

Modeling, Virtual Environments and Simulation (MOVES) Institute

Faculty: Dr. Amela Sadagic, Ryan Lee, Erik Johnson,
Eric Heine

Student: LCDR Matthew Grimshaw

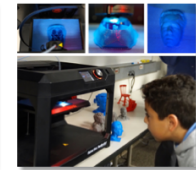
Research domain: Technical issues, large-scale adoption of additive manufacturing (AM) in Naval domain. Comprehensive approaches and strategies in support of diffusion and wider adoption of AM in Naval domain.

Faculty: Dr. Don Brutzman, Becca Law, Mike Bailey,
Dr. Ed Rockower

Research domain: X3D Model Exchange server archive for 3D printing by [@NavyMakers](#) and [@MarineMakers](#)



*Naval Additive Manufacturing (NAMTI):
NPS faculty and students with prototype
US Navy 3D-printed submersible*



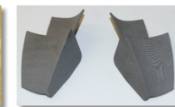
*Discover NPS Day (1
DEC 2017)*



*Test of 3D scanning and 3D printing
workflow*



*Visits to Naval Fabrication labs:
3D printed parts*

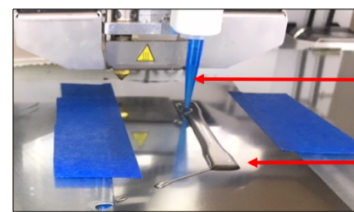
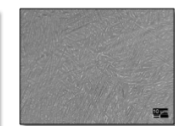
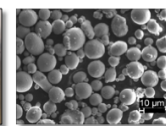
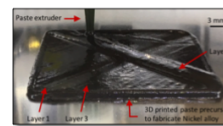


Functional Materials Laboratory, Mechanical and Aerospace Engineering Department

Faculty member: Dr. Claudia Luhrs

Students: LT Farsai Anantachaisilp, LT Gabriel Supé

Research domain: Study of 3D printed metals and alloys. Characterize raw powders, printed parts to determine effects of powder reuse cycle, process variables influence in microstructural features, mechanical properties and failure modes. Development of novel formulations. Explore fabrication of useful metals and alloys using novel 3D printed nanoparticle paste-extrusion methods.



Paste
extruder

Tensile specimen
(as printed, before annealing)

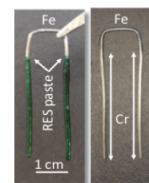


Energy Academic Group

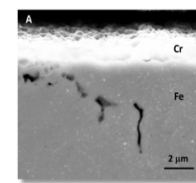
Faculty members: Dr. Jonathan Phillips, Dr. Claudia Luhrs

Student: LT Chris Pelar

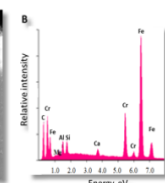
Research domain: Reduction Expansion Synthesis (RES) process for producing chrome-coated metal. Initial effort focused on developing and testing a chemical process alternative to the standard electrolytic process for chrome coating metal. Continuing work focus examines extending original Generation Zero chrome coat result to create an inexpensive, low temperature, metal 3D printing process for wide variety of metals.



*Macroscopic
Chrome Coat on
Sample*



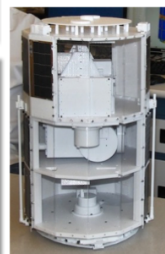
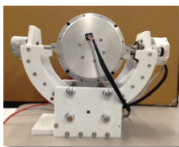
*X-Section for
Thickness Analysis*



Space Systems Academic Group

Faculty member: Dan Sakoda

3D printed items in support of NPS research projects



RoboDojo Fabrication Laboratory

Faculty member: Kristen Tsolis

Lab Technician: PO1 Corey Cauffiel



Research domain: Rapid Prototyping, Embedded Computing, Additive Manufacturing Adoption. Dynamic innovation space where students, staff, faculty, and friends can come 'tinker' and learn about robot components and systems. The RoboDojo is designed to promote informal hands-on learning with open hours and volunteer mentors.

