

March 7, 2002

2002 PHYSICS DAY AT LAGOON

Dear Sponsor:

Great News! In partnership with the Idaho National Engineering and Environmental Laboratory (INEEL), Utah State University Physics Department, Lagoon Amusement Park, the Rocky Mountain NASA Space Grant Consortium, and the Idaho Space Grant Consortium, we are pleased to inform you that ***Physics Day at Lagoon*** will take place on May 17, 2002. This event has received a high profile with television coverage and outstanding support from sponsors and participants over the past twelve years.

The following information concerning the 2002 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. 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. The thirteenth annual Physics Day at Lagoon will bring together more than 2,000 students from 100 schools in the Intermountain region to "do physics."

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 activity tends to stick with students longer than more traditional methods of learning. Ron Cefallo, of 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 take my class."

Who will benefit: 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 4,500 students and 125 teachers from 70 schools in four states [Utah, Idaho, Nevada and Wyoming] who attended. Total attendance has been level at 4,500-5,000 students for the last several years.

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 the *Rocket* at Lagoon, are a much more intriguing way to learn about acceleration, momentum, and conservation of energy than balls 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 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.

Corporate sponsorship is an essential part of Physics Day at Lagoon. 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. Companies that contribute time and money will leave a mark on hundreds of students who will eventually become mathematicians, scientists, engineers...and future employees.

The INEEL is matching funds up to \$2,500 (not more than \$10,000 total). This matching contribution is in the form of man-hours and materials to support Physics Day at Lagoon.

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In the past, sponsors have provided judges for various events or given donations of cash or in-kind prizes. We also encourage you to bring display materials and demonstrations that provide students with an introduction to what real world scientists and companies “do.”

If you are interested in providing contributions for the event, please direct them to:

J.R. Dennison,
Associate Professor of Physics
Physics Dept., UMC 4415, SER 222D
Utah State University
Logan, Utah 84322-4415

Or, if you would like to provide judges and/or bring display materials and demonstrations, please contact Kristen Burns at (208) 524-1395, e-mail kris10burns@cs.com, Brenda Greenhalgh, (208) 526-9399, e-mail gnh@inel.gov, or myself at (208) 526-8708, e-mail sia@inel.gov.

Thank you for your support.

Sincerely,

Ali S. Siahpush

cc: J. R. Dennison, USU