

STEM SESSION TRANSCRIPT

DECEMBER, WEATHER

Dr. John Loehr

Hi, I'm Dr. John Loehr, Vice President of STEM Education at Science Olympiad, and it's my pleasure to welcome you to this month's STEM Session. I'm the new kid here at Science Olympiad, I became involved with the program nearly 14 years ago, when I walked into the wrong room at the National Science Teaching Association's annual meeting in St. Louis. That fortunate mistake led to me meeting Dr. Gerard & Sharon Putz, the founders of Science Olympiad and my introduction to the program.

Out of our conversations, my position as an administrator with the Chicago Public Schools and the support of the Illinois Science Olympiad chapter, we were able to establish a program that allowed CPS schools to join Science Olympiad. I didn't know that our first 7-team tournament would lead to over 30 CPS schools joining Science Olympiad and serve as a model which has been used multiple times over to bring Science Olympiad to underrepresented and underserved communities. I certainly didn't know that I would join the organization full time to carry on Gerard and Sharon's vision for STEM education. What I did know at the time was the power and the impact that the program could have, as one of the students at the first tournament shared with me, because of Science Olympiad, she now knew that other students in her high school loved science as much as she did.

I'm excited that our new MY SO program, of which these STEM Sessions are one part, continues Science Olympiad's mission to inspire and excite STEM learners just like Gerard and Sharon intended 37 years ago when they founded the organization. It is now my pleasure to introduce Kayla de Couto, Communication & Outreach Specialist from our fantastic partner, the National Oceanic and Atmospheric Administration.

Kayla de Couto

Hi, I'm Kayla de Couto, Outreach and Communications Specialist with the National Oceanic and Atmospheric Administration, but you may know us as NOAA. NOAA's Office of Education where I work has been a sponsor of Science Olympiad since 2012, but staff from NOAA have been volunteering for Science Olympiad since the 1990s. In addition to our support at the national competition, NOAA staff across the country volunteer to help write exam questions and supervise events for regional and state competitions too. At the national competition, we work closely with the Meteorology National Event Coordinator, Stacie Bender, with the US Forest Service. Stacie was previously a meteorologist with NOAA, and now provides support to Science Olympiad coaches across the country, and supports logistics at the national competition. As part of our partnership with Science Olympiad, we offer awards and create online resources for both Meteorology and the Dynamic Planet divisions. When teams begin prepping for regional and national competitions, they use our online resources to study background information and explore data on meteorology topics related to NOAA, like severe weather, climate, satellites and more.

By supporting Science Olympiad, we're helping young scientists connect with NOAA, the nation's premier agency on weather and climate science. There are many career avenues for people interested in meteorology, including of course, meteorologists, but also hydrologists, climate researchers, satellite data analysts, pilots, data visualization experts and of course, teachers and educators. We hope that this partnership not only supports students at their current level, but also inspires them to one day work with us here at NOAA.



Dr. John Loehr

Thanks Kayla for all you and the team at NOAA do not only to support Science Olympiad and inspire the next generation of meteorologists and climate scientists, but also thank you for all the work you do to help us understand weather and climate science to keep us safe when severe weather strikes. It is now my pleasure to introduce Susannah Burrows, a past Science Olympiad competitor who now is a practicing climate scientist.

Dr. Susannah Burrows

Hi, my name's Susannah Burrows, and I'm a Climate Scientist at Pacific Northwest National Laboratory. I participated in Science Olympiad throughout middle school and high school, competing and winning medals in a broad range of events including Bio Process Lab, Qualitative Analysis, Don't Bug Me, Experimental Design, and Dynamic Planet. I also competed in Earth, Sea & Sky, which later became the weather event, where I won the Division B national medal in 1998. Science Olympiad was where I really got excited about the science behind weather and climate. I loved visualizing how air moves in the atmosphere, and connecting that with maps of weather systems, what I can see by looking up in the sky, and physical understanding.

I wanted to learn more, so I started by earning a bachelors degree in Physics, which gave me a great foundation. And, like a lot of students I meet in Science Olympiad today, I had really broad interests - I doubled majored in German Studies, and after my bachelors degree I actually decided to attend graduate school overseas in Germany. After five and a half years of hard work there, I earned my PhD in Atmospheric Science and returned to the United States to work, first as a Postdoctoral Researcher, and now as a Staff Scientist at Pacific Northwest National Laboratory in Washington state.

So today, I help lead a team of scientists and engineers that runs a massive climate model on some of the nation's most powerful supercomputers in order to simulate interactions between atmospheric carbon dioxide, climate, Earth's ecosystems, and the energy system. I also lead a separate project where we're advancing scientific understanding of the aerosol particles that help ice-forming clouds. Along the way, I've also won awards for leadership in the development of scientific software capabilities and for my research in scientific publications. What I love about working at a National Laboratory is that I get up every day to work on challenging problems, and I get to work with other scientists and engineers to achieve more than any of us would be able to do working separately.

I think it's important for students to know the stereotype of a solo scientist who solves problems completely in isolation is actually very rare in today's world, and also you don't have to choose between doing scientific work and being a full person with other interests. There are all kinds of people in science, and many different ways to succeed. As I've continued in my career, I've also continued to volunteer for Science Olympiad. I've been an Event Supervisor, and on the Earth & Space Science National Rules Committee, and it's been really great to have a chance to give back to an organization that I've benefitted from so much.

Dr. John Loehr

Thank you Susannah for your continued support of Science Olympiad. The continued involvement in the program by alums like yourself is one of the things that keeps us on the cutting edge. For everyone watching, I hope that you have enjoyed learning a little bit about the different career pathways that exist for students interested in meteorology and climate science. If you haven't already done so, I encourage you to take a look at this month's Lesson Plan. It contains a few hands-on activities and resources to help you understand weather a little better. If you want to see how your knowledge of meteorology and severe storms stacks up against students from around the country, I recommend that you sign up for this month's STEM Showdown - it's free for a limited time.

