

Urbandale High School Students Earn Five of Six Awards During Annual Physics Competition

Urbandale High School Physics Teams capture five of six awards during the 2016 Physics Roller Coaster Competition at Iowa State University with two students selected as scholarship recipients

URBANDALE, Iowa – May 17, 2016 – The formidable task of preparing students for a future that looks nothing like the past—one that is not only unknowable but perhaps inconceivable—has been inspiring educators in the [Urbandale Community School District](#) to think outside the proverbial box by igniting students’ imagination, ingenuity and insight through the integration and real-world application of Science, Technology, Engineering and Math (STEM) principles and tactics. In 2001, Urbandale High School (UHS) Engineering and Physics Teacher, Marc Hermon, founded the annual Physics Roller Coaster Competition which provides high school students an opportunity to apply STEM-related theories to a project that is both fun and challenging while accomplishing a Rube Goldberg Challenge® during the performance of the roller coaster. On April 14, 2016, over 150 students throughout Iowa competed in this year’s challenge by designing a “To Catch A Mouse” themed roller coaster at the Howe Hall Atrium on the Iowa State University campus. UHS Physics Teams captured five of the six awards with two UHS students, Marissa Sankey and Brett Carrier, being awarded \$500 Tau Beta Pi scholarships for engineering at Iowa State University.

“Many students take Physics just to be able to participate in the Roller Coaster Competition,” said Hermon. “It has kind of become a rite of passage for many Urbandale seniors. It is a great activity to take Physics out of the classroom and apply it in the real world.”



Physics Roller Coaster Competition Second Place “Marvel Works” designed by UHS students Carly Klavins, Tyler Miller, Lindsay Hemphill, Rosemary Dayton and Emily Leonhart.

The Iowa State University Tau Beta Pi—Iowa Alpha Scholars Program is an outreach program of the Iowa Alpha Chapter of Tau Beta Pi. The goals of the program are to recognize excellence among freshman and sophomore engineering students, build a community of engineers spanning all eight departments within the College of Engineering and promote Tau Beta Pi membership when students become eligible in their junior and senior years. The program annually awards 24 scholarships to Iowa State Engineering

students in the amount of \$500 each. High school seniors participating in the Roller Coaster Competition and planning on attending Iowa State University majoring in Engineering in the fall were eligible to apply for two available scholarships. Since 2009, the Tau Beta Pi program has awarded over \$84,000 in scholarships.



Physics Roller Coaster Competition Third Place “Swirlsation” designed by UHS students Marin Vidovic, Raelynn Meade, Brittany Schultz and Jordan Thomas.

“The real world always seemed like a separate entity from the engineering classroom,” said UHS student Brett Carrier. “Participating in the Tau Beta Pi competition has made me realize that I can get involved with real engineering while in high school.”



Physics Roller Coaster Competition Best Technical Skills “Ratatouille” designed by UHS students John Clapham, Ethan Larsen, Jordan Spidle and Riley Stuart.

To participate in the Physics Roller Coaster Competition students must be enrolled in Hermon's Principles of Engineering and Physics college-level course. An engineering project is completed each quarter with the Roller Coaster Competition being the fourth-quarter project. Students form groups in order to design, develop and manage the construction of their roller coaster and build project display boards that demonstrate their physics knowledge as well as a Rube Goldberg Challenge. A Rube Goldberg Challenge consists of a comically involved, complicated invention, laboriously contrived to perform a simple operation. In addition to students applying STEM principles and tactics, they gain real-world experience in project management, team collaboration, critical thinking and presentation skills. Following the competition, students develop an essay about their experience working with their team and insights they've gained into effective project management.



Physics Roller Coaster Competition Best Theme "Welcome to the Jungle" designed by UHS students Austin Cook, Elyse Prescott, Molly Monroe, Marissa Sankey, Sydney Hauge and Robert Muller.

"Getting to participate in this competition was a really exciting way to learn about not only experimental physics, but time management, team work and other important life skills," said UHS student Noah Torstenson.



Physics Roller Coaster Competition Best Presentation "Napoleon Dynamite" designed by UHS students Brett Carrier, Griffin Clabaugh, Emma Van Zante, Tad Schweizer, Alex Snyder, Michael Westphal and Bobby Parsons.

The five award-winning UHS Physics Teams include:

- Second Place—“Marvel Works” designed by UHS students Carly Klavins, Rosie Dayton, Lindsay Hemphill, Emily Leonhart and Tyler Miller.
- Third Place—“Swirlsation” designed by UHS students Raelynn Meade, Jordan Thomas, Marin Vidovic and Brittany Schultz.
- Best Technical Skills—“Ratatouille” designed by UHS students Riley Stuart, John Clapham, Ethan Larsen and Jordan Spidle.
- Best Theme—“Welcome to the Jungle” designed by UHS students Marissa Sankey, Robert Muller, Elyse Prescott, Molly Monroe, Sydney Hauge and Austin Cook.
- Best Presentation—“Napoleon Dynamite” designed by UHS students Brett Carrier, Griffin Clabaugh, Emma Van Zante, Tad Schweizer, Alex Snyder, Michael Westphal and Bobby Parsons.

See all UHS roller coasters in action here:

<https://www.youtube.com/playlist?list=PLhy-Ne6FAXKYsgEvvq0r2PQZ11NUcQJ4D>

Engaging students at deeper levels is at the core of Urbandale’s quest to transform education by redesigning learning environments to be more engaging, relevant and purposeful in preparing students for a future that is yet to unfold. Although the theme of the competition was “To Catch A Mouse,” the clear objective of many participating teams may have been to catch the award-winning engineering prowess demonstrated by the UHS Physics Teams. The Urbandale Community School District congratulates these remarkable and extremely talented UHS students for capturing five of six available awards and being selected for notable scholarships during the 2016 Physics Roller Coaster Competition.

About Urbandale Community School District

The Urbandale Community School District includes portions of Des Moines and Urbandale, Iowa. The District serves over 3,900 students in six elementary schools, one middle school and one comprehensive high school. The Urbandale District supports an increasingly diverse student population where 51 languages are spoken. Building on the existing foundation of excellence in education, Urbandale is transforming education throughout the District. By implementing innovative [Quality/Continual Improvement](#) strategies that create learning environments that more fully engage, challenge and motivate students, Urbandale is taking transformation from theory into practice. Urbandale prepares students for becoming lifelong learners and is a school district that brings learning to life for everyone. To learn more, visit: UrbandaleSchools.com and follow on Twitter [@UrbandaleSchool](#).

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