

2020

MakerLab Annual Report 2020

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MAKERLAB ANNUAL REPORT 2020

OUR MISSION

The Albertsons Library MakerLab works to inspire transdisciplinary research by connecting communities to emerging technologies at Boise State University.

NEW FACULTY AND STAFF



Yitzy Paul

Instruction Librarian and
Assistant Professor



Marisa Hadley

Instruction Assistant

The MakerLab and the Emerging Technology and Experiential Learning Unit team serves the Boise State University students, staff, and faculty. We offer access to emerging technologies, coaching on emerging technologies, and formal instruction on emerging technologies. In 2020, we welcomed a faculty member, a part time staff member, and two new student assistants. We welcomed Associate Professor Yitzhak "Yitzy" Paul who joined us as a faculty member in August 2020. Marisa Hadley joined us as a part-time instruction assistant also in August 2020. This is in addition to our existing team of Cali Glasgow, Amanda Baschnagel, and Amy Vecchione. This report was written by Cali Glasgow, Amanda Baschnagel, Yitzhak Paul, and Amy Vecchione.



PROJECTS



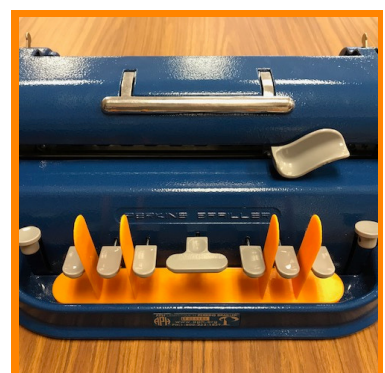
The MakerLab serves the campus community - all students, staff, and faculty. These projects showcase what our community was able to achieve in 2020 utilizing the MakerLab resources, expertise, and service.



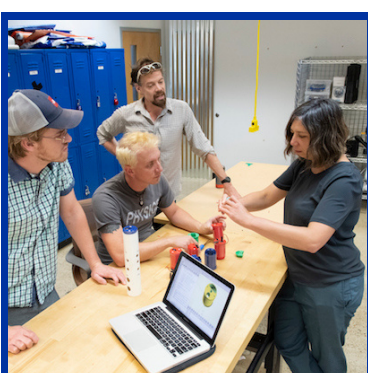
Collaboration with the Innovation Studio to print over 1000 face shields



Dr. Julia Heath's research team further develop Kestrel nest monitors



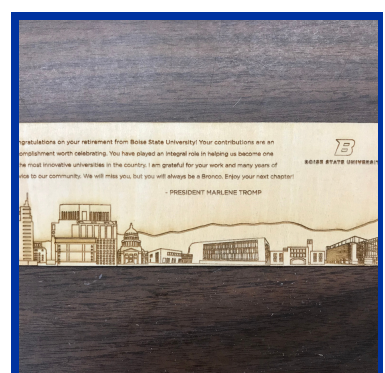
3D Printing typewriter guides for the blind and visually impaired



Jeffery Johnson and students create volcanology sensors with 3d printed cases



A partnership with St. Lukes to create universal cuffs for disabled individuals



Bookmarks designed to honor longstanding and retiring Boise State faculty

During the Fall of 2020
MakerLab staff facilitated

42 remote
video
consultations



with the
average
consultation
lasting
38
minutes



VIRTUAL CONSULTATIONS

These consultations are projects, and substantial in nature, regarding complex information questions. This counts any time we met with someone one on one for an hour meeting and worked with them to create the project they had in mind. This number reflects from the time we implemented a new system from mid-August until the end of December. This count does not reflect the countless other emails and meetings we have regarding other maker questions.



Inclusion by Design

Amy Vecchione

Maker competencies are critical for courses in every discipline. Within the scope of higher education, many individuals have the perspective that makerspaces involve all STEM disciplines, yet making is a crucial aspect of work in the humanities, the arts, education, and the social sciences. Developing an inclusive practice to attract and retain faculty and students from all areas is critical to the success of a makerspace. When we set out to create the MakerLab at Boise State University, we designed the space with inclusion and equity in mind. Through our process of working with history and philosophy faculty through the Maker Literacies grant from the Institute of Museum and Library Services (IMLS), we were also able to help create a new competency incorporating the concepts of diversity, equity, and inclusion so that these principles could be more broadly acknowledged and adopted by other makers.

When designing any space, one must consider the audience. A well-designed makerspace attracts people from diverse backgrounds, disciplines, and identities; when these teams work together, they produce better results. An early question for the MakerLab at Boise State University was "How can

By Amy Vecchione

How Library Maker Spaces Can #FlattenTheCurve

by Amy Vecchione with Gavin Woltjer
Mar 31, 2020 | Filed in News



As library buildings close, library workers are finding ways to help communities to mitigate the COVID-19 crisis. Librarians have maker skills as well as access to maker technologies. Maker skills include designing prototypes, products, and services using emerging technologies, such as 3D printers. During the COVID crisis we are experiencing a disrupted supply chain. This disruption, when combined with an increase in local needs, result in a problem that library workers can solve.

Will your help really help?

Makers, library workers, and creators are posting their models online, and libraries can serve the community through production of these models in their maker facilities. Face shields and cloth masks are popular, and there are hundreds of examples. With so many options to choose from, start with the needs of your local hospital and health care workers, and revise what you make based on their needs. The first step, Ruth Metz, Principal Library Consultant at Ruth Metz Associates, says, is to find out if your local hospitals would like the models you are thinking about mass printing.

David Ecker, Director of iCreate at Stony Brook University, has been doing exactly this. Ecker is used to coming up with prototypes quickly, and teaching students to do the same in the creative spaces he oversees. He came up with his first face shield prototype in three to four hours, then worked with hospital administrators to improve his design.

"One concern they had," Ecker explains, "was the opening on top. They wanted foam to close the gap." Hospital workers also requested foam padding for the shields to protect skin where the parts touch the head. Adding the comfortable foam will help his prototype more closely resemble the shields they would normally purchase. Ecker revised and created these models.

Individuals with access to library maker space equipment can select the best prototypes, and think about their network. Ecker says, "Reach out to anyone in the medical profession, nurses, doctors, technicians, anyone you already know and they will be happy to connect you to the administrators. Even the fire department or a nursing home could be the connection you need to get started."

Some places to start

By Amy Vecchione and Gavin Woltjer

PUBLICATIONS

"As library buildings close, library workers are finding ways to help communities to mitigate the COVID-19 crisis. Librarians have maker skills as well as access to maker technologies. Maker skills include designing prototypes, products, and services using emerging technologies, such as 3D printers. During the COVID crisis we are experiencing a disrupted supply chain. This disruption, when combined with an increase in local needs, result in a problem that library workers can solve."

MAKE IT VIP

THE PEOPLE

A team of students is working to develop a prosthetic with myosensors. This work is iterative, taking place with several students in design teams. This course met in spring 2020, and made progress developing a prosthetic device.



THE PROJECT

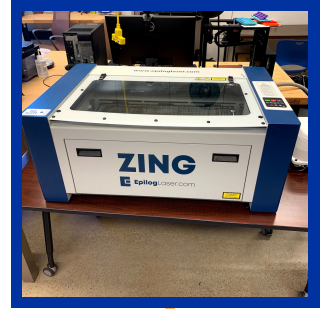
This collaborative work involves design thinking processes. Teams create designs based on needs, then work to generate prototypes to meet the users' needs. Along the way, they revise the prototype, testing it with multiple stakeholders, leading to a final result.

NEW

EQUIPMENT

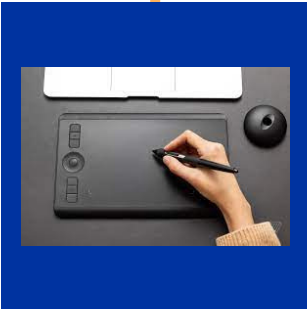
LASER CUTTER

The Epilog Zing can raster and vector on multiple surfaces. This laser cutter can easily cut into wood and acrylic, and can engrave on glass, coated metals, and many other surfaces. The addition of this tool can assist MakerLab users in creating fast prototypes.



WACOM TABLET

Illustrators and designers can use this drawing tool to design illustrations for graphic design, web sites, and for rastering on the laser cutter.



OCULUS QUEST

The Oculus Quest is virtual reality headset that provides interactive and fully immersive experiences without the need for a computer. Come to the MakerLab to try it out!



WORKSHOPS & EVENTS

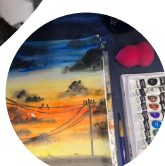
SPRING

The MakerLab workshops transitioned from a busy, in-person space to offering remote workshops online. These included a 3D printer group that met to discuss ongoing issues with 3D printing to Pokemon professor workshops.



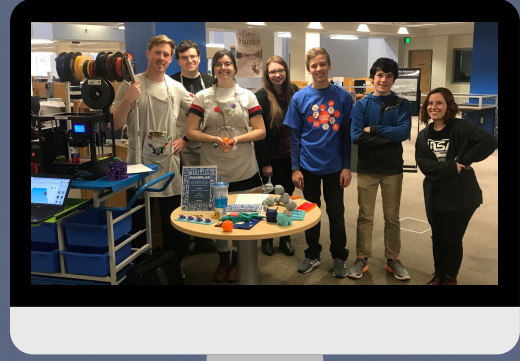
FALL

Workshops during the Fall 2020 semester included Designing 3D Pumpkin Carving, and Shadow Puppetry with Jaime Nebeker and Chad Shoheit.



CLASSROOM INSTRUCTION

Despite the ongoing pandemic the MakerLab continued its work to help classes learn about and utilize the MakerLab to enrich the classroom. This included specialized tours with the Health Professions Living Learning Community, assisting RADSCI 313 Fluoroscopic and Contrast Media Exams create anatomical models, and much more!



FUNDRAISING

BRONCO GIVING DAY

AMOUNT DONATED

OF DONORS

\$2,272

39



C-TAP, the Engineering Innovation Studio, the College of Engineering along with the Library's MakerLab, worked to develop and design a face shield with hospitals and health care workers around the state of Idaho. The Library worked together with a large number of community members from around the state to 3D print these for health care workers fighting the pandemic. These face shields were used in Idaho, and also 200 were donated to Gorongosa National Park.

GOALS 2021

- Implement online tutorial system to learn to use MakerLab equipment and software
- Select and use online scheduling software
- Reopen for in-person use, including a combination of remote and in-person training
- Assess the MakerLab impact on the community