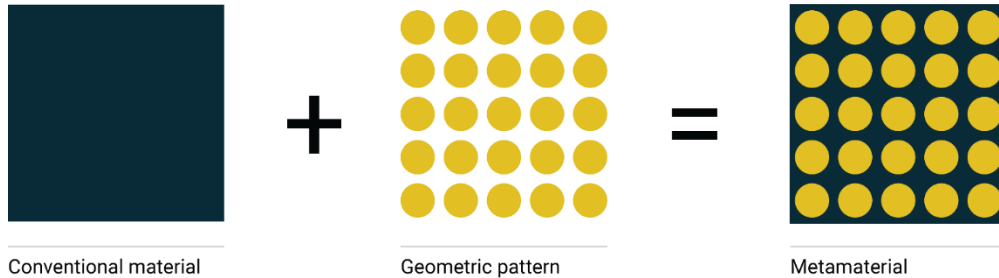


Make! Additively Manufactured Mechanical Metamaterials for Improving EGS Survivability in the Downhole Environment

Team POC:
Jesse Silverberg, PhD
js@multiscalesystems.com
+1-855-955-7900

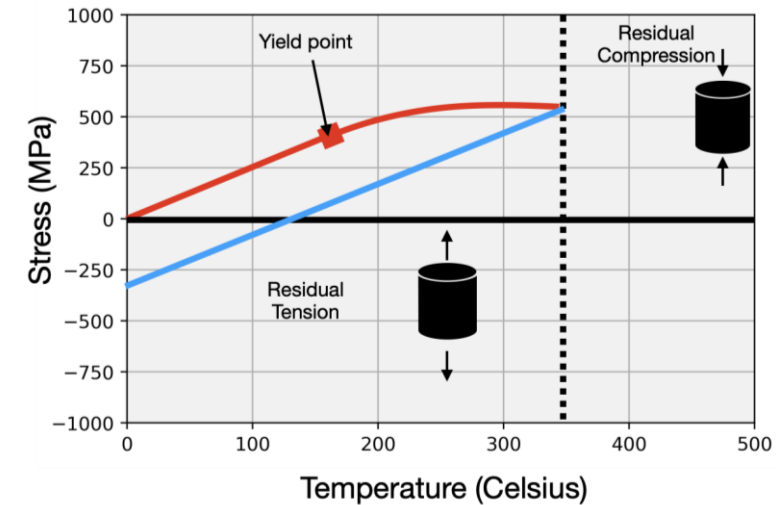
We make mechanical metamaterials

Instead of creating new materials through chemical or molecular engineering, we design geometric patterns to enhance performance of conventional materials.



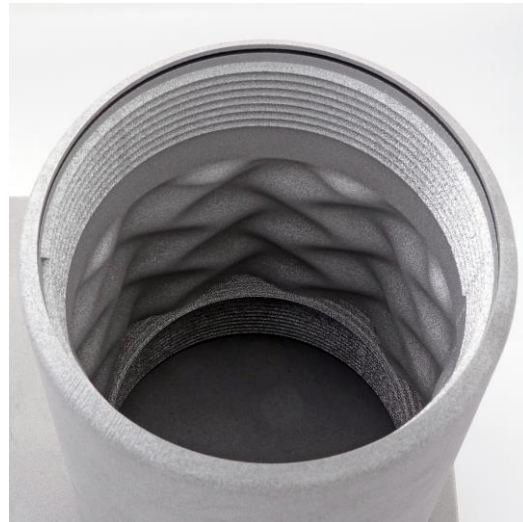
1. The Problem

Enhanced Geothermal Systems (EGS) exposes casing to extreme thermomechanical stresses that exceed the strength requirements of API-grade steels.



2. Our Solution

Additively manufacturing GEM-Flex connectors use mechanical metamaterial engineering to accommodate thermal expansion and reduce the likelihood of casing failure from thermo-mechanical stress.



3. Why Us?

The proposing team has a *track record of success* developing commercial applications of metamaterial technologies.



- \$2+ Mn in equity-free seed funds
- USPTO 63/044646, 63/149839
- Full-time staff of 6
- 4,600 sq-ft facility
- Unique equipment for EGS technology R/R&D
- Synergistic applications in aerospace, defense, and transportation
- Native DfAM technology