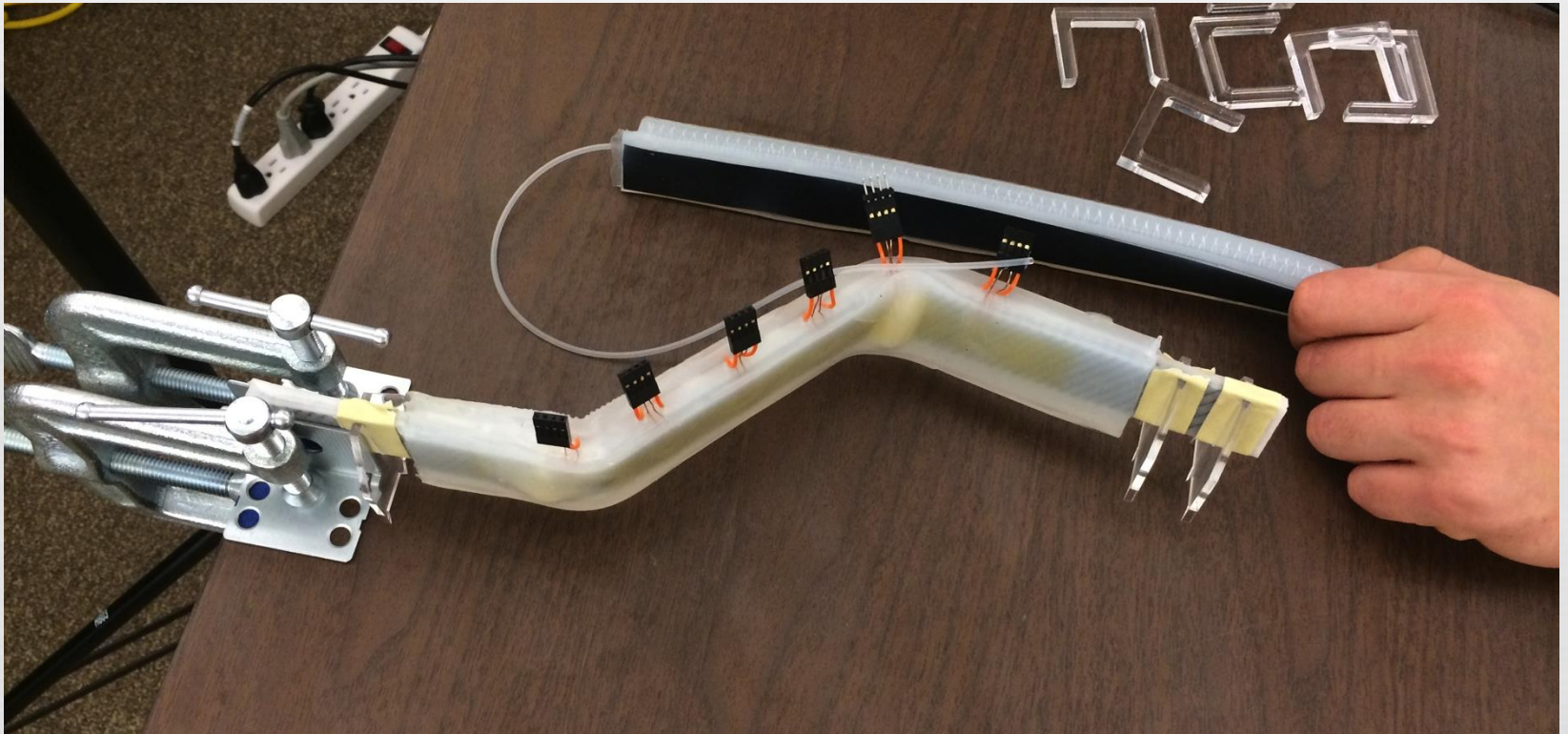
Our Hypothesis



- ❧ At first we thought it was meant to be inflated or filled up with something.
- ❧ We think that it's a robot's finger which is controlled by air pressure.
- ❧ A tool that takes air pressure and curves itself.

The Inside





What We Tried



Electricity –nothing happened

Filling it with Water – nothing happened

Filling it with air/gas – it popped (to much pressure)

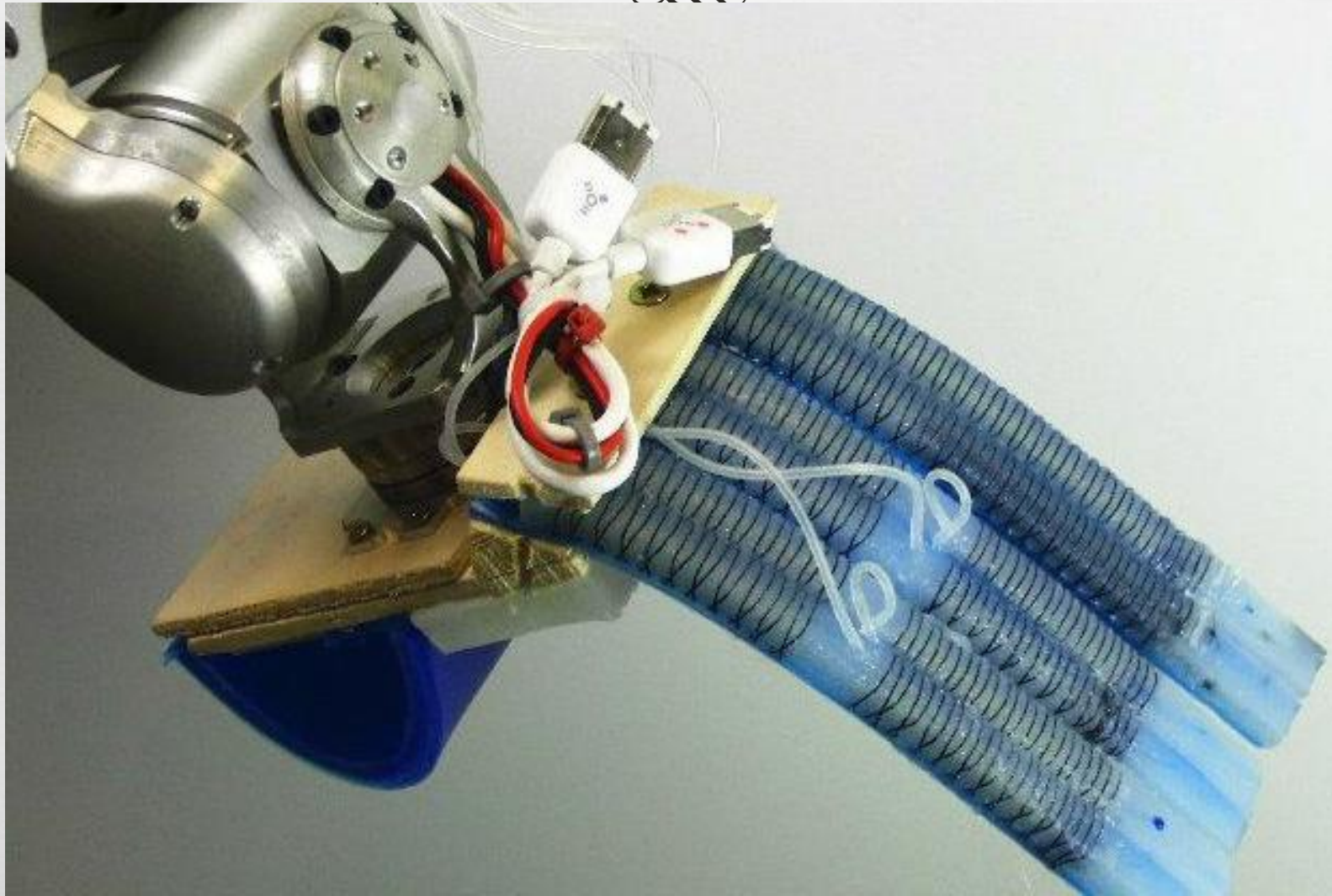
Filled it with less air using a syringe – curled like a finger

Used Google to find out what it was based on the information we had, We knew it was an Actuator made out of Eco-Flex.

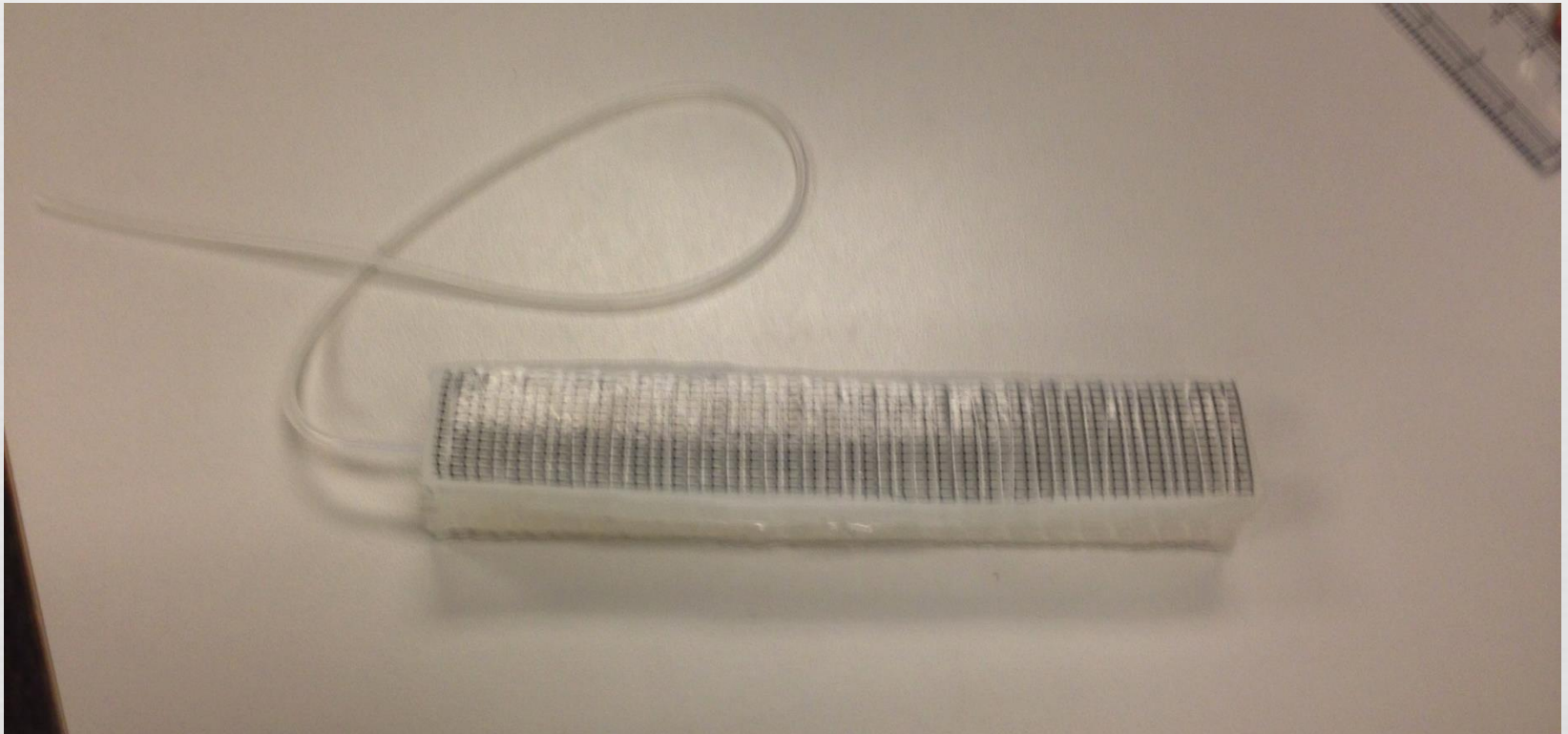
Experimenting



Picture on Website



Coincidence? We think not!



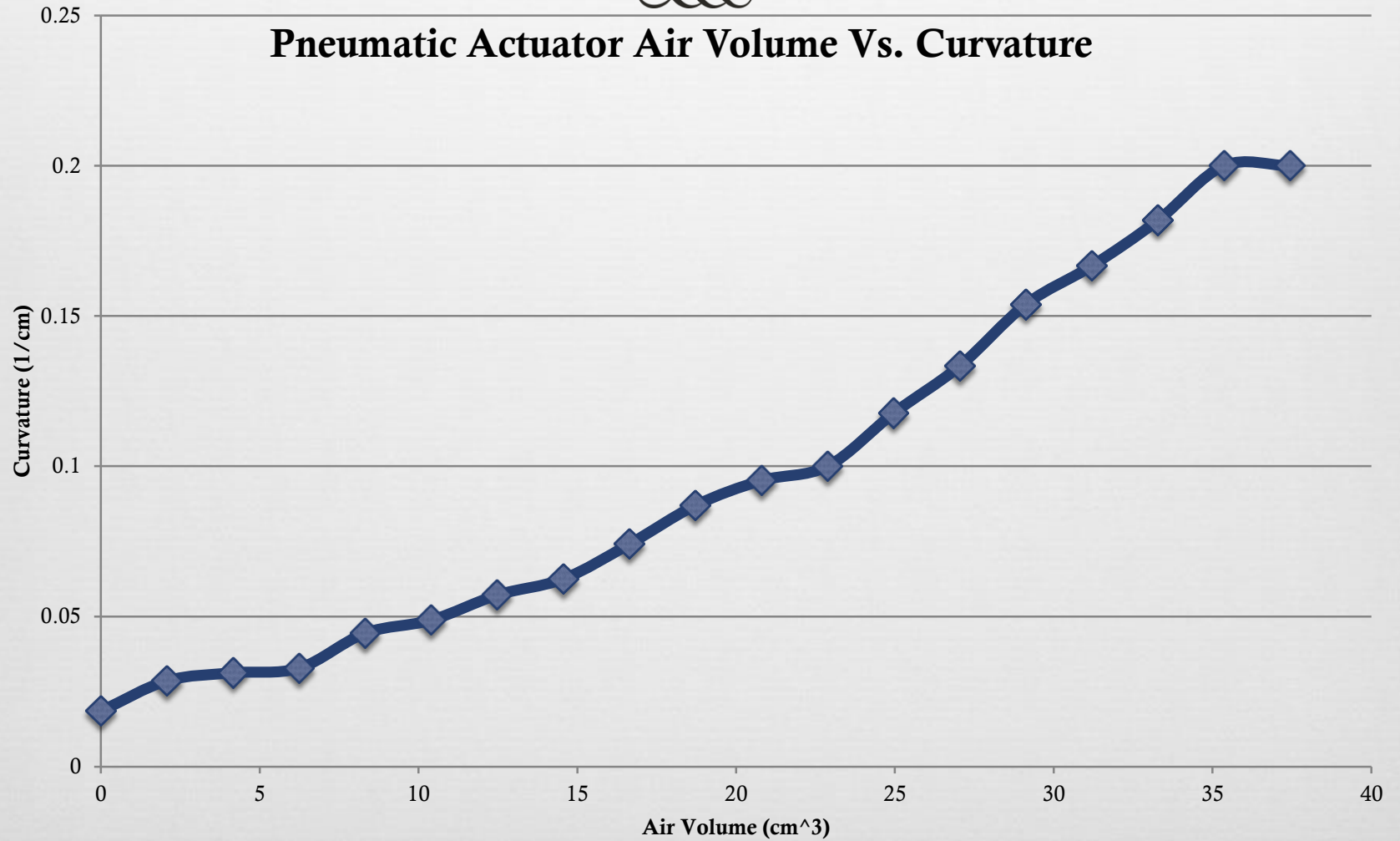
How it Works



- ❧ One side has a material keeps it's length, while the other side is flexible with a string wrapped around it to maintain it's shape
- ❧ This forces the Actuator to curl when air pressure is injected



Pneumatic Actuator Air Volume Vs. Curvature



Works Cited



- ❧ http://www.robotics.tu-berlin.de/fileadmin/fg170/Publikationen_pdf/2013-icra13_Deimel_Brock.pdf