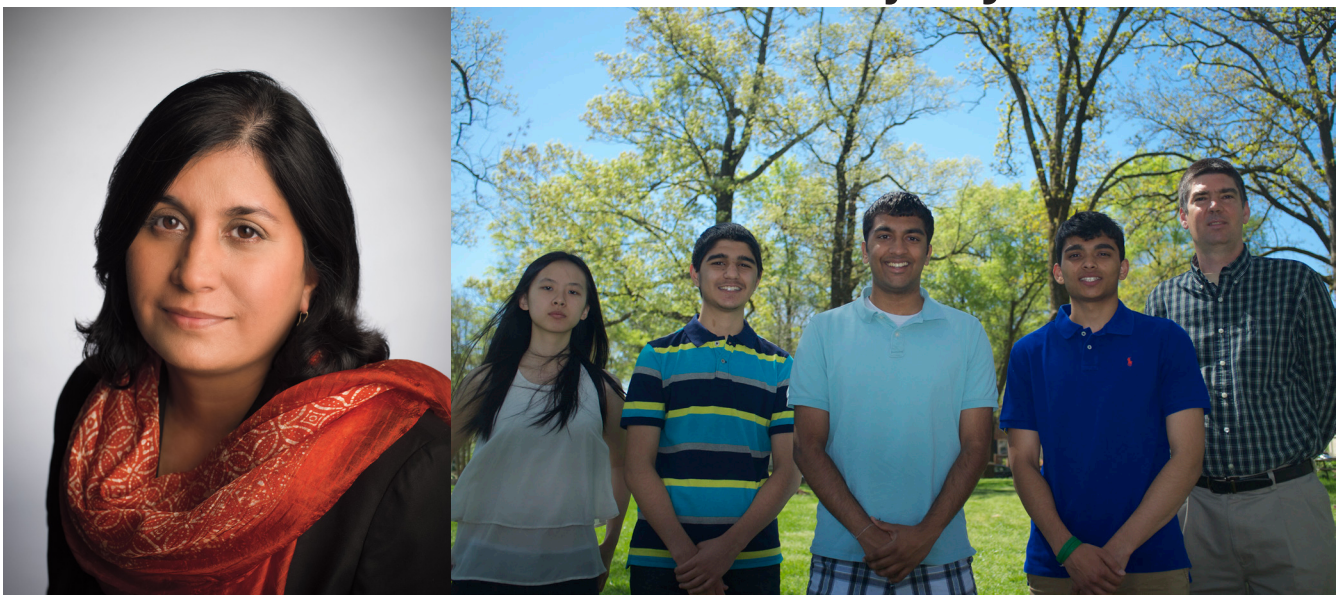
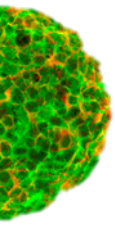
Feature Article: An Interview with Maya Ajmera



Left: Ms. Maya Ajmera - President and CEO of Society for Science and the Public, NCSSM Class of 1985
Right: Sicheng Zeng, BSS Chief Publication Editor, Ahmad Askar, BSS Essay Contest Winner, Rishi Sundaresan and Nimit Desai, BSS Chief Editors, Jonathan Bennett, BSS Faculty Advisor

What do you think is the biggest misconception people have about science today?

One of the biggest problems that affect a lot of kids in this country is the perception that science is hard and it isn't fun. It is easier if I just don't participate. But, I think everything we do and touch is all related to science. I think we need to do a better job of promoting STEM at earlier ages—two and three year olds!



On a national scale, science has become political. Science is used as a political tool to sway people from making the best choices about their livelihoods, as witnessed with the measles vaccine—the outbreak at Disneyland was scary. A lot of misinformation was promoted especially online. The web has really given us a lot of knowledge, but at the same time there is inaccurate information found online. Hence, one needs to be very careful about what they read.

Do you think there is enough of a push given to high school students to pursue research in STEM?

No, there is not enough emphasis nationally to encourage high school students to pursue STEM research. I was very lucky. I had the opportunity to do bench research in a botany lab when I was 13 years old. I was fortunate to grow up in Greenville, North Carolina that is home to East Carolina University. I had the opportunity to work with a great scientist and conduct basic research. I started competing in science competitions as well.

I think NCSSM is a rare gem with the mentorship program. I am starting to see many magnet schools and academies build mentorship programs. NCSSM was out in front of this movement when the school was founded. When I was a student in mid 80s, the mentorship program at NCSSM was an important part of my life.

We must do more to engage our alumni to become STEM mentors for the next generation. I think the mentorship network is not as strong as it can be. We need to do a better job of encouraging our alumni at NCSSM and other institutions to pay it forward and become STEM mentors for the next generation.

With competitions such as the Science Talent Search and the International Science & Engineering Fair, what are you and the Society for Science & the Public trying to accomplish (other than spreading STEM of course)?

The Science Talent Search (STS) was founded in 1942. STS is celebrating its 75th anniversary this year. We have had only two sponsors in our 75 year history—Westinghouse and Intel. The Society for Science & the Public (Society) is the best in the world in finding the extraordinary talent who will be our future STEM leaders. These high school seniors are

not only conducting groundbreaking research but they are incredibly well-rounded. Each year we honor three hundred of the best and brightest young scientists in this country and from that we select 40 finalists. NCSSM boasts hundreds of these students. In fact, I was actually the first young woman to be honored in the Westinghouse Science Talent Search in North Carolina.

With the Intel International Science & Engineering Fair (ISEF) , we bring nearly 2,000 students from 80 countries to showcase their science projects in over 25 categories to compete for $4 million in awards. It is the most powerful talent pipeline in science and engineering in the world. We really look at ISEF as the place for invention and innovation, while STS rewards students for groundbreaking basic research.

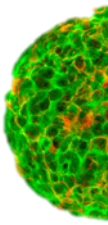
At the Society, I am also publisher of the award winning magazine, Science News. The Society's founder, E.W. Scripps, founded this magazine nearly 100 years ago. Science News is a bi-weekly magazine providing up to date scientific and technical developments. It also has a digital magazine that is read by over 12 million people. We have one of the few science newsrooms left in the United States. Our journalists all have advanced scientific degrees in their chosen fields and a journalism degree, too. I believe, Science News and other science magazines and new stories are one of the bedrocks of a flourishing democracy.

You mentioned you did a research project in high school. How do you think scientific research in high school has changed since you were a student?

Technology has changed everything. For example, the biological sciences are at a critical inflection point with technology. Bioinformatics is using computers to store and analyze large data sets and make sense of it. This just was not possible when I was in high school. Data was collected manually in a lab book.

How has NCSSM helped your career path and aspirations?

NCSSM gave me the courage to continue a journey of exploration and risk taking. All NCSSM students are risk takers. We are 16 years old, and we are leaving home. We are going to a publicly funded residential high school that is very rigorous academically but also gives students the opportunity to be creative and innovative. The mentorship program at NCSSM was monumental for me. It gave me an experiential learning opportunity at Duke University, a world class research institution.



Regardless of the career path you take, science imparts lasting lessons. There has been an emphasis in our society that it is not ok to make mistakes. In science, when an experiment does not work, it is how we get answers. It pushes scientists to think differently about a problem. Secondly, integrity is at the heart of scientific research. This value is so important in everything we do. The third aspect is collaboration. I was very fortunate to see scientific collaborators in the labs I worked in. Today, it is very important for me to solve problems in a collaborative way. With science, regardless of the path you take and the work you do, the core values you learn from being a scientist carry you in any facet of life.

Looking back on your journey, what part of your Science and Math experience would you like to see changed or added?

I would love to see every student be in a research lab. I don't think that has happened yet at NCSSM, but I think that would be extraordinary. I think it is important for NCSSM to have more research labs, too.

The arts play an important role in STEM. It is called STEAM. I think it is vital for all students to have some grounding in the arts. Many creative people in technology and science have had a strong influence from the arts.

I don't know how much you have read about Steve Jobs, but when he dropped out of Reed College, he decided to drop in on a Calligraphy class. That class actually influenced him a lot. He created the most beautiful fonts in Apple devices. As Mr. Jobs has said, you wouldn't have known that that calligraphy class would have had any influence at all because it is hard to connect the dots looking forward, but easy to connect them looking backwards. You don't want to be dismissive of any academic discipline, because you never know how it will influence your journey.

More specifically, what activities could you do that would improve your presentation in writing?

Science is complex and it can be hard to explain. We need to have writing classes that focus on writing about science for the public. How does your research make the world a better place? How does your research influence public policy? Good

writing helps to bridge the divide.

What other qualities must a scientist, researcher, or entrepreneur have to be successful?
Every kid at NCSSM is brilliant. Three skills that are very important in our fast paced changing world are becoming an eloquent writer and speaker, working well in teams, and listening and understanding diverse points of view.

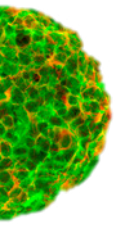
Going off your entrepreneurial experience, what inspired you to start The Global Fund for Children?

I majored in biology with a concentration in neuroscience at Bryn Mawr College. I received a Rotary International Graduate Fellowship to travel to South and Southeast Asia. During my travels, I began seeing homegrown innovations taking place in local communities. In India, I got off at a train station in a city called Bhubaneswar where I saw forty or fifty kids sitting in a circle on the platform; they were learning how to read and write with a teacher holding flashcards in the middle of the circle. I learned that the kids actually lived around the train platform. The kids worked, played, slept and begged on the train platform but they did not go to school. A teacher noticed this and decided to bring the school to the children. That was my moment of obligation. I realized I wanted to help groups of kids like these and scale innovative programs for poor children globally.

I decided to put off medical school and get my graduate degree in public policy at Duke University. I took courses in economics, international development, and education. When I was 24 years old, I founded The Global Fund for Children with $25,000 in seed capital. Twenty years later, we have invested nearly $40 million in capital to innovative grassroots organizations serving the most vulnerable children and youth in the world including the train platform schools.

I also founded a children's book publishing imprint with Charlesbridge Publishing. We have over thirty books in the marketplace that celebrate the similarities that all children share around the world. Recently, I just released my first children's book in the area of science. It is called Every Breath We Take. It is written with Dominique Browning, co-founder of the Moms Clean Air Force of the Environmental Defense Fund. I am hoping to write more children's books with a scientific bent.

In starting a company, entrepreneurs will face hardships and obstacles to overcome. At these points, in your opinion, how should they decide whether to call it quits or keep going with the product?



When I founded The Global Fund for Children, there were times when I wanted to quit. However, I was fortunate to have great mentors who encouraged me to keep going. One of the biggest pieces of advice I would give to young entrepreneurs is to really surround themselves with people who believe in you and stay away from people who suck the energy and passion out of you, or who constantly are naysayers. Do not confuse this advice with helpful mentors, who ask you tough questions to guide your thinking. There is a big difference.

In addition, an entrepreneur usually comes to a point in their own journey when they know it's time to call it quits. Sometimes the reason is simply that the enterprise has run out of money, etc. Even if the enterprise does not succeed it is not a bad thing, because you learn from the experience. Failure can be a great learning opportunity.

Do you have any other advice for young students and entrepreneurs?

All students need to have a global orientation. In fact, I would support a requirement for all NCSSM students to travel abroad. There are many ways you can learn from overseas experiences. You could visit research labs such as the Max Plank Institute in Germany, or you could volunteer in the developing world and teach English to children for the summer. Experiential learning overseas exposes young people to be more aware and open to diverse peoples and cultures.

Finally, there are a lot of "scientifically illiterate" people out there who do not believe or trust the data. How do we teach them the value and importance of science?

It has to start with young people. Then we have to make sure the educators and school systems are reaching out to students and providing accurate scientific information. I believe this is one of the biggest challenges facing our country today. How do we make sure that accurate scientific information gets into the hands of our citizens? At the Society for Science & the Public, we have begun a new program called Science News in High School that gets our magazine free of charge into science departments across the country through a sponsorship model.

I think that if we can get a lot more kids doing research, inventing new technologies and applications, and trying to find solutions to intractable problems, this will be an important step in the right direction.