



Welcome!

The IMPPosium is an opportunity for our students, mentors, and parents to gather and see the Inquiry, Maker & Passion Projects completed or still in progress. Community members will have the chance to share their works, ask questions, discover connections between works and possibly form future collaborations!

Location key:

R3 – Room 3
R4 – Room 4
R5 – Room 5
R6 – Room 6

R2B – Room 2 large breakout
C – Commons
IL – Innovation Lab

Mr. Bob and Ms. Ruma's students:

Anna V Experimenting with the Properties of Clay

Location: IL

For my IMP project, I wanted to test out different clays and their properties and write a little review about them. One challenge that made this IMPp project really hard was that there is no pottery wheel or kiln at Acera so I had to work with air-dry clays. For each clay I made a little sculpture and wrote a review for it including a rating out of five stars, what was good and bad, and what kind of sculpture it would be good for. In the beginning I looked at tutorials for making different sculptures but in the end I found it easier to just work with it freely. One technique that I found very useful was sanding down the clay after it dried so that it had a smoother texture.

Annika Z Bike Rack

Location: IL

My IMP project is building a bike rack to be contributed to the school for all who are arriving by bicycle. I am collaborating with Matthew C. for this project. I first designed a smaller scale bike rack, and to test the design I have started building this design out of wood. Matthew and I are both designing different mockups, but will eventually compare designs and then build a full size bicycle rack out of metal. I decided to start this project because I bike to school and it is hard to find a good place to put it. I am excited about welding which I will do when making the final bike rack.

Ben B Songwriting

Location: R6

For my IMPP project this year I am studying musical composition and production. I've had a deep love for music from a young age, and I'm looking to improve my songwriting. I would like to learn to write experimental music, jazz, bluegrass, blues, pop, and rock. This will be a full year project, with the first half being composing songs then the other half being recording.

Ben M Humorous poetry

Location: R6

For my project, I wrote poems about often humorous topics. I had a few ideas for how I wanted to make my poems intriguing. I did not want to focus on one type of poetry and I preferred to emulate and build upon a number of intriguing styles. I liked to use different rhyming schemes and think about different themes in order to create an optimal poem. In essence, I wanted to explore poetry through humor.

Carly S Bedside table

Location: IL

For my IMP project this year I am designing and building a nightstand. The top will be made of live edge wood and epoxy resin. Right now I am making mortise and tenon joints. They will be used to attach the project parts together.

Elizabeth S The Palace of Versailles

Location: C

For my IMPp project this year, I chose to write a paper about Versailles and King Louis XIV. I also decided to make a model of Versailles in the second semester. In this paper, I decided to write about the building of Versailles, some of the individual rooms inside it, and Louis XIV.

Finn H Elephant Toothpaste Shooter

Location: C

Elephant toothpaste is a way to create a foam explosion by using a chemical reaction. I learned about the chemistry involved with the reaction, using hydrogen peroxide with potassium iodide as a catalyst, and dish soap to create the foam. I experimented with the reaction to see what shape flask would be best to create a strong reaction and then shoot it in a particular direction. I designed a shooter, and started to look into materials to use to make it work. I still need to finalize the design and build the shooter.

Henry G and Jake R Magic Wood Table

Location: IL

For our IMP project, we're building a table with a removable top tray. The idea for the table is to use it to transport projects that aren't finished yet. The most difficult parts are the joints, which we've made Mortise and Tenons. Mortise and Tenon joints are extremely strong if made properly, but also very complicated to make. The table's legs and joints are nearing completion and after this IMPposium we will go on to make the tabletop.

Henry L Transmission of knowledge through culture

Location: C

This year, for my IMPp project, I am researching and writing an essay on memory, information, and customs and their relationship with society. I will focus my research on semiotics (the study of "signs"), memetics (the study of transmission of units of culture), sociology (the study of society), and epistemology (the study of knowledge).

Isaac E D&D - Ambassador of Zento

Location: C

For this semester of fall 2019, I decided to make a D&D campaign. I decided to do this project instead of any other project because in the spring of '19, I also made a D&D campaign, but it didn't go very well, as I did not have a script, and the campaign was only half-made. This year's campaign will be fantastic. The campaign is about a group of adventurers who escort a political figure to a meeting with a political figure from another nation, after the two nations, previously allies, have seemingly begun guerilla warfare.

Jane L Making a gaming PC with minimal frustration

Location: C

In this project I will attempt to build a light gaming PC out of at least 75% scrap material. I predict the largest challenge will be going through and testing one by one, what computer parts are compatible and finding out which parts are just permanently deep fried. The largest challenge was that none of the computers we had on hand were up to date or working.

Jasper R Building a Camera

Location: C

My project is to experiment with different cameras by taking them apart and combining different lenses from other cameras on to a different camera. A challenge I have faced is how am I going to know how a camera works? And how am I going to know how to take it apart? My solution is that I am going to do some research on all of those things and find out more about the process.

Jonas G Guilds of Ravnica - Return of the Guildpact Model United Nations Conference

Location: R6

I am creating a model U.N. conference themed around the Guilds of Ravnica set for Magic the Gathering. I have written a background guide to introduce players to the topic. I am currently working on writing private guides to characters. I am looking for feedback on what I can improve in the background guide and private character guides. I would love to hear any ideas you have!

Jordan H Statscraft

Location: R3

I entered a new Minecraft world and created many large, enclosed hollow cubes, each big enough for a decent-sized building. I invited several students to my world and placed each player inside an empty cube. I gave them the prompt "Build a house." I will document the similarities and differences between age groups and genders. I will finalize a metric to measure the similarities and differences between each structure. I will compare the types of structures they create to their age, gender, etc., to find any patterns.

Kate M Racism Book

Location: R6

For my IMP project this year I want to attempt another writing project, this year focusing on racism. I want to do this project because I am passionate about writing, and I also want to learn more about racism. I think it's super important to inform others about this serious problem. My leading question is how has racism evolved, what events are associated with it and what has happened/changed over time regarding racism?

Lachlan H Thor's Electromagnetic Hammer

Location: IL

For my IMP Project, I am making an electromagnet that looks and functions like Thor's hammer, that only I can lift. By using an electromagnet (made from a TV receiver transformer) attached to a slab of iron or steel (manhole cover, weights, etc.) and a switch, I can control if the user is able to lift (detach) the hammer from the slab, or not. The reason I wanted to do this project is because I am really interested in making magical objects from movies real.

Lila E and Rebecca J Room 2 Murals

Location: R2B

This semester we set out to spruce up our classroom by painting murals. We are doing this because while there is some decoration, the walls seem very bland, other than the tree and the map above the lockers. When we were thinking about what we wanted to paint, we agreed that the mural should be both functional and aesthetically pleasing. Because many people do not know what the room numbers are, our mural is a numbered map of Acera. We decided to paint the map in the larger Room 2 breakout room, which is used by many classes. In the future, we will also be adding other decor on the walls around the classroom, but they will be smaller and mostly decorative.

Lillian M Exploring a Possible Solution to Climate Change

Location: C

For my IMPp project, I'm exploring the idea of releasing sulfuric acid in the atmosphere to create sulfate aerosols by combining with the water vapor in the sky, known as SRM. This would stop the greenhouse effect. I've read scientific papers on the matter, and plan to start writing a scientific research paper on the matter. At the IMPposium, I will be presenting a summary of SRM, and also a diorama of how it works.

Matthew C Innovative Bike Rack

Location: IL

For my IMP project, I am building a bike rack for the school. I want to do this project because Annika and I, among other MS2 students, bike to school and have found it awkward to park bikes at Acera. For this project I am collaborating with Annika. Our approach is to create individual designs and build smaller prototypes on our own. Once these are completed Annika and I will assess our models and approach, and collaborate on a final design. I have researched many designs, some traditional, some innovative, and have come up with what I think is a decently innovative design. I will be presenting that design, as well as my rejected and unfinished designs, at the IMPposium.

Melyna D History of cheese

Location: C

For my IMP project, I am exploring the history and roots of cheese. I am also comparing modern-day techniques to the original methods. I used the same ingredients but used a different heat source. The first cheeses were supposedly an accident it happened by carrying milk in a sheep's stomach across the desert. The rennet from the sheep stomach and the heat from the sun turned the milk into curds. The cheeses I was mainly focusing on were Italian soft cheeses like mozzarella and ricotta which are essentially the same ingredients (milk, rennet and citric acid), but the cheeses are heated up at different temperatures. Historians don't know exactly how cheese was discovered but the techniques that I am exploring are fascinating.

Mira L Writing a mock trial

Location: C

For my IMP project I am writing a mock trial involving tort law. The mock trial will involve a statement of the facts, and a summary of possible topics involved. I wanted to do this because I think tort law is less well known than other types of law, and it is really interesting to explore the gray areas of law.

Mirai N The Cooking Itinerary

Location: R2B

I am coding a website where people can enter what they want to cook for the week and get a list of ingredients based on the recipes, checking off the ingredients they already have. I currently have a website that can generate a list of ingredients from most recipe pages. I believe this website will really help parents who go shopping too often every week.

Niyathi S Making Yogurt in an Instant Pot

Location: C

For my IMP project this year, I chose a project based on cooking science. I am making my yogurt in an instant pot. I want to do this project because I want to figure out how yogurt is made, and make it myself. I have made soy yogurt and whole milk yogurt so far, and they both turned out pretty well.

Parmis M-D Business and Marketing

Location: R2B

For my IMP project, I am exploring the areas of business and marketing. I chose this project because I had mainly focused on product design during past IMP projects, and I wanted to take it to the next stage and learn about the path from product design to production and, eventually, marketing. I am interested to learn how small businesses become successful when big-name companies are looming over the market. This semester I met with people in different areas of business, worked on an online course, and reached out to contacts to try and find a company to partner with. I hope to learn more about business strategies from talking to mentors and advisors who are experts in this area.

Shane K Cooking and Science

Location: C

This semester I chose to have a project based on cooking and science. The goal for my project was to learn about chemistry and science in the context of cooking. I chose this project because I wanted to learn more about cooking and also understand on a scientific level what is happening. I thought that learning the basis of cooking would help me to be creative in coming up with my own recipes and methods. Though I did not learn as much as I initially expected due to the limited time I had, I learned a good bit and I'm glad that I did this project. The final product of this project is a recipe book explaining in depth how the recipes worked.

Simone B Soap Making

Location: C

This semester for IMP my project is soap making. I have mainly used the melt and pour method, which is a method in which you melt down a base that is made, which makes it so you can avoid direct contact with a hazardous chemical called lye. The reason I choose to do soap making is because I have an interest in material science, so I was hoping that I could explore the chemical properties of soap. Some of the soaps I have made include liquid soap, marble soap and water soluble flower petals soap. I have encountered a couple difficulties during my process and I have learned a lot. For example, I learned that a hot plate works better for soap making.

Skylar M Sound of Space

Location: R6

This semester I continued writing my book, Sound of Space. Sound of Space is a book about a future where Earth has been declared uninhabitable, and so they came to the last resort of sending children out to find a world where they can survive. A group of children find a world called Xanaria where they have to compete for queenship and work to convince the Xenarians to give humans a spot on the planet.

Ms. Vered and Ms. Alyssa's students:

Adam B "Professor Puzzle & the Minuscule Newspaper" (the game)

Location: R3

I am making a math/logic puzzle game in the Snap programming environment. It's inspired by Professor Layton, a DS game. Within a mystery plot, the player solves puzzles to advance the plot and solve the mystery. Each time you answer a puzzle right, you get a puzzle point. An obstacle I've encountered is that there is no text tool in Snap. I solved this by importing all my text from Scratch.

Caden S Video Editing in Adobe Products

Location: IL

In my imp project I learned how to use/rely on software other than Premiere, for example, Photoshop, to prepare some of my source materials, such as image sequences and images with transparent backgrounds. A challenge I ran into was that I did not have all of the different editing softwares. My solution was to ask my parents to buy me Photoshop and use my mentor's Photoshop. To begin, I organized the skills I wanted to learn by difficulty and kept track of what I accomplished. The reason I wanted to work on this is that even though I wanted to know how to edit, if I didn't make it a school goal (for example, my IMPp project) I would not have made the time to work on it on my own. I am not concerned with making my videos make sense, instead, I am focusing on improving each skill.

Calvin C "No Democracy? Voter Suppression in the United States"

Location: C

For my IMPp project, I have written a research paper on the topic of voter suppression, which is a real problem in the U.S., because when it takes place it means that large populations cannot vote and elections are often skewed. Unfortunately, this has happened far too much in our nation's history, from the Founding Fathers to the 2016 presidential election. In my paper, I will argue that America has never truly been a democracy because of voter suppression and disenfranchisement.

Camille C Sculpture - Computer Turned Inside-out

Location: IL

For my IMPp I made a sculpture of a computer turned inside out. The origin of this project was my passion to take apart electronics and making sculptures. I started off by working my way up from the smallest and easiest computer parts, such as a keyboard, to the largest and more complex ones, like a monitor. One challenge I encountered was how to show all the different components at once, since they are usually hidden under plastic/metallic covers. I figured out some of it by trial and error, and some of it by looking at human anatomy diagrams that successfully show different body systems at once. My sculpture will send a message to the world that beauty is both on the inside and the outside. Lastly, the core capacities I built on through this project were creativity, systems thinking and problem solving.

Daniel J Emergence of the Dragon Fist

Location: C

In my IMPp, I made a D&D campaign. The overview of the storyline, is essentially that an ancient cult known as the dragon fist returns with their demon leader, and the players have to fight the cult and eventually the demon. I chose to make this because D&D is really popular at Acera, and I personally really enjoy it. So I thought it would be interesting to make my own campaign and see what it's like. What I didn't realize was how tedious it was. I needed to think up an entire storyline, make encounters, and balance them. I think this project both increased my knowledge of D&D, and my writing skills. I hope to run this campaign with some friends soon.

Erin G Building a Computer

Location: C

I am building a computer, my mentor is Mr. David. The two core capacities I will develop are creativity as well as critical thinking & problem solving. I think that though there have been a lot of problems I/we have worked through them and found the solutions. One of the main problems we are currently trying to solve is that I can not get my computer up and running so Mr. David found another computer that we know is running and try it out. Then we can take it apart and get it working again.

Jack B Shaping the Earth

Location: IL

For my IMPp project, I am using landscaping to help me design a mountain bike trail for my family's property in Vermont. I built a contour model and experimented with clay modeling to create a series of dirt berms that I hope to build in the future.

Julia S Tiny-House Digital Modeling

Location: IL

For my IMP project, I explored using the digital modeling program Sketchup to create a computerized representation of the tiny house I designed last year. I envisioned the design being available to people in need of housing designs.

Juliana S Solar-powered Boat

Location: R4

For my IMP project I am building an all-green, solar-powered boat. The boat will have a flotation hull made of plastic water bottles and a motor that I am yet to investigate. The boat will also have a "hangout area" on the upper side, simulating what I think it could be used for. I have also thought of having this be an alternative for plastics that have been used but don't have another purpose. I estimate this project will only take me a couple more months and I look forward to finishing it!

Juliet B and Maria Z Wear your Garden

Location: IL

For our IMPp project, we made two hand-dyed two-piece dresses using flowers as the dye. Our original plan was to make one dress, but we couldn't decide who would keep it, so we ended up making two two-piece dresses. We dyed them blue using indigo (a flower-based dye) and dyed extra fabric as well. Now we have a complete top and bottom.

Kira H Robotic Dragon

Location: R4

My imp project to create a dragon has been going pretty well. I have the misting machine going and a plan on how to get the dragon attached to the box that I'm using. The dragon itself is made of various materials, with a plastic bottle for a body and copper tubes for legs, as well as wings made of straws and hot glue that hopefully will flap. I have been working on it since the beginning of last year and it will probably be done soon.

Leo F and Sam C

Latex LARP Boffers

Location: C

This semester for IMPp we each designed and made a latex LARP boffer. We also wrote backstories for our weapons that tell how our weapons came to be with our LARP characters. The blades of the weapons are made of foam with a core and handle of PVC and a coating of latex on the foam blades. Duct tape boffers are less expensive to make and easier to make, but they are much heavier and the added speed that the latex boffer provides creates a very big difference in your fighting skills and the experience of LARPing.

Nathan O

Skateboard Quarterpipe

Location: IL

My project is a four foot tall eight foot long quarter pipe made from wood that has two by fours on the inside of the ramp to help support the actual incline of the ramp, it will also have a circular metal pipe that has a one inch diameter that will act as the coping. It will also have a 2 foot by four foot platform at the top. So far I have all of the ½ inch thick plywood cut for the frame, and have cut all of the two by fours that I need. I am also on the verge of cutting the slits in one of the plywood boards to put the two by fours in.

Preston S

VR Hardcore Parkour

Location: R3

I am making a parkour game for mobile VR (at first phone-based) and computer. With VR becoming popular, making a game for VR would be a very relevant experience to the present day. I have learned to use CoSpaces to program a VR game. CoSpaces is a block-based programming engine for AR and VR. I've had trouble making the player jump in VR. My project is still a work in progress. I might add some more features but I'm not sure.

William Y

Fantasy Team Battle game

Location: R3

My IMP project is designing a PvP board game that I named Fantasy Team Battle. In this game you make characters and fight the other team. One of the main challenges that I have finished is getting my first characters ready for playtest. A challenge that I've been working through is getting this game balanced and getting an instruction manual that actually explains it well.

Ms. Kim and Ms Rachel's students:

Anya N Recycled-Material House

Location: IL

For my IMP project, I explored my interest in finding sustainable solutions for architecture by investigating the use of recycled materials in house construction. My final product is a model of an "earth ship" style house made of recycled and natural building materials.

Arjun S Hockey Puck Passer

Location: R4

I am making a Hockey Puck passer that will measure the speed of the puck. I have almost completed the planning and designing of my product. The finished product itself isn't that hard to make, but it takes a while to plan and make sure that everything is going to be going well while I am building. My next step would be building the frame for my hockey passer, and getting the bare bone mechanism working. I am learning about design and construction, and configuring Raspberry Pi technology and sensors to measure speed.

Daniel S Food Photography

Location: C

What I will be doing in this project is finding the best sets to use for my second-semester project. I will figure out the lighting, design, and technique. The challenge that I will face in this project is going to be the artistic feature. I will have to overcome the lighting problems which I am sure will delay me a lot.

David F Quiver & Arrows for Longbow

Location: IL

For my IMPp, I continued to work on my longbow that I made a couple of years ago in a summer camp. Most of the work I have done was on tillering (stretching) it. I had to do it a little every week, and I ran into problems along the way so it was slow working. I am also making arrows and a quiver.

Georgie L Powder Keg

Location: R5

For my first IMP Project at Acera, I am creating a 1914-era European war board game, set just after the assassination of Archduke Franz Ferdinand. The working title is 'Powder Keg.' Consisting of only a map of Europe, the board will have forts, cities, and armies to attack and defend from enemies. To build the game, I need to make board and figure out rules for how it will be played.

Hana S Digital Animation

Location: IL

My project was about making small animations in order to develop certain skills. I worked on *mouth moving* (talking), *hair waving* (wind), and *eye moving* (being expressive). However, the animation I am the most proud of so far, was actually one I just decided to do for fun once I had sort of practiced some of the skills of animation I was working on. This project's completion date will be spring of 2020, because I want to keep working on my animation skills.

Levi M Genetics and Inheritance in Plants

Location: C

My project is designed to see how Wisconsin Fast Plants breed and cope with different environments. To accomplish this I ran two experiments concurrently. One was breeding "Hapsburgs" - a hybrid of first and second generation plants, and seeing how they breed; this part was only partially done due to time constraints. The second part was growing identical seeds in normal soil and acidic soil to see the differences; this was concluded and yielded interesting results.

Lucas H Effects of Cryptocurrencies on World Politics and Economics

Location: C

I am creating a research report exploring the influence of cryptocurrencies on world politics and economics. For my research, I am primarily using the internet and will potentially attempt to consult an expert in this field. This project is aimed at increasing the number of people that know that cryptocurrencies exist at all, and give a correct understanding of a constantly shifting emerging field.

Luki C Revising a Book

Location: R5

This semester in IMPp, I have been working on revising *The Darkest Reaches*, a book that I wrote some of last year during IMPp. It's a book about an intergalactic war, and the people caught in the middle of it. So far, I have mainly been revising the ideas of the story and the plot line, and I will show a few copies of a chapter before & after my revisions.

Malia S Climate Change Blog

Location: R5

For my project I chose to create a blog called "Eco Action Girl" that is designed to increase awareness about climate change. This semester I worked on setting the blog up and doing the research for initial posts. In the future, it will include posts on the science behind climate change, updates on climate effects (e.g. natural disasters), and solutions environmentalists have discovered.

Niha N Self-Guided Lyrical Dance

Location: IL

Dance is something I am passionate about and I have been doing ballet for eight years. For a while now I have wanted to try a different style of dance and lyrical has always stood out to me. This is why for my IMPP project this year, I basically decided to teach myself lyrical dance moves. I watched videos and tutorials on youtube to learn the steps and recorded my dancing during each session, which was helpful for self-assessment and for documenting my process. The video I am sharing today highlights my learning during this semester. Lastly, a few weeks ago I found out that I will be joining a competitive dance team in January which does many styles of dance.

Oliver D Flat Earth

Location: C

My project is to disprove the flat earth theory. To do that, I took the talking points of the flat earth community and disproved as many as I could in the time I had. I also made a model of the Earth that has a stake in it to represent the position of a person or camera, and a boat that will sail over the horizon. The model shows that as the boat sails farther away, the bottom disappears first.

Razielle Y Creating Puppets

Location: R4

For my IMPP project I would like to make two or three muppets and learn puppetry. These muppets will perform many different plays and I will put together a video of the muppets performing all the different scenes and call it something silly. To make the muppets I will follow a few tutorials and switch between them. I will also make props.

Vera H Evolution of Plastic Fashion

Location: IL

For my IMP project, I explored my love of fashion and care for the environment by exploring how plastic fashion changed throughout the years and how it affected the environment. My final product is a cocktail style dress made out of ordinary black and white trash bags.

Xavier R-Z LARP Armor

Location: C

I'm going to create EVA LARP pauldrons. I have made helmets out of latex and bracers (arm armor) out of EVA before. To make the pauldrons, I will combine these two skills. This project will help me expand on my knowledge of latex, and spark my interest in EVA armor further, to a point where I may do it at home.