SHENANDOAH VALLEY STEM MENTORING AND VOLUNTEERING OPPORTUNITIES

As of Sept. 2014, as gathered by the Shenandoah Valley Technology Council

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Name of the project/effort/meeting/location	Describe your project/activity/site or idea. Who and how many are served?	Do you have a need or interest in having volunteers/mentors support you?	Whom to contact
Staunton MakerSpace https://www.facebook.com/pages/Staunton-Makerspace/297780750378723	The Staunton Makerspace is in the early stages of building out a location which provides members with access to hardware and software tools for making, digital design and fabrication. Think 3D printers, laser cutters, and CNC routers - along with the training and expertise needed to help people make the most of this equipment. We presently have a 2500 square foot space, with a 3d printer some simple CNC tools and wild ambition.	Perhaps the best possible support would be for individuals to sign up as members of the Makerspace. The larger our membership, the better the tools, the larger the projects, and more the fun the space becomes. A core part of our mission is to educate and draw in younger makers. We plan to host a number of classes, so people willing to host labs in electronics, 3D design, and basic engineering would be most welcome. We are also building much of our own furniture for the space, so people interested in helping prototype novel tables and work spaces would be a blessing.	Dan Funk daniel.h.funk@gmail.com
Open Source Staunton http://www.meetup.com/Open-Source-Staunton/	Open Source Staunton currently has 110 members. We have about 10 MeetUps a year, covering technology subjects that our group shows interest in. Our members are from a mix of large and small businesses, and government organizations, such as: Rosetta Stone, Lumos, Cville IT, City of Staunton, City of Waynesboro Schools, James Madison University, People Places, FireEye, Vivid Cortex, Roomkey, Maternity Neighborhood, OpenSource Connections, and EN Computers.	Yes - and we are already have some SVTC folks participating. A number of the SVTC board members have joined our meetup group. We would love to have other SVTC members participate as well. We have speakers planned for the rest of 2014, but need folks who can speak in 2015.	Tamara Funk (funkt@lightcastletech.com)
Harrisonburg City Public Schools STEM Day at the Harrisonburg Mall https://sites.google.com/a/harrisonburg.k12.va.us/hcps-stem-day/	HCPS STEM day is a community wide event to celebrate Science, Technology, Engineering and Math and to showcase our STEM students as presenters. Each year we house about 65 exhibits and have about 140 volunteers, about 145 student presenters, 100 other community exhibitors and about 2000 attendees. Visitors to STEM day can choose from scheduled events or walk around and participate in hands on activities for all ages. This year we have set the date as Feb. 21, 2015. The event goes from 10-4.	STEM day takes months of planning and many many hours of time from myself and volunteers. First, I could use help with obtaining and coordinating the volunteers for the event. This is one of the bigger pieces of the coordination. Someone who has connections with volunteer organizations or is very good at organizing resources would be beneficial. The time period for this starts in Nov. and continues periodically until STEM day. Second, I could use volunteers for the day (Feb. 21, 2015). Volunteers could come for 3 hour shifts from 8am-4pm the day of the event	Amy Sabarre, HCPS STEM, asabarre@harrisonburg.k12.va.us ; 540.434.9916

		and 12-6 the night before. Anyone, wanting to volunteer to be on the planning committee is also welcome.	
Harrisonburg High School robotics team (two FIRST Tech Challenge teams, one FIRST Robotics Club) www.BigBlueBotics.weebly.com	I am the lead mentor for three robotics teams hosted at Harrisonburg High School. Our two junior teams compete in the FIRST Tech Challenge program during the fall and our senior team competes in the winter and spring months through FIRST Robotics Competition. We serve student populations in HCPS grades 7 - 12. Our goal is to support STEM integration in middle and high school programs through robotics. All teams serve a total.of 35-40 students during the school year. More information about the program can be found at www.usfirst.org. Also: http://www.usfirst.org/roboticsprograms/frc	We are always in need of mentors for our programs. Practicing mechanical engineers, as well as those who are interested I'm helping students achieve their goals in this STEM activity are always welcome.	Geoff Estes, Harrisonburg High School; team3274@gmail.com, gestes@harrisonburg.k12.va
Blue Ridge Community College Summer Camp for middle school age Girls (GEMS) http://www.whsv.com/home/headlines/GEMS-Camp-Teaches-Girls-about-Energy-264805991.html	We propose to run a one-week program during the summer of 2015, which would introduce middle school female students to Mechatronics (Mechatronics is a blend of mechanical systems, instrumentation, electronics, robotics, automation, computers, and control systems integrated to address needs of highly automated manufacturing processes.) We expect to be able to serve a maximum of 20 students from our service region, but we also plan to reach out to the local industrial and manufacturing companies in hopes that some of their employees have female children who would be interested in and benefit from such a program.	We would love to have a couple of additional people work with our participants in a variety of ways, but we'd be particularly interested in having female and minority representation as the audience is female: (1) make mini-presentations about various technical careers and (2) provide additional hands-on support during the workshop.	Tara Carter, cartert@brcc.edu Dean of Mathematics, Physical Sciences and Technology; Dean of Mathematics, Physical Sciences and Technology; (540) 453-2260
Stuart Hall School FIRST Robotics Team (FRC) http://www.stuarthallschool.org/math-science-emphasis-program	FIRST Robotics is an international competition in which high school students design and build a robot to perform a certain task. Stuart Hall School is a boarding school. We have international students from Rwanda, China, and Vietnam. Our day students are from the Shenandoah Valley. This is our third year as a FTC team.	It would be invaluable to have a professional programmer and/or mechanical engineer visit the team or robotics class. An hour to half an hour would work. I would be happy to contact the professional to set a convenient time for them to meet with us.	Kevin Carini; kcarini@stuart-hall.org ; http://www.stuarthallschool.org/staff/kevin-carini

Shenandoah Valley Governor's School's FIRST Robotics Club (FRC) http://svgsstudentnews.wordpress.com/	FIRST Robotics Competition (FRC) is an international competition in which high school students design and build a robot to perform a certain task. The Shenandoah Valley Governor's School team consists of 10th – 12th graders from seven high schools across Staunton, Waynesboro, and Augusta County. Students learn to use the engineering design process to solve a real-world problem with no singular solution. More information regarding FIRST can be found at the following link: http://www.usfirst.org/roboticsprograms/frc Information about Shenandoah Valley Governor's School can be found here: http://svgsstudentnews.wordpress.com/	We always welcome additional mentors from the community. Volunteers/mentors with experience in mechanical engineering, tech support, computer programming, electronics, metalworking, and/or fundraising who are willing to work cohesively with students to complete the project are most appreciated. The international competition "reveal" date is January 3, 2015. Work on the robot must be concluded by February 17, 2015. We generally meet two – three evenings per week for a couple of hours at a time. We will work with students to determine the best nights to meet this year. Monday nights are usually ideal, and other nights vary from year to year. Volunteers are certainly not expected at every meeting, but any support is greatly appreciated. The competition dates are March 18 – 21, 2015 at VCU'S Siegel Center in Richmond.	Lee Ann Whitsell, whitesell@svgs.k12.va.us
Cyber Day (1-day) http://cybercity.jmu.edu http://www.jmu.edu/news/cob/2014/06/03-students-from-page-county-participate-in-cyber-day.shtml http://www.jmu.edu/news/cob/2014/06/03-students-from-page-county-participate-in-cyber-day.shtml	CyberDay is a one-day program that serves as an exciting computer technology field trip for middle school students. Between 40 and 50 students are transported to JMU on a school bus. The CyberDay program contains 2 or 3 one hour computer learning activities such as mobile app development or network security. In addition, the students participate in discussions with advisors on admissions, student success, and career options. Our goal is to influence more young people to pursue IT careers.	We are always welcoming to individuals that can deliver 60 minutes of exciting hands-on computer skills to middle school students. Volunteers are welcome and we try to utilize them in the best way for the students. Date varies each year. Presumably late spring/	Tom Dillon, JMU, College of Business; dillontw@jmu.edu ; 540.568.3015;
Harrisonburg Startup Weekend http://harrisonburg.startupweekend.org	Shenandoah Valley Startup Weekend is for entrepreneurs, designers, programmers, makers, and others to pitch their startup idea and receive feedback from their peers. At Startup Weekend, teams organically form around the top ideas (as determined by popular vote) and then it's a 54-hour frenzy of business model creation, coding, designing, and market validation. The weekend culminates with presentations in front of local entrepreneurial leaders with another opportunity for critical feedback. Any potential entrepreneur in the Valley can sign up and participate; cost to participate for the 52-hr weekend event is $100 which takes place in early spring each year usually on the JMU campus.	Volunteers for the planning committee (3-4 months before the event is to take place); Volunteers are also needed during the weekend itself to be facilitators on site, mentors and judges.	Carol Hamilton hamil1cw@jmu.edu Nicky Swayne admin@svtc-va.org

Regional FIRST Lego League Competition **(FLL)** Event date (Nov 8, 2014) http://www.va-dcfll.org/event/harrisonburg-regional-tournament/ General FLL info for Virginia: http://www.va-dcfll.org	Regional competition for FIRST Lego League (FLL) is held on JMU's campus each fall, the 2014 date is 11/08/2014 at the JMU ISAT/CS Building. With twenty plus teams of 10 participants each plus coaches and parents, it's an active day but it's lots of fun. The tournament is sponsored by the JMU College of Integrated Science and Engineering and others, incl. the SVTC.	We could use volunteers to support registration, logistics. judging, and score keeping (done on a computer, very easy).	Contact regional tournament director, Dr. Ralph Grove at groverf@jmu.edu
State FIRST Lego League Competition **(FLL)** Event date: 12/6 and 12/7/2014 http://www.va-dcfll.org/event/virginia-dc-championship-tournament-2/?instance_id=185 General FLL info for Virginia: http://www.va-dcfll.org/	Statewide FIRST Lego League (FLL) is held on JMU's campus each winter. The 2014 date is December 6 - 7 at JMU's Memorial Hall on S. High Street on Sat., and Harrisonburg High School on Garber's Church Rd. on Sunday. This statewide tournament is a multi-day competition that brings hundreds of participants, coaches and parents to the Shenandoah Valley. This event is a huge undertaking but it's high energy and lots of fun.	We could use volunteers to support logistics (greeters, runners, site management, etc.), judging, and score keeping. Volunteers can be used for short blocks of time, whole-day or whole weekend. This is a great opportunity to give a positive impression of Harrisonburg, the Valley & JMU on our out-of-town guests.	Sign up to volunteer: http://www.va-dcfll.org/volunteer/ Or contact VA/DC FLL state director, Nick Swayne, swaynedd@jmu.edu