Good morning. My name is Dr. Ruth Kermish-Allen and I am the executive director of the Maine Math and Science Alliance, a non-profit organization based right here in Augusta that works toward inspiring and fostering critical thinking, problem solving, and civic engagement in our youth through K-12 STEM education both in and out of school. I am also a mother of two amazing girls, Elana age 10 and Izraelle age 7. So as you can imagine, the goals of the Permanent Commission on the Status of Women are near and dear to my heart.

* Early childhood education
* Girls and STEM
* Investing in traditionally female occupied fields

Raising daughter’s anywhere has it’s unique challenges, but Maine, as usual, creates it’s own special breed of unique. Growing up in Maine is full of extremes, and no I don’t just mean the frigid Winters and steaming Summers. I mean a childhood full of places to roam freely outdoors, but a 30-40 minute drive into town to get groceries, go to school, and after school activities. I mean laptops for every middle school student across the state, but not many opportunities for teachers to learn how to integrate them into classes effectively and productively. I mean an entrepreneurial economy that is built on the innovative, creative, “can-do” spirit of New Englanders – we see a need and we simply find a way to fill it by figuring out how to get the job done. But on the other hand we have far too many STEM-related jobs that remain vacant because our current educational system can’t meet the need.

In Maine our students are climbing an uphill battle. As stated on the Maine Dept of Education data warehouse, approximately 50% of our students scored at or above proficiency in both Math and Science. This is unacceptable. State funding for small rural schools is dropping precipitously and forcing our communities to make some very difficult decisions. These decisions to pull funding away from high quality education in our state leads to students being woefully unprepared to meet the demands of the workforce in Maine or elsewhere, prepare for the challenges of adulthood, and strengthen the economies of our resourceful state.

Nationally, the 2016 Science and Engineering Indicator’s Report found that women remain underrepresented in the science and engineering workforce, although to a lesser degree than in the past, with the **greatest disparities occurring in engineering, computer science, and the physical sciences**

* Women make up half of the total U.S. college-educated workforce, but **only 29% of the science and engineering workforce.**
* Female scientists and engineers have relatively high shares of women in the social sciences (62%) and biological, agricultural, and environmental life sciences (48%) and **relatively low shares in engineering (15%) and computer and mathematical sciences (25%).**
* **In our schools, Female students' achievement in mathematics and science is on par with their male peers and female students participate in high level mathematics and science courses at similar rates as their male peers**, with the exception of computer science and engineering

Our children deserve better. Our girls deserve better. The experiences our students have in the K-12 years will carve the path’s for future successes and failures. We want our daugthers to come home excitedly sharing how they built parachutes, programmed a computer, coded a digital story, and countless other hands-on experiences that will stay with them forever. We do not want them coming home with a distaste for math because they have completed endless worksheets in class and don’t see how math applies to the real world around them or the problems they care about. We can do better and we have to start taking risks to realize that better vision now. Now is the time to support early childhood education, to support STEM education for ALL students not just those that can afford afterschool activities.

Maine has the capacity to do more:

Because of our small population size and local control philosophy Maine is quickly becoming a leader showcasing what is possible in STEM education.

As we speak teachers and students across the state are working hand in hand with scientists to address questions related to water quality, invasive species, and the potential future of aquaculture in our state via online learning communities for citizen science in the classroom. Students are sharing and analyzing real local data with scientists that would otherwise never have access to these hyper-local data. Girls get excited about STEM when they are making a difference in the issues they care about

At the Maine State Science Fair, which is happening this weekend, last year’s winners included 2 amazing young women - Sydney McDonald, who designed and analyzed an artificial muscle comprised of ionic-polymer metal composites and Paige Brown who

Constructed low-cost calcium alginate filter to reduce pollutants in stormwater.

Projects are taking shape that build off a girl’s interest in design and the arts to build, code and design, augmented reality platforms to communicate science to the people that need it most to make decisions.

These experiences can become widely accessible to girls all throughout Maine with more funding for STEM education, professional development for educators, and appropriate supports to help students have the building blocks for success in learning as early as possible.