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OCTOBER 2019

BIG BROTHERS BIG SISTERS

September's event was custom tumblers.

Once again, the Bigs and Littles had a fun time at Bridgewire. The kids and their mentors got to create their own custom art tumblers. They created original artwork using the Bridgewire colored pencils, paint, scissors and glue, then inserted their designs into the clear plastic outer shell of the tumblers. This was a great project to teach colors, textures and patterns. Both the kids and adults were concentrating intently on their creations. The final product is great for gifts. Every child went home with their own unique multi colored custom tumbler. See all the photos from the event. **Tumbler Slideshow**

PROJECTS

Tony Badzioch has generously donated a new CAD/CAM software package that's available now on one of the conference room computers. The new addition is "BobCad" a very sophisticated professional CNC programming application that covers the gamut of all the CNC equipment at Bridgewire but many more professional processes. The "BobArt" plug-in gives it the creative capabilities to create and import graphics for CNC projects.

BobCad Loaded with cutting edge CAD-CAM power, the Mill packages have everything you need to start designing and machining. You get full 2D & 3D solid modeling capabilities plus 2.5 and 3 axis toolpaths, advanced simulation tools, and the ability to generate NC/g-code

BobArt Turn your artistic imagination into a manufacturing reality with the new BobArt add-on. With this creative package, you can do everything from importing PDFs with vectors and raster to vector conversions to embossing, engraving, and more. It's a must have for sign makers, custom woodworkers, and more.

Lithophane

Tony's generous motivation for installing this high end software is to offer Bridgewire the opportunity to teach the unique process of Lithophane. A lithophane (French: *lithophane*) is an etched or molded artwork in very thin translucent porcelain that can only be seen clearly when back lit with a light source.

This process takes the art of Lithophane into the space age using CNC technology to reproduce the painstakingly tedious hand carving of this ancient art...

Reno Robot Club

Bridgewire welcomes the Reno Robot Club. They are now holding their regular meetings in our facility. Michael Winders has been running this club for several years with the vision to educate and mentor all those interested in building and programming robots. To learn more about the club visit their website RenoRobotClub.org and look for upcoming meetings and events on the Bridgewire calendar.

3D Printing Project

Recently Eric inherited his dad's old travel chess set, circa 1950's. However, the brown plastic chess pieces were crumbling. Eric decided to refurbish his heirloom and remake the pieces. He designed the pieces in Fusion 360 CAD (see his next CAD class on calendar) and then 3D printed with ABS on our Monoprice printer. The parts required the use of breakaway supports. Here is a Knight as printed with supports and after their removal.

The chess pieces are small which make the rough layers appear prominent and provide poor detail. Therefore, he decided to try a technique called Vapor Polishing. The process involves putting the printed parts into a closed container with a rag or paper towel soaked in acetone. Well here is the lesson. The first set was made in natural (white) ABS. The plan was to soak them for about 1 hour. However, there were distractions and they went too long, appearing like a melting snowman. So they were set aside, and 24 hrs. Later the plastic had melted into piles of goo. Wow, didn't realize they would actually meltdown. Okay, the power of acetone has been learned. The second set of black pieces was vapor polished with a paper towel soaked with less acetone. After 2-3 hours, the black parts went from a dull surface finish to a shiny black surface with the layer segments somewhat blended.

Halloween is coming.

Bridgewire is the perfect place to come on in and make your awesome Halloween decorations and costume ideas. We have everything you might need to create your favorite costume or decoration. Bridgewire has sewing machines for creating costumes and all the tools you need to build awesome decorations.

Members Meeting Tuesday October 8th

Our Annual Members meeting and Elections are on October 8th at 7pm.

Remember we will feed you a variety of vegetarian and non-vegetarian BBQ foods. We have 2 items to accomplish at the meeting.

Vote on a change to the Bylaws. We **need 35 people to cast votes.**

Elect the 5 Board seats for the coming year. **We need 18 people to attend and vote**

We need people to participate as Board Directors in running the Bridgewire organization. Board nominations will be taken up to just before the casting of ballots (you may self nominate). The election is to elect the 5 board directors who will meet regularly to set the vision and goals for the organization.

We also need people to serve as Officers. The new Board appoints people who have expressed interest in serving as President, Treasurer, Secretary, Education, Facility, Marketing, and Membership officers. It is the officer's responsibility to execute and fulfill the goals of the Board and run day-to-day activities.

Job Descriptions

(Drafts) posted Sept 25th at Bridgewire on the front bulletin board. Official versions available Oct 3rd. We will email a description to you at your request.

We need new leadership.

The current board and officers have served several years. Most of these people will be stepping back from leadership. Its time to infuse the governance of Bridgewire with new ideas and energy. If you have not served yet, please get involved and run for the Board or let the officers know of your desire to serve as an officer. This place exists and thrives because WE ALL participate in making it happen. Of course this is a members meeting so we will have summaries of the accomplishments from the past year. If you can make it, please come socialize, see the new equipment, and shop improvements.

FACILITIES

Talking Trash

Really!?

Another reminder to tidy up a little when we're finished with the Bridgewire tools and equipment. As members I hope we can appreciate the fact that we have this wonderful facility at our disposal for a really minimal cost and the notion that it's a community that works together to maintain the infrastructure is an extremely important factor in the success of the Bridgewire Makerspace concept.

Facilities Officer

A special thank you to Tony Badzioch for donating his time as Bridgewire facilities officer this summer. A former board member, Tony made tool upgrades and helped maintain the premises during the summer months. Unfortunately for us Tony disappears every October so here we are again in dire need of a facilities officer. The position entails monitoring the facilities infrastructure and delegating chores to participating members.

Let's paint bathroom #2

It just needs some prep and paint and then maybe someone will consider the simple toilet and sink installation. Contact acting facilities officer Eric for more information on the project.

Maybe if a group would just take on the painting phase, it would prompt someone to tackle the plumbing. It takes a village.

ARTICLES STILL NEEDED!

The Newsletter

Thanks to John T for the BBBS photos and Eric for the nice articles on Vapor Polishing and the Reno Robot Club... If you have an article in mind or just a particular subject that you would like to see in the newsletter please email your entries to Lance, at lance@ipc-solar.com

EDUCATION HAPPENINGS

BBBS upcoming October workshop

The next Big Brothers and Big Sisters Event is scheduled for October 23rd. The project is, colorful and fun, candy dishes. For more information contact John at renoscuba1@gmail.com .

Regular Monthly Classes and Equipment Safety Training:

- **1st Thurs – Welding Shop:** Safety Demo + knowledgeable user check off - by Lee Elliot
- **2nd Thurs - Laser Cutting:** Safety Demo + User Training.- by Eric Bradford
- **3rd Thurs - Wood Shop:** Safety Demo + knowledgeable user check off - by Roman Hruska.
- **4th Thurs - 3D Printing:** Safety Demo + User Training.- by Chris Spitler

***Recurring Education classes and events**:*

- **CAD Class:** Learn 3D CAD modeling so you can make items to 3D print or machine on the CNC Wood router.

- **CNC Wood/Plastic Router Classes (Intro):** Learn the basic principles of CNC wood routing on the Shapeoko 2 router. This class will introduce you to the basic process steps so you can machine small items. This class is free to members and has a $20 fee for non-members.
- **CNC Wood/Plastic Router Classes (Adv):** Apply the principles of CNC wood routing on the Greenbull Router. This class introduces you to a powerful 3 Horsepower router spindle for cutting large and thick materials. The **(Intro)** class is a prerequisite to this class. You must be a member to take this class and has a $30 fee.
- **Embedded Systems Group:** 3rd and 4th Tuesday of the month with lessons in soldering, basic circuitry and electronics projects.

Groups meeting at Bridgewire

- Big Brothers & Big Sisters (activity monthly)
- Reno Robots
- Your group can meet here also. The only requirements are that at least one member of the group must also be a Bridgewire member and that the group obey the rules of our Policy Manual. Schedule your event per the calendar instructions below.

AMAZON PAYS BRIDGEWIRE

We use Amazon SMILE.

When you make a purchase through Amazon, THEY will donate to our non-profit Bridgewire, if you setup your account to do so. All you have to do is login to your Amazon account through smile.amazon.com before you make your purchase. Specify “Bridgewire” as your charitable organization. Many of us have installed Amazon Assistant (quick link) to easily return to AmazonSmile when you login to Amazon. Each donation is small, but if we all participate this could add up.

Bridgewire got a $35.22 check from Amazon Smile last quarter.

FINAL NOTES

Clean up for the cleaning crew?

Bridgewire's industrial cleaning service has been doing a terrific job of keeping the shop tidy and dust free. We can all help them focus on the deep cleaning aspects of their job by keeping work areas organized and cleaning up after ourselves. Let's not forget that Bridgewire is a co-operative facility that relies on member participation to maintain the facilities while keeping an affordable fee structure. This service frees us to spend more time on infrastructure issues. There's plenty of need for repair and maintenance of the tools and equipment.

New Members

Welcome to new members over the last 2 months.

Andrew Young, Anthony Hanifen, Anthony Powell, Draden Mitchell, Nicholas Fitzgerald, Tabatha Porcelli, Tom Hodgdon and James Lawson

BRIDGEWIRE CALENDAR

BELOW Click on "Calendar" to go to the Bridgewire calendar with interactive event details.

ALL MEMBERS, If you would like to add an event. Email us at info@bridgewire.org or click on the button below the calendar to schedule your event with details and contact info. The new event will be approved by an officer or director to make it show up. Your events can be any project you want to share or get help with. Add Event

Calendar