



Trailblazers of Education is a recognition program that recognizes teachers for being innovative and challenging conventional methods to inspire and engage students through creative and impactful teaching practices. The educators are driving positive change and continuously seeking new ways to enhance learning experiences and outcomes. This recognition has been created by Candice DeAngelis, the 2025 New Hampshire Teacher of the Year as an effort to spotlight the creativity and exciting programs that are happening in our New Hampshire schools.

Sanborn Submariners: Innovating Hands-On STEM Education

By: Candice DeAngelis, NH Teacher of the Year



Tucked in a small corner of New Hampshire, Sanborn Regional High School serves the towns of Kingston, Newton, and Fremont, stands out as a model of innovation. On the surface, Sanborn appears like any other high school in southern New Hampshire. However, this public school is home to something truly unique - the home of the biggest fleet of submarines in the state.

The Sanborn Submariners, led by teacher and founder Jim Enright, are a group of driven, creative, and risk-taking students redefining STEM education. Together, they've made New Hampshire history with their drive and determination.

Pictured above: Mr. Jim Enright and the 2023 Sanborn Submariner team.

A Vision Takes Shape

The journey began in 2018 when Jim Enright envisioned building a submarine from scratch using materials like a propane tank, electric motors, and woodwork. Despite the project's risks and complexities, Enright's idea sparked the foundation of what would become the Submariners team. Around the same time, he learned about "wet submarines" from the Seacoast School of Technology (SST), which had previously competed in International Submarine Races (ISR).

After schools reopened post-pandemic, Enright reignited his research. He discovered SST's history with "wet submarines" and set out to locate their 2013 model. His search led to the Portsmouth Naval Shipyard, where the STEM Outreach Coordinator helped recover the sub. With support from former Principal Brian Stack, current Principal Jennifer Michitson and Superintendent Dr. Thomas Ambrose, as well as funding from community sponsors and the Sanborn Seminary Trustees, the submarine was brought to Sanborn to begin its transformation.

Building a Team

By October 2022, several students expressed interest in the project. Enright, an experienced scuba diver, helped these students earn scuba certifications—a requirement for operating a "wet submarine." This is needed because in a "wet submarine" the team is not enclosed from the water, rather the submarine fills with water once submerged.

The team worked on the sub's design with insights from the USS Albacore Museum in Portsmouth and engineering experts at UNH. They also learned hydrodynamics and built a human-powered propulsion system using a bicycle mechanism. The team's hard work culminated in a nine-day trip to the David Taylor Model Basin outside of Washington, D.C., where they tested the sub on a Naval base.

Competing on the World Stage

In 2023, the Sanborn Submariners competed in the International Submarine Races, competing alongside 19 teams, including renowned universities like the University of Michigan, Texas A&M, and Virginia Tech, as well as teams from Canada, Germany, Mexico, and Poland.

While at the races they learned of the collegiately and incredible support in the racing community, from sharing equipment and helping to fix parts of each other's submarines to offering to compete on another submarine because a team was down a member. While competing the students experienced hands-on experience in engineering, teamwork, and problem-solving while thriving in the competitive but collaborative environment.

The Impact and Future of the Program

The success of the Submariners extends far beyond the competition. Several students have pursued STEM-related paths in higher education, including mechanical engineering, marine biology, and attending MassMaritime Academy.

Currently, for the 2024-2025 school year, his team has increased from 6 students (1 female and 5 males) to 14 students (7 female and 7 male). With this increase this allows for the Sanborn Submariners to compete with not only 1 team, but 2 as one team will be competing in 2025 (ISR runs odd years in the US) with their old submarine and also with a second that they are currently building. The new submarine is to be tested at UNH again in February!

A Model of Innovation

Jim Enright and the Sanborn Submariners are redefining what it means to engage students in hands-on STEM learning. Their dedication, coupled with the unwavering support of the Sanborn community, showcases the power of creativity, collaboration, and perseverance.

To learn more, follow the Sanborn Submariners on Facebook [here](#).

Thank you, Jim Enright, for your inspiring commitment to students and STEM education.

*Do you know a teacher or a program who is a “Trailblazer” in education? If you do, please nominate them for the month of February [HERE](#). February nominations are due by **February 10**.*

Caption: Candice DeAngelis, 2025 NH Teacher of the Year with Sanborn Submariners: Grace, Savannah and Cayden with their original and new submarines.

