ABOUT US

➤ Salisbury University
  ➤ Mid-sized university on the Eastern Shore of Maryland
  ➤ Approximately 8,000 students, mostly undergraduates
  ➤ No Engineering or similar programs

➤ SU Libraries MakerLab
  ➤ Operating since Fall 2016
  ➤ Offers 3D printing (FDM and SLA), 3D scanning, laser cutting/engraving, and virtual reality
  ➤ Open to anyone for any kind of project
  ➤ Require payment for activities that use materials
AREAS FOR IMPROVEMENT

➤ Improve awareness across campus of the existence of the MakerLab and the capabilities of the technology

➤ Bring together existing experts across campus who are often siloed within their programs or departments

➤ Increase use by faculty in course assignments or for in-class learning activities
Based on the concept of student learning communities, which traditionally apply to lower level undergraduates

A faculty learning community (FLC) is an interdisciplinary group of faculty that are interested in similar topics or concepts.

At SU, FLCs must be approved and funding is provided by the Provost’s Office.
OUR FLC EXPERIENCE

➤ In 2019, we applied to establish the *Enhancing Courses with Emerging 3D Technologies FLC* and were approved.

➤ Our primary goal was to increase knowledge and usage of the 3D technologies available on campus.

➤ Membership includes approximately 18-20 faculty across a wide variety of disciplines.

➤ Initial activities were based on sharing knowledge between FLC members, but eventually we wanted to spread that knowledge outside the FLC to achieve our goals.
PANDEMIC!
FLC MINI-GRANT

➤ Used funding provided by the Provost’s Office to create a “mini-grant” to support faculty who wanted to use 3D technologies in their classrooms.

➤ The Call for Proposals was intentionally simple, asking faculty to submit ideas by email without any requirements.

➤ Submitted proposals were discussed by FLC members, then a vote was conducted to select winners.

➤ The winning faculty worked with FLC members to bring their ideas to fruition.

➤ Received 8 proposals over two years, and have accepted 5 of them.
Dr. Joshua Sokoloski (Chemistry) - 3D-printed molecules using magnetic connections to simulate molecular forces.

Dr. Kim Quillin (Biology) - 3D-printed DNA helix that can be assembled by students individually in smaller sections, then joined together to create the full helix.

Dr. Mark Muller (Physics) - AR application to allow students to apply virtual forces to PVC pipes and see the moment arm and torque associated with the applied forces.
CURRENT PROJECT

➤ Working with Dr. Echo Leaver (Psychology Department)

➤ Designing 3D-printed neuron to illustrate to psychology students how neurons communicate using electrical signals

➤ Working with Computer Science students to program interactive light patterns that simulate the different states of the neuron using programmable LED strips and Arduinos.

➤ Final design will be a self-contained unit that can be operated by faculty with the press of a button.
FUTURE PLANS

➤ Need to transition out of FLC structure (3-year limit)

➤ Due to success of our activities, we will be moving to the Salisbury University Faculty Development Center as a permanent group

➤ Plan to continue offering mini-grant

➤ Will also add other activities over time, such as faculty-led workshops
LESSONS LEARNED

➤ The number of faculty already working with these technologies was higher than we realized.

➤ Many faculty are intimidated by the technology and may not approach the makerspace on their own.

➤ Some kind of incentive can go a long way to push faculty to reach out.

➤ Keep any Call for Proposals simple and informal.

➤ Don’t be afraid to suggest alternatives that would work better with your makerspace’s resources.

➤ The money is actually not that important.
RECOMMENDATIONS

Establish a group of experts to bring together faculty/staff who work with these technologies.

Create an incentive structure of some kind to encourage curious faculty to reach out.

Share the results of your group’s work as widely as possible to build on your success.
QUESTIONS?

Chris Woodall
cmwoodall@salisbury.edu
www.salisbury.edu