

California State University Maker Convening

May 30 - 31, 2019

Sonoma State University

THURSDAY, MAY 30		
11:00am - 12 noon	Check-in	Student Center, 3rd floor
12:00pm - 1:00pm	Lunch and Greetings	Student Center, Ballroom A
1:00pm - 1:20pm	Keynote - Katia Cánepa Vega	Student Center, Ballroom A
1:30pm - 5:20pm	Presentations and Panels	Student Center, Ballrooms B and C
	Posters	Student Center, Ballroom D
	Workshops	Library, Makerspace
5:30pm - 6:30pm	Reception	Student Center, Overlook
6:30pm - ?	Dine-arounds	Signups posted
FRIDAY, MAY 31		
8:00am - 9:00am	Breakfast	Student Center, Ballroom A
9:00am - 9:20am	Keynote - Sahrye Cohen	Student Center, Ballroom A
9:30am - 12:20pm	Presentations and Panels	Student Center, Ballrooms B and C
	Posters	Student Center, Ballroom D
	Workshops	Library, Makerspace
12:30pm - 1:30pm	Lunch	Student Center, Ballroom A
1:30pm - 1:50pm	Keynote - Sherry Huss	Student Center, Ballroom A
2:00pm - 4:50pm	Presentations and Panels	Student Center, Ballrooms B and C
	Posters	Student Center, Ballroom D
	Workshops	Library, Makerspace
5:00pm - 5:15pm	Closing remarks	Student Center, Ballroom A

Parking Information

Campus parking policies will be enforced during the entirety of the event. Permits may be picked up at Parking Lot D from 10:30am - 1:30pm on Thursday, May 30. Following that time, and on Friday, permits may be picked up at the Information Center booth located at the south entrance to campus off East Cotati Avenue at Redwood Drive.

Valid permits issued by any campus of the CSU are valid in the General parking lots, but the closest lot to the event (Lot D) is a reserved lot that will require the provided guest permit.

Locations

The majority of the event will take place at the Student Center, with the exception of the workshops, which will be held at the Schulz Information Center, in the SSU Makerspace, which is on the second floor of the Library (past Lucy, up the ramp).

Student Center, 2nd Floor:

Dry Creek Room - Speaker's lounge
Sonoma Valley Room - Breakout room for side conversations

Student Center, 3rd Floor:

Ballroom A - Meals and keynote presentations
Ballroom B - Presentations and panels
Ballroom C - Presentations and panels
Ballroom D - Posters
The Overlook - Thursday reception

Wireless Access

Eduroam network is available throughout campus and may be accessed using your home institution's credentials if you are visiting from a participating institution.

Guest wireless access network: SSUWLAN
Username: Library / Password: Tech123!
Username: Library1 / Password: Tech123@
Username: Library2 / Password: Tech123#

KEYNOTE PRESENTATIONS

Location: Student Center, Ballroom A (3rd floor)

Katia Cánepa Vega

Interactive Body Modification Techniques

Thursday, 1:00pm - 1:20pm

Katia Vega is an Assistant Professor at the Department of Design in the University of California, Davis. She was a Postdoc Associate at MIT Media Lab (USA). She got her PhD and Master Degree in Computer Science at PUC-Rio (Brazil). Her research interests include wearable technologies, interactive tattoos, beauty technology and skin interfaces. Her work has been featured by New Scientist, Wired, Discovery, CNN, among others. In 2016, MIT Technology Review awarded her as one of the 5 Innovators under 35 in Peru. Recently, CNET recognized her as one of the Top 20 most influential Latinos in Tech in 2017. SXSW 2018 awarded The Dermal Abyss project in the Science Fiction no Longer Category. In 2019, she was honored as a leading woman in STEM by Johnson & Johnson. <http://katiavega.com/>

Sahrye Cohen

Fashioning the Makerspace: An Intro to Fashion Tech and Wearable Electronics Using Makerspaces

Friday, 9:00am - 9:20am

Sahrye Cohen is the co-author of the recently published DIY electronics book, *Make It, Wear It: Wearable Electronics for Makers, Crafters, and Cosplayers* (McGraw-Hill Education TAB, 2018). She is interested in fostering creativity and building technical skills in her local community, and teaches D.I.Y. electronics workshops with Bay Area libraries, schools, and makerspaces. Sahrye is the designer for the tech couture design studio, *Amped Atelier*; her interactive electronic garments have been in fashion shows in San Francisco, LA, New York, Calgary, Xiamen, and Shenzhen.

Sherry Huss

Mobilize and Innovate

Friday, 1:30pm - 1:50pm

Sherry Huss is Co-founder of Maker Faire, and a major advocate of “all things maker” in the global community. A former Vice President of Maker Media, her vision and passion have helped spark the maker movement and she has been instrumental in growing the Make: brand within the maker ecosystem. She has over 25 years of technology marketing, management and event experience and has held senior management positions at MediaLive International, Key3Media, Ziff-Davis and Softbank. Before Maker Faire, Sherry launched and managed successful technology and consumer events such as Sun’s JavaOne, Oracle’s iDevelop, O’Reilly Media’s Web 2.0 Summit and Dwell magazine’s Dwell on Design Conference and Expo.

PRESENTATIONS AND PANELS

Locations: Student Center, Ballrooms B and C (3rd floor)

3Duino Challenge

Friday, 9:30am - 10:20am, Ballroom C

- Isis Leininger, California State University, Northridge

The presenter will discuss the process behind putting together a 3D Printing/Arduino competition in partnership with student organizations. The presenter will give insights on the development, the challenges, and the successes of the competition to help other libraries/makerspaces develop and run making competitions of their own.

Broadening Participation in Making with Undergraduate Led Afterschool Programs

Friday, 9:30am - 10:20am, Ballroom B

- Edward Price, California State University, San Marcos
- April Nelson, California State University, San Marcos

For over five years, we have operated university-based afterschool making programs that operate in local middle schools. Highly qualified and ethnically diverse undergraduate science majors and teacher candidates lead youth participants in authentic Making activities during weekly sessions. We will share outcomes, lessons learned, and assessment methods and tools, and describe how other universities can engage in or initiate similar efforts.

Building a Makerspace Community: Tools and Stories from the Field

Thursday, 1:30pm - 2:20pm, Ballroom C

- Carol Pepper-Kittredge, CCC Maker
- Deborah Bird, CCC Maker
- Goli Mohammadi, former senior editor of Make Magazine
- Maura Devlin-Clancy, City College of San Francisco

In 2018, the CCC Maker initiative documented the start-up process and published “The California Community College Makerspace Startup Guide: Preparing Students for Jobs of the Future”, available as an open source document at cccmaker.com. In this session, learn about the tools and processes practiced during the startup process, and hear first-hand lessons learned on how Kumu ecosystem mapping, logic modeling, self-study, development of a makerspace plan and internship model, and implementation of a student activity helped launch 23 successful community college makerspace initiatives.

The College FabLab, at the corner of Affective and Psychomotor Domains

Friday, 11:30am - 12:20pm, Ballroom B

- John Hogan, Laney College

Bloom's Cognitive Domain has been at the core of American teaching since the 1950's while the other two Affective, Psychomotor have been given lesser service by the profession. This is disappointing, for all three realms are of equal strength. Each are their own Kingdom, if you were, by definition of word, and Taxonomy. The talk will be how the common ground of a FabLab can offer any campus, a place to fully explore the neglected Domains.

A First Step in Generating a Decision-Making Framework for the Development of Interactive Workspaces

Friday, 4:00pm - 4:50pm, Ballroom C

- Fadi Castronovo, California State University, East Bay

Interactive workspaces and immersive virtual environments have come under academic and industry scrutiny as viable solutions to support the collaborative delivery process of facilities and to enhance pedagogy. However, choosing the appropriate and cost-effective technology for the development of an interactive workspace can be challenging. Therefore, there is a need to investigate the critical technological features necessary to develop an interactive workspace. In this study, the presenter has set forward the goal of developing such a framework, which can guide the process of creating an interactive and collaborative workspace.

Dream, Make and Innovate: A Service Learning Class

Friday, 2:00pm - 2:50pm, Ballroom B

- Lynn Cominsky, Sonoma State University

Dream, Make and Innovate is a sophomore-level class that satisfies GE Area E (Lifelong Learning and Self Development). The class teaches making skills within a service learning framework that focuses first on self, then on service, and finally on experience. For the final project, student teams work with community non-profit organizations to make prototypes that meet partners' needs, while engaging in a series of reflection activities. A brief summary of our evaluation efforts will also be presented.

The Global Maker Ecosystem: What's Possible and How Do We Make It Happen?

Friday, 10:30am - 11:20am, Ballroom B

- Nathan Parker, MakerNet

As the Maker Movement grows and matures, so too do it's challenges and it's possibilities, but we must keep our eyes on the horizon lest we forget the ways that we are part of the larger world. In this talk I will lay out some of the most ambitious and necessary ways that the Maker Movement can integrate with or create global systems, and what we can be doing now in order to reach these goals.

I Don't Know What's Going On: How Empowering Students Makes Makerspaces Work

Thursday, 4:30pm - 5:20pm, Ballroom C

- Zack Dowell, Folsom Lake College

In this presentation, Zack will share lessons learned from directing a general education, discipline-agnostic makerspace, and you'll learn about the nexus between aquaponics, Japanese katazome, brewing beer, and the Internet of Things, and how multifaceted, interconnected, interdisciplinary projects build community and help students become empowered.

Integrating Virtual Reality to Promote Instructional Teaching, Cross-Campus VR Collaboration in Makerspaces with Limited Budget

Friday, 3:00pm - 3:50pm, Ballroom C

- Kim Fwan Wong, San Francisco State University
- Chris Novak, San Francisco State University

This session will discuss the use of virtual reality to promote instructional teaching and VR development in Makerspaces with a limited budget. We will look at some design concepts, spaces, budgetary considerations, equipment configurations, maintenance requirements, staffing considerations, safety procedures, virtual reality use cases, and other related technologies employed at SF State's J. Paul Leonard Library Makerspace.

Library Deans Tell All (About Makerspaces)

Thursday, 4:30pm - 5:20pm, Ballroom B

- Karen G. Schneider, Sonoma State University
- Emily Bonney, California State University, Fullerton
- Frank Wojcik, California State University, Monterey Bay
- Michele Van Hoeck, California State University, Maritime Academy

A panel of library deans discuss strategy, coalition-building, pitfalls, and unexpected successes along the road to creating a Maker presence on their campuses. Learn how they navigated the higher education environment to establish makerspaces in their libraries and other spaces, partner with other schools and initiatives, and find initial and continuing funding.

A Maker's Workflow: How to Capture Evolving IP, Accelerate Design Cycles, and Leverage Magic Leap Spatial Computing with makeSEA

Friday, 11:30am - 12:20pm, Ballroom C

- Chris Stavros, makeSEA

Track designs, attribution, and heritage for student intellectual property of all types. Teach the critical skill of producing quality documentation, and help students showcase their amazing work for professional development. Integrate the latest 3D printing and spatial computing technology into any curriculum —easily, and with profound results. Learn more in this session, then come play in the afternoon workshop!

Makermatic: Makerspace Team Internships

Thursday, 2:30pm - 3:20pm, Ballroom C

- Deborah Bird, CCC Maker
- Salomon Davila, CCC Maker

Working with a network of five colleges, the CCC Maker team has created, tested and piloted a high impact, team based internship system that leverages makerspace resources to work with local employers on solving real world problems. Using CCC Maker online guides, presenters will share resources and processes for successfully on-boarding employers, coaches and interdisciplinary student interns, engaging the employer's specific design problem through a rigorous design thinking methodology, and sharing results using integrated assessment and evaluation tools. Learn how your college can implement this efficient, scalable model to grow your ecosystem relationships with local employers, effectively engage college your makerspace resources and provide authentic work-based learning experiences for all your students.

Making it Happen: Leveraging a College Makerspace to Break Down Silos, Catalyze Entrepreneurship, and Place Students in Jobs

Thursday, 3:30pm - 4:20pm, Ballroom C

- John Graulty, Cabrillo College
- Courtney Cogan, Goodwill Industries Central Coast

Cabrillo College built a thriving new Makerspace with a \$720K grant from the California Community College (CCC) Maker Project, and fanned the program into a workforce development powerhouse for the Monterey Bay Region. Come hear how, in under two years, we built an innovative, interdisciplinary, entrepreneurship-minded makerspace, curriculum, and internship program that placed 74 students representing 19 diverse disciplines into successful internships, several of which led to successful part and full-time employment, and entrepreneurial ventures.

Making Your Experience: Bringing Objects into the Classroom and Back

Friday, 4:00pm - 4:50pm, Ballroom B

- Jennifer Redd, San Jose State University
- Jon Oakes, San Jose State University

With a focus on experiential education, this presentation will highlight the potential of photogrammetry to encourage hands-on exploration with physical content, which is then transformed into a virtual space. Resources along with classroom application examples (including a live demo) will get shared.

Reprinting the Missing Link: Sustainability, Service learning and community engagement with STEAM

Friday, 3:00pm - 3:50pm, Ballroom B

- Ian Pollock, California State University, East Bay
- Benjamin Hawklyn, California State University, East Bay
- Andrew Denys, California State University, East Bay

This panel is about a community engagement project at Cal State East Bay that is taking a unique and transdisciplinary approach to replace the missing pieces of the skeletons donated to the kinesiology department by printing them, then donating them to local high schools.

SJSU Library from Ideation to Fabrication on a Budget

Thursday, 2:30pm - 3:20pm, Ballroom B

- Sharon Thompson, San Jose State University

How did San Jose State University (SJSU) start with one 3D printer and end up with a prototype lab addressing some of the needs of campus community on a very limited budget? This presentation is an overview and a brief history of the prototype lab in the MLK library on the SJSU campus.

Sonoma State Makerspace Faculty Learning Community: Lessons Learned

Thursday, 3:30pm - 4:20pm, Ballroom B

- Sergio Canavati de la Torre, Sonoma State University
- Ben Ford, Sonoma State University
- Joel Gould, Sonoma State University
- Natalie Hobson, Sonoma State University
- Justin Lipp, Sonoma State University
- Meagan McIntyre, Sonoma State University
- Casey Shea, Sonoma State University
- John Sullins, Sonoma State University

In Spring 2019, SSU began an effort to broaden and deepen our engagement with faculty in makerspace pedagogy across disciplines. We are midway through a yearlong hands-on program focused on curriculum redesign, technical instruction with Makerspace equipment, and pedagogy development using Making. Faculty are exposed to readings, workshops, and reflection exercises intended to stimulate their thinking regarding a makerspace project for their own classes. That said, the facilitators have made a number of tweaks and changes to the program curriculum that they feel would be useful to others' hoping to embark on a similar effort on their own campuses.

Transforming Learning for Future STEM Teachers Utilizing a Makerspace

Thursday, 1:30pm - 2:20pm, Ballroom B

- Corin Slown, California State University, Monterey Bay
- Dennis Kombe, California State University, Monterey Bay
- Megan Sulsberger, California State University, Monterey Bay

Embedding Science, Technology, Engineering, Art, and Math (STEAM) inquiry learning experiences drives student engagement and achievement. Future STEAM teachers benefit from a classroom environment where they can inquire, collaborate, and iterate effective, evidence-based practices.

Using the Makerspace for Virtual Making: A Discussion on Building VR/AR Software

Friday, 2:00pm - 2:50pm, Ballroom C

- Sara Kassis, Sonoma State University
- Justin Lipp, Sonoma State University
- Dana Conard, Sonoma State University
- Fadi Castronovo, CSU East Bay
- David Meirik, Casa Grande High School

Our panel members will be sharing their experiences in building virtual and augmented reality software giving a viewpoint from different stakeholders.

Voice Discovery Experiment in OneSearch: Alexa, Can you hear me now?

Friday, 11:30am - 12:20pm, Ballroom C

- David Palmquist, California State University, Fullerton

Gain an overview of the interlocking parts necessary to effect an Alexa skill using voice discovery of library resources as a framework for that discussion.

WORKSHOPS

Location: Schulz Information Center, Makerspace (Library 2nd floor)

CSU Maker Faculty Learning Community Manual

Thursday, 4:30pm - 5:20pm

- Joel Gould, Sonoma State University
- Justin Lipp, Sonoma State University
- Casey Shea, Sonoma State University

Register: <https://sonoma.libcal.com/event/5464958>

This workshop session will focus on questions and answers about the forthcoming CSU Maker FLC Manual. In this session, the Sonoma State Faculty Center team will talk about their experience facilitating the first iteration of this program, lessons learned for the future, and how that collectively is shaping the CSU Maker FLC Manual. We will treat this work as a design feedback to solicit input from the CSU community and improve the final product once released.

The Ecological Maker

Thursday, 1:30pm - 2:20pm

- Jie Tian, California State University, Fullerton

Register: <https://sonoma.libcal.com/event/5464969>

In this interactive workshop, participants will read, write, and reflect on ecological teachings and make an eight-panel accordion travel book, as an offering to the wisdom gathered and harvested during the workshop.

Hands-on with makeSEA and Magic Leap

Friday, 4:00pm - 4:50pm

- Chris Stavros, makeSEA

Register: <https://sonoma.libcal.com/event/5464974>

Track designs, attribution, and heritage for student intellectual property of all types. Teach the critical skill of producing quality documentation, and help students showcase their amazing work for professional development. Integrate the latest 3D printing and spatial computing technology into any curriculum —easily, and with profound results.

Make a Paper Circuit

Friday, 2:00pm - 2:50pm

- Sahrye Cohen

Register: <https://sonoma.libcal.com/event/5464981>

Make a simple light-up circuit with easy-to-use and inexpensive copper tape. Presenter will discuss uses of simple circuits in fashion tech garments and provide demo examples of other makerspaces applications of copper tape for individual and interactive projects.

Making the Makerspace Approachable

Thursday, 2:45pm - 4:15pm

- Clare Sadnik, Moorpark College
- Ivy Lovett, Moorpark College
- AyrIron Arellano, Moorpark College

Register: <https://sonoma.libcal.com/event/5464999>

In this workshop Moorpark College MakerSpace staff will share a hands on approach to making your MakerSpace approachable and engage even those students who tell you they are not creative or do not know what to make. We will discuss what we consider are excellent entry-point pieces of equipment every MakerSpace should invest in and outline simple, manageable projects for these. This workshop will include hands-on activities that demonstrate how making is approachable and doesn't always have to employ high-tech machinery.

Robo-Philosophy and Making

Friday, 9:30am - 11:00am

- John P. Sullins, Sonoma State University

Register: <https://sonoma.libcal.com/event/5465004>

How many philosophers does it take to build a robot? In this workshop we will look at how we turned a standard philosophy of mind course into one that uses the maker lab to let students explore hands on issues in the ethics of AI and Robotics. We will take a quick look at the course design and then look at some of the final projects students worked on this spring. We will end the session with time to interact with some of the technologies used in the class in a hands on Q and A session.

Sew a Circuit!

Friday, 11:30am - 12:20pm

- Sahrye Cohen

Register: <https://sonoma.libcal.com/event/5465027>

Learn how to use conductive thread to make a small sewn LED accessory that lights up. Presenter will also bring examples of other sewn circuit projects that use electronics and microcontrollers and discuss resources.

POSTERS

Location: Student Center, Ballroom D (3rd floor)

Burning Man in Cyberspace: Makerspaces and Communities of Practice in Virtual Worlds

- Bethany Winslow, San Jose State University

Virtual worlds are digital makerspaces where participants navigate three dimensional spaces, can build objects and environments, and most importantly build relationships. While the hype of virtual worlds peaked almost a decade ago, the educators and librarians who remained in-world continue to hone expertise in designing immersive educational experiences, and they share knowledge in robust global communities of practice.

Making Mountains: Landform Modeling Using Makerspace Technology

- Kathleen Funke-Spicher, Sonoma State University

Using 3-D printing technology along with topographical data, models of land-forms can be created for use in education and scientific study. Examples of models will be available, along with information about some techniques for overcoming printing challenges.

Modeling for Making or Making for Modeling?

- Anthony Jimenez, California State University, Monterey Bay

Using 3D printing to create models supports and encourages the development of kinesthetic STEM learning experiences for all students, regardless of their language or ability, positioning students to think critically, lead creatively, compete globally, and contribute meaningfully. Four scientific models aligned with the Next Generation Science Standards for the classroom, their construction, and use will be explored: 1) buoyancy (physical science), 2) meiosis and mitosis (life science), 3) solar system (earth and space science), 4) circuits (engineering).

More than Cutting, Engraving, and Rastering: Laser Cutter Protocols and Mentoring

- Luis Calderon, California State University, Monterey Bay

This research examines three case studies of mentoring in the Makerspace: library staff with student leaders, faculty with student leaders, and student leaders with each other. Creating capacity for diverse perspectives and insights based on experience, an effective protocol and incorporation of thinking routines with laser cutting leverages technology in the Makerspace to create agency and community.

Photogrammetry

- Daniel Edwards, California State University, Stanislaus

Photogrammetry, the art and science of making measurements from photographs, enables the photographic process to achieve results similar to laser scanning for creating 3D models with Photogrammetry software. This presentation will impart techniques for photographing objects and demonstrate how to get the best results with free software to produce quality 3D prints from photos.

A Soul in the Computer: Combining Analog and CNC Processes for Sculpture

- Jake Weigel, California State University, Stanislaus

This presentation examines studio projects in beginning to advanced sculpture courses that add a level of complexity to the classroom without significant changes to the curriculum. Project ideas include maquettes and templates to save time and materials, object scanning and digital manipulation for 3D printing and post digital manipulation of form, material and scale for traditional object-making.

Sustainable Terrariums: Integrating Biology and Making

- Madeleine Church, California State University, Monterey Bay

Makerspaces frequently integrate technology and physical sciences in the process of making. Utilizing biology or the life sciences in inquiry in a Makerspace engages students interested in environmental science. By incorporating the principles of agency by design including 1) looking closely, 2) exploring complexity, and 3) finding opportunity, the construction of terrariums creates the opportunity to explore systems and sustainability. Principles of system design can then be applied to biology and living systems.

Using a Racial Equity Lens in Planning a Makerspace

- Kimberly Stelter, Humboldt State University
- Tim Miller, Humboldt State University

In establishing a makerspace at the HSU Library, we are using a racial equity lens to plan this new program in order to ensure that the space will be welcoming and useful to our diverse student body. In order to engage with the campus community we will sponsor three makers-in-residence. The makers-in-residence will create original projects, exhibit their work, and teach workshops on various aspects of their artistic and creative process as well as the technical aspects of learning how to create similar projects. This poster also includes a racial equity tool that you can use in forthcoming projects for your makerspace or library program.