



# Women *in* STEM CONFERENCE

**Algonquin Regional High School, Northborough, MA**

**Saturday, March 21<sup>st</sup>, 2020**

**8:15 am – 2:00 pm**

The Northboro Junior Woman's Club will be holding its thirteenth "Women in Science, Technology, Engineering and Math (STEM) Conference" to give middle school girls the opportunity to explore careers in science, technology, engineering and math. After an opening presentation, the girls will be able to attend four, 40 minute interactive hands-on career workshops. Presenters will represent fields such as Forensic Chemistry, Dentistry, Architecture, Nursing, Software Architect, Biotechnology, Teaching, Engineering, Conservation, Fashion Design and various Medical Professions. The presenters will explain what they do in their occupation and what sparked their interest in the field, share different tips on courses of study needed for their profession, and provide hands-on exploration/activities.

A luncheon will follow the workshops and offer an opportunity for the students and presenters to continue discussions in a more informal setting.

*Registration this year is solely on-line. Enrollment is limited to the first 250 girls. Please note that choice of the workshops is based on a first come, first served basis. We will try our best to match you with your top choices. This program has historically been very popular and always fills to capacity.*

*Please see the description of the workshops on the following page.*

*Please go to this link to register:*

[2020 NJWC Women in STEM Conference](#)

Once registration is completed you will receive a confirmation message stating your registration has been received, this is **not** a separate email.

You will receive an RSVP two weeks before the conference and an email reminder in the week before the conference with details of the day.

If you have any questions please contact us via email at: [STEM@northborojuniors.org](mailto:STEM@northborojuniors.org) or call Mary Ellen at 774-258-1500.

NO information collected via this registration will be shared.

**Architect – Dream It, Design It, Build It** - If you were to explore a day in the life of an architect, it could look radically different from one day to the next. Learn more about the broad array of tasks, projects types, positions, and personalities in this challenging profession. Session will include discussion on technology, education path, salary ranges, and a mock design project.

**Chiropractor – Is a Career in Health Care Right for You?** We will help you choose your path!

We will compare and contrast the various health care career options while taking into consideration individual interests, goals and strengths so that the STEM students can better decide which track to focus on.

**Conservation Agent – Food Waste and Water Quality** Come explore the connections between clean water and the food we eat from growing it to throwing it away. Learn ways to reduce waste, with composting and the use of vermicomposting: worms! Observe and experiment with the worms, and learn what makes them happy, including our leftovers!

**Forensic Science – Science and the Law** -Use forensic science laboratory techniques and critical thinking skills to assist in a criminal investigation.

**Research Scientist – Drug Design** - How does medicine work? What do doctors and researchers need to think about when they develop a new drug? Why are some medicines pills and some shots? What happens to a pill when you swallow it?

**Nursing – ABC's of Nursing** - Learn about the vast opportunities in the awesome field of nursing. Learn all about sterile technique, practice assessing a patient, calculating intravenous rates, bandaging and dressing a wound and listening to lung sounds with a nursing instructor and nursing students.

**Research Scientist - Squirmly Polymer Worms** – What's the difference between natural products and synthetic products? Come find out and create a synthetic polymer from natural resources?

**Science Teacher - DNA Technology** – Use extracted DNA samples from a crime scene to determine the perpetrator of a jewelry theft. Use your skills of deduction in a small group setting and learn the biotechnology skills of micropipeting and agarose gel electrophoresis.

**Electrical Engineer/Tech Ed Specialist – BristleBots** - Explore the engineering design process by building a small robot prototype.

**Exercise Science – What's on your FEET?** - The truth about UGGs, Flip Flops and High Heels. We will teach you the GOOD, the BAD, and the UGGly! Let's align your feet, strengthen your hips, and learn how your shoe choice affects your entire body!

**Pediatrician – A week in the life of a pediatrician!** Learn basic history taking and physical exam skills and how to deliver important health messages. Use those skills to solve some medical mysteries and design a 'healthy mind/healthy body' ad campaign.

**Dentistry - Where art, science and medicine collide** - Come learn why all dentists are doctors, artists, and scientists. Dentistry is fulfilling, creative, and always helping people. Come test your creative sculpting skills and see if the artist in you can make a beautiful smile for your patient.

**Nurse Anesthetist – You Are Getting Sleepy** - What does a nurse anesthetist do? Learn about and practice placing breathing tubes, inserting epidural catheters and explore Poiseuille's Law with intravenous catheters.

**Materials Science – Got Chocolate?** - Come learn about materials science and find out what chocolate bar is the strongest! You will get to test the flexural strength of different chocolate bars and learn how their microstructures (i.e. different candy fillings) affect their strength.

**Science Teacher – Science Escape Room** - What is involved in teaching science? Escape the room using your knowledge of biology, chemistry, physics and earth science. You won't want to miss this workshop!

**Fashion Design – Facts of Fashion** - Have you ever wondered what Math and Science have to do with the field of fashion and what on earth is a croqui? This workshop will give you the inside scoop and you will be able to try your hand at a basic fashion illustration.

**Computer and Electrical Engineer – Artificial Intelligence** - Enter the world of AI with a hands on demonstration.

**Research Scientists – Chemistry, Biology and Biotech** - Come and explore the world of drug discovery through the eyes of chemists and biologists. Create chemical reactions, learning about the world of developing medicine and the importance of biology in our everyday lives. If you've ever been curious to know what it's like working in the world of biotechnology, then join us for a lot of fun experiments!

**Physical Therapist Hip Hip Hooray!** Learn more about the profession of physical therapy, components of posture analysis, injury prevention exercises for athletes, and help perform gait analysis on a willing participant.

**Industrial Engineer – Welcome Aboard Flight 5S**– Explore aerospace parts from design and development to production. Discover the benefits of the 5S methodology in industry and apply the system to everyday life.

**Software Architect/ Director of Technology– There's an App for That!** – Explore technology and build your own App -

**Engineering and Environmental Science – Squishy Circuits** - Come have some fun! Build a simple circuit out of conductive clay and talk to some of the young women working to shape a green and sustainable energy future for all of us.

**Biomedical Engineering A Doctor's Best Friend** – Where do all those medical devices used by doctors to diagnose and treat patients come from? Just like TVs, cars, and robots, medical devices need to be engineered! Come learn about biomedical engineering and build a prosthetic limb.

**Urgent Care Physician – Medical Mysteries** - Can you use your fact collecting skills, create a problem list, prioritize information solve the medical mystery and create a treatment plan for your patient.

***Please go to this link to register:***

**[2020 NJWC Women in STEM registration](#)**