

**STUDENT  
INNOVATION  
IDEA LABS**



**ANNUAL  
REPORT  
2021 - 2022**

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# ABOUT US

## Mission

The mission of the Cal Poly Pomona Student Innovation Idea Labs (SIIL) is to create and maintain an ecosystem that fosters creativity, innovation, and entrepreneurship.

## Vision

The vision of the Student Innovation Idea Labs is to be a catalyst for innovation through the establishment of strategic partnerships with internal and external stakeholders on the Cal Poly Pomona campus and throughout the greater Pomona Valley region.

## Core Values

### Community

The most successful creators, innovators, and entrepreneurs are inspired and supported by a creative and inspiring community. Our programming, events, and all our spaces seek to be the fertile ground of innovators and creators.

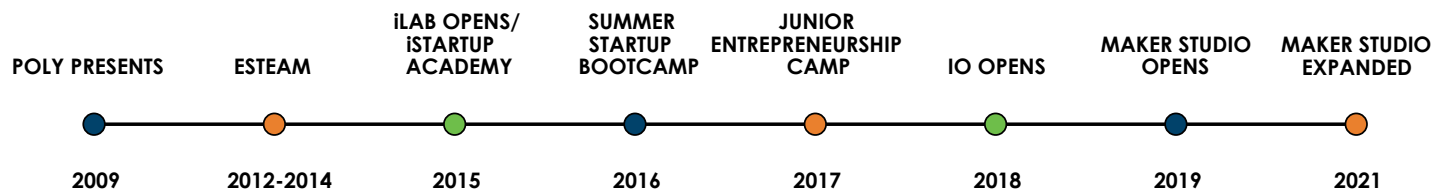
### Growth

We support a growth mindset – that all students can learn to create and innovate. Exploring new interests and refining old talents are an important part of creativity and innovation, especially when it deviates from one’s normal expertise. We make supportive spaces that allow individuals to embrace the discomfort of discovery while they grow through the process.

### Perseverance

Failure is a vital step in the innovative and creative process. We seek to create an ecosystem that celebrates failure and supports students as they work towards success. Developing perseverance in creativity and innovation is a concept that appears throughout our spaces and educational programming.

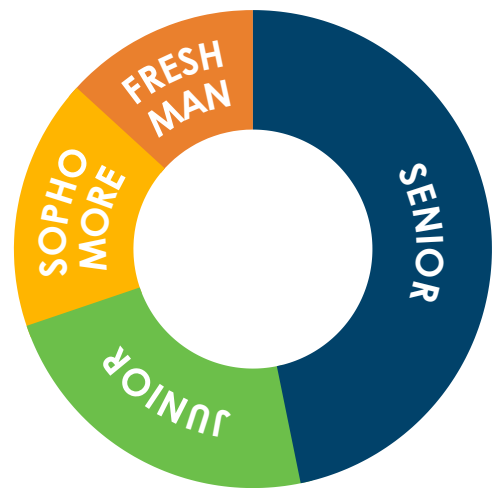
## History



# STATISTICS

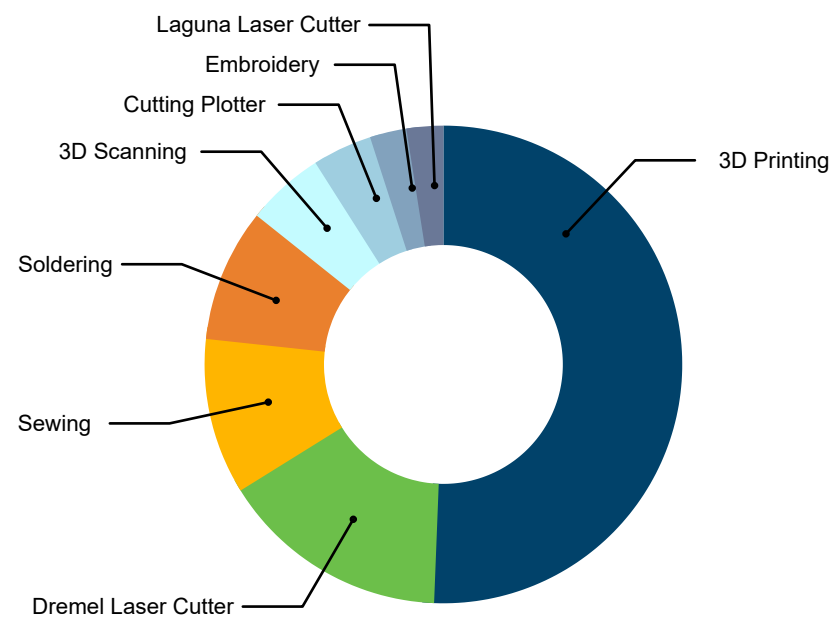
STUDENT STANDING RATIO

**46%** Seniors  
**23%** Juniors  
**17%** Sophomores  
**14%** Freshmen

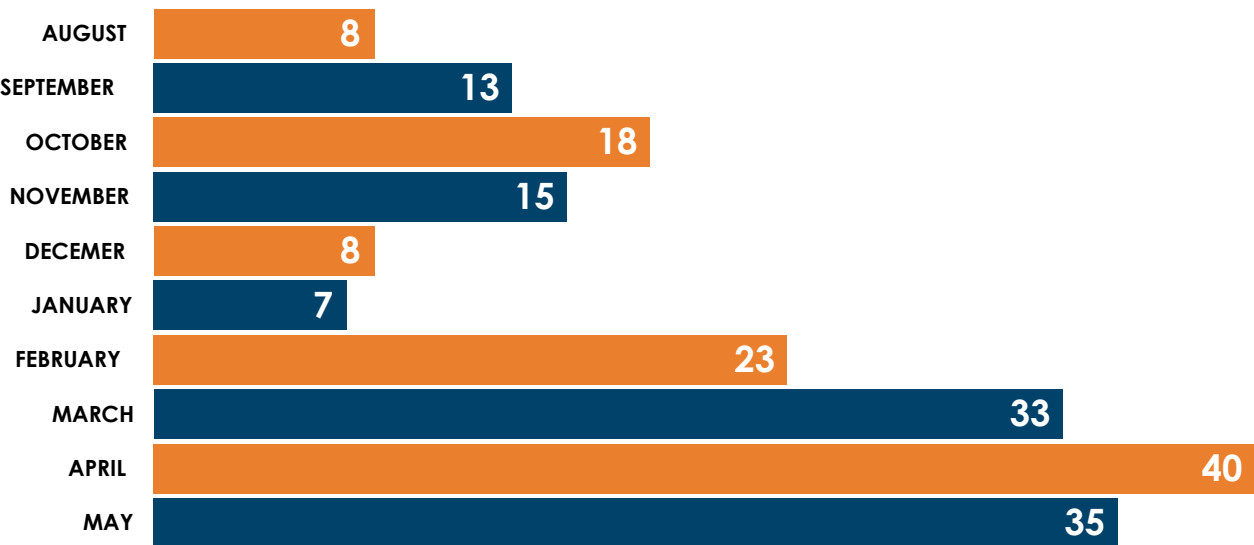


EQUIPMENT TRAININGS COMPLETED

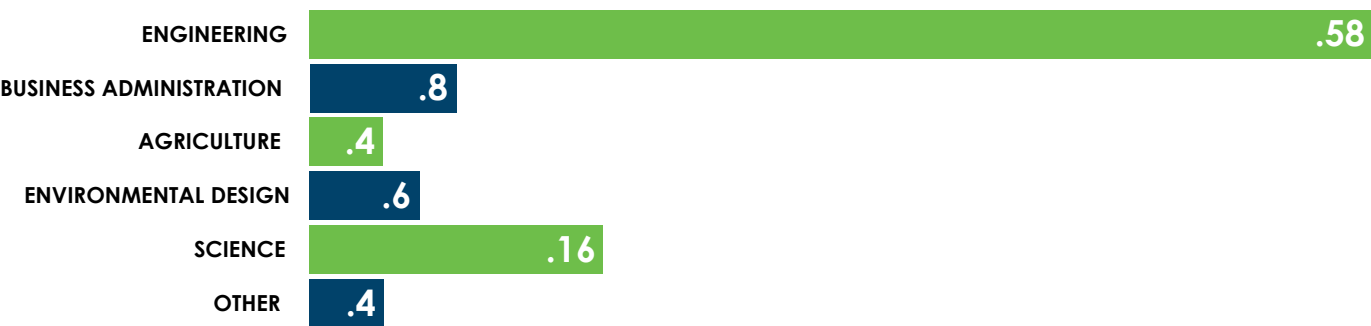
**163** 3D Printing  
**50** Dremel Laser  
**34** Sewing  
**28** Soldering  
**17** 3D Scanning  
**13** Cutting Plotter  
**8** Embroidery  
**8** Laguna Laser



AVERAGE DAILY VISITORS



ATTENDANCE BY COLLEGE AS A PROPORTION



# 2021 - 2022 PROGRAMS

In the 2021 - 2022 academic school year, SIIL has hosted a variety of programs targeted to not only students, but also staff, faculty, other CPP groups, and outside guests. Our programs and events are a great way to see what we do and are also great opportunity for collaborations.

## iStartup Academy

iStartup Academy was designed to provide participants with the tools, support and inspiration needed to develop ideas for a nonprofit, social enterprise, or for-profit endeavor. Students in the iStartup Academy attended various workshops such as how to conduct customer discovery, determine product-market fit, finance their idea, and develop the skills to pitch their idea to customers and investors. In addition, participants learned about the ins and outs of the business world and what is needed to successfully translate an idea into the



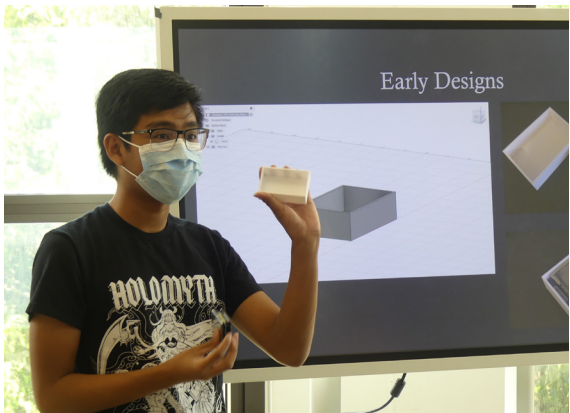
## Maker Studio Open House Expansion Celebration



The Maker Studio Open House celebrated the expansion of the Maker Studio in the University Library. The expansion provided additional space for collaboration with faculty to host classes and deliver training. With more space, there is more room for new creation stations including an electronics and circuitry station as well as a hand crafting station for leather working and book binding. Visitors participated in tours and demonstrations by staff and student ambassadors.

## Innovator's Harvest

Innovator's Harvest is hosted at the end of every semester to invite students to present their latest work. All CPP students are welcome to showcase their work as long as their project incorporates any of the tools and equipment that SIIL provides. Participants gave presentations showcasing their project development and progress. The work presented span wide levels of completion - including concept art to a complete project. Innovator's Harvest serves as a spotlight for student work as well as a time for feedback and critique.



## Congresswoman Norma Torres Maker Studio Visit

On March 25th, Congresswoman Norma Torres accompanied by President Soraya Coley visited the Maker Studio to celebrate the signing of the bill to fund the Downtown Pomona Maker Space. By touring the space, they saw a sample of what can be expected in the new space, such as the variety of tools available to students as well as some student projects that had used those tools. Congresswoman Torres and President Coley left with more than they came with as they received souvenirs made using tools in the Maker Studio, such as an embroidered bag, and a promise of a bright future for SIIL.



## Garner Holt Visit



Early in the semester we hosted a delegation from the Garner Holt Education team who took a tour of our spaces. The Garner Holt Team visited us to discuss ways to collaborate in projects as well as to provide suggestions on how to employ the animatronics development process to guide student skills development in design, fabrication, and also history and research.

## Open House Resource Fair

The CPP Open House Resource Fair welcomed prospective students on campus to learn about the available resources, academic curriculum, and educational philosophy at CPP. Prospective students were invited to discover the ways they can grow and create their own story as a CPP student with the education, resources, and activities on campus. SIIL tabled at this event displaying some of the available tools and equipment we provide for all CPP students.



# 2021 - 2022 PROGRAMS

## Maker Studio and Chill

Maker Studio and Chill is one of our newest events designed to provide students with fun de-stressing activities hosted in the Maker Studio space while they prepare for their finals. This event was made in collaboration and with the support of the University Library and CPP Library Club. Some of the activities provided included embroidering graduation stoles, decorating graduation caps, making buttons, and Nintendo Switch free play. Moving forward, we plan to expand this event next semester with more available dates and collaborations with other departments and clubs on campus.



## CSU Startup Launch



The CSU Startup launch is a next level pitch competition pulling together entrepreneurs from the CSU campuses. 21 student teams competed for a total of \$120,000 in prize money. Each campus invested \$10,000 and the donations were matched by an external donor who also donated funds to support the planning and execution of the event. CPP teams won with the following recognitions: Jonathan Witkowski's startup Weekly for Best Prototype, Asli Ungur's app GRide for Most Deserving of Incubation, Jake Fry's startup Plants-4-The People for Best Traction, and Gavin James' The Spacecraft Company for Best Research-Based Project.

## Bronco Maker's Club (BMC) Events

The Bronco Makers Club (BMC) is a club that has operated out of the SIIL spaces for over 5 years. In this past year, the club has hosted numerous workshops and events focusing on creativity and innovation, challenging club members to think about creativity in different ways. Every week the BMC hosts a variety of different workshops including crocheting, plushie making, life casting, metal rose making, paint nights, resin casting, sticker making, and weekly "Create Till' Lates." The BMC plans to expand its range of workshops while initiating semester long projects as well.

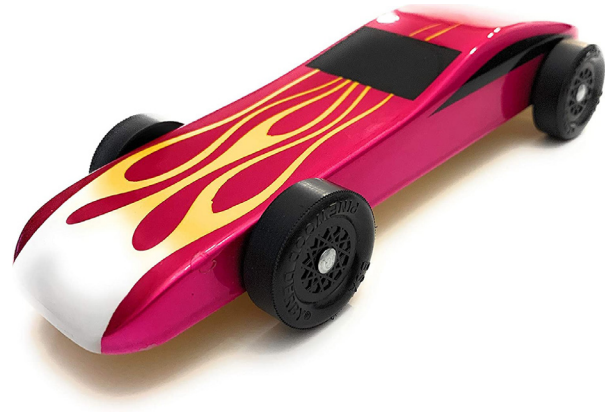


## Cosplay Club Events

The Cosplay Club hosted events in the Maker Studio to discuss their weekly topics. Their meetings covered a variety of topics that would range from making cosplay props out of recycling materials to altering existing sewing patterns for cosplay. In addition to weekly topic discussions, the club also had a hand sewing workshop in which participants made plushies using different types of hand stitches with the addition of other materials.



## Pinewood Derby & Influence Workshops



In partnership with the engineering leadership program, this workshop provided students with a moment to examine how they influence others and how they allow themselves to be influenced when making decisions. In the context of improving the speed of a pinewood derby car, teams of students debated which improvements make the most impact on the speed of the car. Along the way they utilized their influence or were influenced by others to guide the team toward a consensus. Eleven students from a variety of majors participated in this workshop.

# ACADEMIC INVOLVEMENT

This academic year, SIIL has collaborated with several classes and departments. With the open space for meetings and various equipment in the Maker Studio, we were able to accommodate various activities for different classes and professors from multiple colleges.

## Supporting Teaching, Research, and Creative Activities

As an available campus resource, students have used the tools to support large scale on-campus events such as Poly-Kroma, the art department’s annual student portfolio showcase in the Kellogg Art Gallery. Students in Professor Kevin Moore’s 3D Workshop class designed and built environmental graphics by using the Maker Studio’s vinyl cutting capacity to create signage and several large wall graphics whose manufacturing process required the resources available at the SIIL spaces. As a direct result of the support of the Maker Studio in this event, several of the professors in the art department will now be encouraging and requesting that their students learn some of the tools available in the SIIL spaces to advance their artistic careers.

Another program, Harvest International, was conducted in collaboration with the English department to provide students hands on experience with specialty. Participating students joined the Maker Studio’s ambassador program.



Other classes including mechanical engineering classes visited the Maker Studio to obtain certifications in 3D printing. Under professors’ instructions, students completed the online prerequisite training and the base safety plan to prepare for in-person office hours. With certification, students gain access to use of our 3D printers, aiding them in accomplishing major related tasks.

Assistant Professor Janel Ortiz needed help identifying wildlife cameras within her research area as CPP property without paint. With the IO’s laser, we etched the housing identification into the metal boxes’ coating so that she could continue with her research.

We also hosted a winter retreat for the Strat Com division. This event included showing the operations of the embroidery machine, laser, and the vinyl cutter. The completed products were provided to the team as part of their retreat memory.

# iLAB

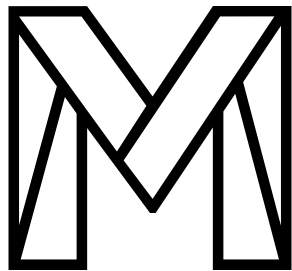
The iLab is another 1 of our 3 spaces that was originally established in 2015 in the CLA Tower. Initially the iLab was created as a meeting space for ESTEAM students to have access to resources such as 3D printers. As the space grew, the iLab became a space to support student creation and collaboration. The iLab will be reopening on campus during Summer 2022 in Building 1. In the newly designed space, students are welcome to the iLab to participate in a community and space of collaboration in which they can find assistance on projects while learning, connecting, and networking with others. Students, faculty, and staff are invited to reserve a space for meetings.

## Space Renders



# MAKER STUDIO

The Maker Studio is located on the second floor of the campus library. Having opened in 2019, the Maker Studio has provided students with opportunities to learn both hard skills with equipment trainings and soft skills through the student ambassador program. The student ambassador program is run by student volunteers who learn how to safely operate all of the tools in the space. As a part of the program, ambassadors assist staff with tours for visitors and directing visitors to the right tools and technicians for their projects. The program also promotes student creation as ambassadors are encouraged to use the tools in the space to create projects that they can showcase at the end of each semester.



## Workshops

### Cutting Plotter



**16** Registered  
**13** Certified

The cutting plotter training is one of our newest available workshops. Use of the cutting plotter allows for small and large format vinyl cutting. The 24” cutting plotter is suitable for both adhesive and heat transfer vinyl for single colour vinyl stickers and t-shirt designs.

### Dremel Laser Cutter



**74** Registered  
**50** Certified

The Dremel laser cutter with a 12” by 20” workspace has the ability to cut and etch various materials in 2D. The typical use of the laser cutter has ranged from etching wood and acrylic displays to precisely cutting pieces of cardboard, wood, and acrylic which would have otherwise been difficult to achieve by hand.

### Sewing and Embroidery Machines



**67** Registered  
**42** Certified

The Maker Studio has Brother sewing machines and the Brother SE1900 combined sewing and embroidery machine. The sewing machine allows for a variety of fabric based projects including clothes, accessories, and even dolls. The embroidery machine can be used for decorating clothing or making patches.

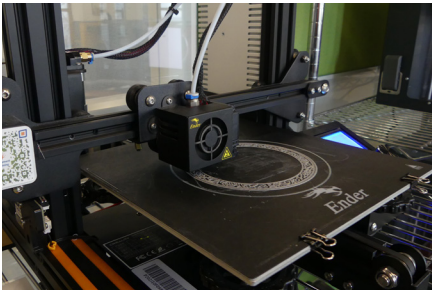
### Soldering



**38** Registered  
**28** Certified

One of our newer trainings, the soldering training available at the electronics and circuitry station allows for splicing and joining wires with a focus on basic soldering to support adding computing components to circuit boards or controllers. Students learn how to make stronger connections to build the latest electronic inventions.

### 3D Printers



**256** Registered  
**163** Certified

The Maker Studio has a total of 9 3D printers available for use. These printers allow students, staff, and faculty on campus to easily print a variety of projects - ranging from school to personal projects. The projects have varied from functional to decorative pieces and FDM printers allow for a wide selection of print colours.

### 3D Scanner



**49** Registered  
**17** Certified

The 3D scanners in the Maker Studio allow for the scanning of various subjects, ranging from small models to people’s heads. The scans are turned into a 3D file that can be modified digitally and even printed.

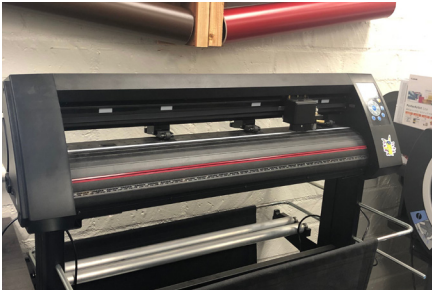
# INNOVATION ORCHARD (IO)

As 1 of our 3 spaces, the Innovation Orchard (IO) is located in Ganesha High School. This academic year operations were limited with the need for renewal of the MOU with Pomona Unified School District in the spring. The space is divided into 5 main rooms with various levels of activities and equipment use. With a larger space and bigger equipment, students have the opportunity to create larger projects. As a result of the larger space, the IO can host a greater variety of tools that cannot be housed in our smaller spaces on campus. Some of these tools include wood working tools and larger versions of machines that are also available in our other spaces.



## Workshops

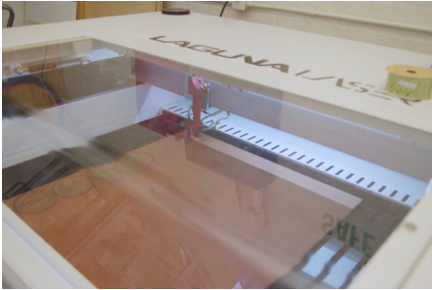
### Cutting Plotter



**16** Registered  
**13** Certified

The 24” cutting plotter at the IO allows for large format cutting of paper and vinyl. Some projects made with this cutting plotter include printed and vinyl stickers.

### Laguna Laser Cutter



**19** Registered  
**8** Certified

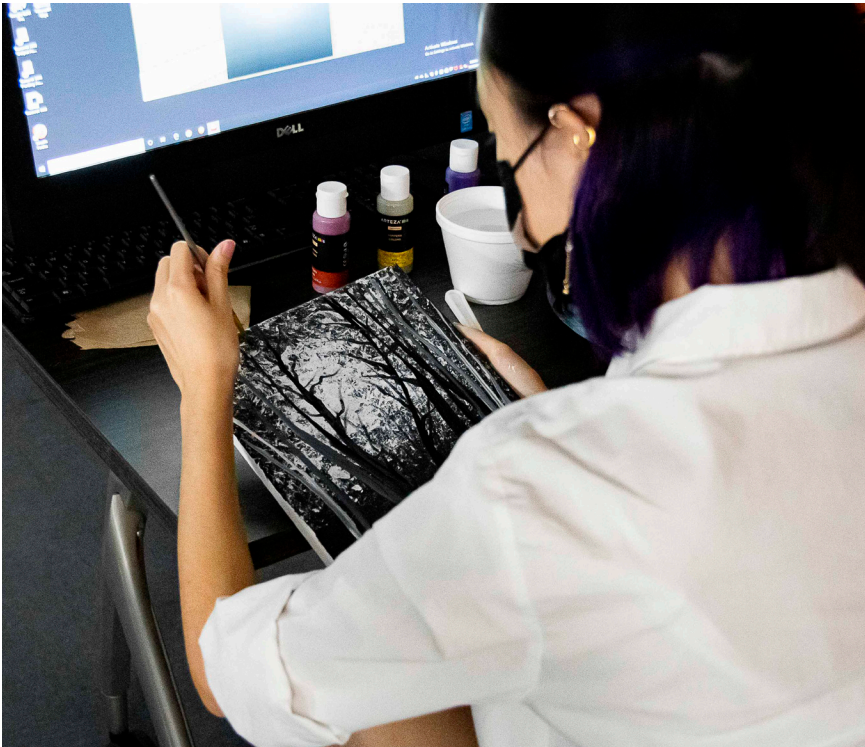
The Laguna laser cutter is our largest laser cutter with a workspace that has a broad cutting and etching ability with great flexibility in settings for different materials and results.

### 3D Printers



**256** Registered  
**163** Certified

The IO has the Raise3D Pro2 Plus, a large format, dual-head 3D printer which is capable of printing up to 12”x12”x24”. This printer allows for the possibility of larger prints as well as multi-material prints.



## Future Equipment Trainings

- CNC machine
- Drill press
- Heat press
- Woodworking tools
- Vaquuform machine

# Looking Forwards

## In Person Activities

We are excited to soon begin a whole academic year of fully in person activities! We are expecting to see more old faces and also meet many new students who are looking to create, innovate, and start up their next big idea

## Opening of the iLab

After several years of planning, design, and construction, the newly renovated space in Building 1 will be the new home of the iLab space. Able to host groups of people in a comfortable, stylish new area, we hope the iLab will be the go-to place for your next collaboration meeting. Request the space on 25Live now!

## IO Renews the MOU with PUSD

After the initial 5 years since the IO’s original opening date, we have successfully renewed the MOU with Pomona Unified School District (PUSD) to continue to operate the IO makerspace at Ganesha High School. The new agreement will last another 5 years until June 30th, 2027.

## Downtown Pomona Innovation Steam Hub

Thanks to the work of Congresswoman Norma Torres, CPP secured a 1 million dollar grant to help develop a space in downtown Pomona. The next year should result in securing premises, installing equipment, and maybe beginning to serve the greater Pomona community of creators and entrepreneurs.

## BMC Role Change

The CPP student club known as the Bronco Makers Club is shifting over to functioning as a team under the SIIL department. The new Bronco Makers Club will lead all the fun creative workshops held within our maker spaces while also seeking out and supporting other student clubs looking to create something for their next club event. This will expand the Student Innovation Idea Lab’s ability to support student clubs and other students projects better.



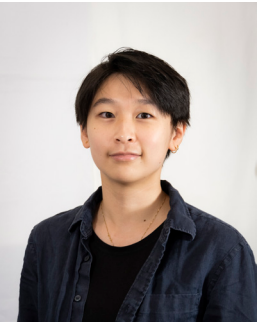
# 2021 - 2022 STAFF



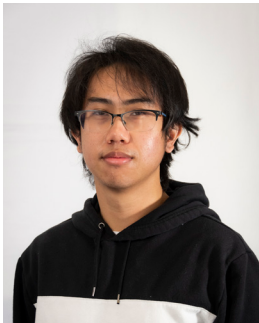
**Kenneth Lamb Ph.D.**  
*Director*



**Jesus Bermudez**  
*Administrative Coordinator*



**Meilinda (Mei) Darmawan**  
*Graphic Designer*



**Renwell Queyquep**  
*Web Developer*



**Benjamin Villa**  
*Technician*



**Elizabeth Rygg**  
*Technician*



**Inna Falcone**  
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**Kevin Strawn**  
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Ganesha High School



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*Our resources are available to all CPP students, staff, and faculty! Reach out to us with any questions or collaboration ideas. We look forward to assisting you make your ideas a reality!*