

## A Letter from Shirin Saadat

I have had the honor and privilege to be a member of the DoD STARBASE Minnesota Board of Directors for the past several years. It has been a rewarding and exciting experience to see how DoD STARBASE Minnesota can positively impact the STEM experience for so many students in Minnesota. Kim Van Wie, DoD STARBASE Minnesota Executive Director and her staff have created an inspiring STEM experience for the students from over 30 schools in Minneapolis and St. Paul. The STEM-centric curriculum is truly a hands-on educational experience that begins with classrooms on-site at the 133rd Airlift Wing of the Minnesota Air National Guard Base. The students are immersed in an aerospace setting that is both inspiring and engaging. In addition to the classroom's inspiration, DoD STARBASE Minnesota's teaching staff is outstanding at presenting the hands-on curriculum with enthusiasm and skill. The students practice science, math and engineering problem solving skills and develop confidence and aptitude in basic STEM skills while having fun! The outcomes are measurable and long lasting. In a recent longitudinal study of former DoD STARBASE students, nearly a decade later, 83% thought DoD STARBASE helped them understand STEM better and 79% said it increased their interest in STEM. These students are our next generation's workforce and there is an important need to inspire and engage young minds early in STEM education.



In my role as Technical Director of 3M's Construction and Home Improvements Market Division, I know how important it is to have an engaged and technically talented workforce in our laboratory. Our success today and in the future is built on the talent and dedication of our employees. We are entering a transformational time in our workforce demographics, and it will be imperative to our future sustainability to have a vibrant STEM skilled workforce. To develop the innovative products of the future, our laboratories need individuals with strong skillsets in STEM sciences (material science, chemistry, polymer science, etc.) and, additionally, have the aptitude to be creative and collaborative problem solvers! DoD STARBASE Minnesota is a wonderful and highly effective example of a curriculum and organization that is inspiring students to be confident in math and science and develop problem solving skills.

I am also very proud that scientists and engineers from 3M volunteer their time and talent with DoD STARBASE Minnesota students, demonstrating how STEM is applied in the work world and encouraging their pursuit of STEM careers. The interactive demonstrations and investigations included: engineers sharing properties of conduction and 3M conductive tapes, measuring airflow using an anemometer, simulating a manufacturing line, demonstrating the use of CAD software in industry, showing electronic stethoscope models and lung visualization software, using a shaker to show the effects of vibration in mechanical structures, and demonstrating how fuel cells can be a source of electricity, water, and heat. As stated by Bill Klinzing, PhD, Senior Engineering Specialist of 3M Design & Engineering Solutions, "DoD STARBASE is a fantastic experience for all involved. The seasoned engineers and scientists are all supercharged about the applications of math and science! It is a highly energetic program and the 3M team enjoys the kids and STARBASE teachers as much as the students enjoy our visits!"

In short, it's vitally important that STEM education programs inspire and develop our next generation workforce. DoD STARBASE Minnesota is a truly unique and inspiring example of how effectively STEM education can be provided to young students and make an impact.

Sincerely,

Shirin Saadat

Technical Director,

Construction & Home Improvement Markets, 3M

DoD STARBASE Minnesota's teaching staff is outstanding at presenting the hands-on curriculum with enthusiasm and skill.

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