

USU Physics Day

at



Friday May 12, 2017

We “Put the ‘SIC’ in phySICs” 28th Year of USU Physics Day at Lagoon!!!

March 20, 2017

Dear Sponsor:

Utah State University in partnership with the Idaho National Laboratory is pleased to announce the **28th annual USU Physics Day at Lagoon** on Friday May 12, 2017. We invite you to join in the fun and help us continue to make this one of the premier STEM outreach activities in the Intermountain West. Over the last 28 years, we have had more than 145,000 students and teachers help us “*Put the ‘SIC’ in phySICs*” at Lagoon. This event has received a high profile with television and media coverage and outstanding support from sponsors and participants.

Corporate sponsorship is an essential part of USU Physics Day at Lagoon. In the past, sponsors have acted as judges for various events and/or given donations of cash or in-kind prizes. As the attendance of Physics Day skyrockets, we are anxious to continue to provide sufficient prizes and an increased variety of activities to maintain very high student interest. This year we have especially targeted our efforts to enhance provide topical curriculum materials for teachers use both at Physics Day and in the classroom before and after the event. Companies that contribute time and money will leave a mark on hundreds of students who will eventually become mathematicians, scientists, engineers...and future employees.

We also encourage sponsors to bring display materials and demonstrations that provide students with an introduction to what real world scientists and companies “do.” Discussion between the students and active scientists and engineers with jobs doing “totally awesome” stuff are probably the best way to instill a passion in these budding future STEM professionals.

If you are interested in becoming a sponsor for the event, please let us know. We hope to see you at Lagoon!

Sincerely,

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DEPARTMENT OF PHYSICS



*A special thanks to the sponsors of **USU Physics Day at Lagoon** including Aerostructures, Albany, Apogee Instruments, Ardasat, ATK, Autonomous Solutions, Boeing, Campbell Scientific, Embry Riddle, Hill Air Force Base STEM Outreach Program, IM Flash Technologies, Lagoon, Micron, Ophir Spiricon, Parker-Hannifin Aerospace, Portage Environment, Utah NASA Space Grant Consortium, US Navy, Utah and Idaho Virtual Academies, USU College of Science, USU Emma Eccles Jones College of Education & Human Resources, USU Research Foundation, USU Space Dynamics Laboratory, USU Admissions, and WiTricity.*

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The following information concerning the 2017 Physics Day at Lagoon is provided for your consideration:

Purpose/Objectives/Outcomes: Two key elements in science education at the introductory level are to motivate the students' interest in science and to relate abstract concepts to familiar, real world examples. USU Physics Day at Lagoon provides exceptionally good ways to address both of these key elements.

Physics Day at Lagoon is an educational approach to teaching fundamental physics concepts to middle school and high school students using an amusement park as a laboratory. Amusement parks provide nearly unlimited, illustrative and simple examples of many key physics concepts for experiments, measurement, and problem solving. For example, these activities provide excellent motivation for classroom discussions, lessons, problems and experiments on topics such as rotational mechanics, centrifugal force, conservation of energy, design of measurement apparatus, data collection and error analysis techniques, to name but a few. They also provide a chance for students to apply classroom concepts to real world situations through "hands-on" learning experiences.

This type of activities tends to stick with students longer than more traditional methods of learning. Ron Cefallo, a long-time participant in Physics Day from Box Elder High School, expressed the value of this sort of motivational activity in a comment on Physics Day at Lagoon. He said, "If they announce over the intercom that the *physics students* are going to Lagoon, I will double my enrollment next year. And I can't teach them physics if they don't sign up for my class."

Who will attend: USU Physics Day at Lagoon is intended to serve primarily the middle school and high school physics educators and students in the Intermountain region. Last year, there were approximately 8,600 students and 250 teachers from 128 schools in four states [Utah, Idaho, Nevada and Wyoming] who attended. We have averaged more than 6000 students and 300 teachers annually over the last decade.

How will this project support skill requirements/building:

This event is needed to motivate students' interest in science and to provide a means for them to relate abstract science concepts to familiar, real world situations. The underlying idea of the event is to get students excited about math and science through the use of hands-on investigations of real world examples found at Lagoon. As you know, roller coasters like *Colossus* at Lagoon, are a much more intriguing way to learn about acceleration, momentum, and conservation of energy than wooden block rolling down an inclined plane.

Measures/Evaluations/Feedback mechanism for accountability of funds granted: We will obtain a great deal of direct feedback from students, teachers and participants attending the event. In addition to the many written notes and e-mails, we have face-to-face conversations with teachers, participants and coordinators at USU Physics Day at Lagoon. The importance of such face-to-face discussions cannot be overstated. After completion of the event, we will compile all of the feedback and discuss the results in order to evaluate the event's success and methods of improvement.



See you at Lagoon!!!