Physics Day at Lagoon 2004

The fifteenth annual Utah State University Physics Day at Lagoon was held on May 14. This year Idaho National Engineering and Energy Lab (INEEL) and the USU Physics Department teamed to coordinate and run the event. There were approximately 5705 students and 341 teachers from 102 schools in four states [Utah, Idaho, Nevada and Wyoming] who attended. A revamped web site [http://physics.usu.edu/] included on-line registration and substantially enhanced information and curriculum materials for teachers.

<table>
<thead>
<tr>
<th>Event</th>
<th>High Schools</th>
<th>Middle Schools/ Junior High Schools</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physics Bowl</td>
<td>24 Teams, 72 Students</td>
<td>---</td>
</tr>
<tr>
<td>G-forces Contest</td>
<td>28 teams, 57 Students</td>
<td>29 teams, 84 Students</td>
</tr>
<tr>
<td>Demonstration Design Contest</td>
<td>31 Entries, 68 Students</td>
<td>27 Entries, 72 Students</td>
</tr>
<tr>
<td>Ride Design Contest</td>
<td>37 Entries, 90 Students</td>
<td>34 Entries, 74 Students</td>
</tr>
<tr>
<td>Logo Design Contest</td>
<td>119 Entries, 134 Students</td>
<td>195 Entries, 204 Students</td>
</tr>
<tr>
<td>Student Workbooks</td>
<td>9 Schools, 211 Students</td>
<td>13 Schools, 450 Students</td>
</tr>
<tr>
<td>Total Contest Participation</td>
<td>532 (~38%) Participants</td>
<td>884 (~55%) Participants</td>
</tr>
</tbody>
</table>

About eighty faculty, staff, and students from the USU Physics Department, about a five INEEL staff, and about sixty additional helpers other sponsoring agencies were on hand to assist with registration, organization and contest judging. The number of sponsor displays continues to grow in both number and ability to impress the students. There were an estimated $56,000 in prizes awarded this year. Three four year scholarships to USU were awarded by the USU Office of Recruitment and Enrollments Services. Sponsors included Argonne National Laboratory – West, Boeing, Idaho NASA Space Grant Consortium, Lagoon, Mathsoft Engineering & Education, Moog Aircraft Group, NitroCision, Marie Putnam, Rocky Mountain NASA Space Grant Consortium, Thiokol, TRUTech, US Navy, USU College of Science, and USU Office of Recruitment and Enrollments Services, Ron and Susan Warnecke. Four new sponsors joined our ranks this year, NitroCision, Marie Putnam, TRUTech, and Ron and Susan Warnecke.

Television coverage from Ch. 4 in Salt Lake City provided a very nice spot on the evening news of the event. The Ogden Standard Examiner also had nice stories to cover the event.
Summary of Prizes awarded:

<table>
<thead>
<tr>
<th>Sponsor</th>
<th>Items</th>
<th>Quantity Awarded</th>
<th>Unit Price</th>
<th>Total Dollar Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lagoon</td>
<td>Season Passes</td>
<td>20</td>
<td>$81.95</td>
<td>$1,639.00</td>
</tr>
<tr>
<td>Lagoon</td>
<td>Day Passes</td>
<td>200</td>
<td>$30.95</td>
<td>$6,190.00</td>
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<tr>
<td>Idaho NASA Space Grant Consortium</td>
<td>T-shirts</td>
<td>59</td>
<td>$8.00</td>
<td>$472.00</td>
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<tr>
<td>Thiokol</td>
<td>Highlighters, etc</td>
<td>200</td>
<td>$2.00</td>
<td>$400.00*</td>
</tr>
<tr>
<td>INEEL</td>
<td>Calculators</td>
<td>100</td>
<td>$5.00</td>
<td>$500.00*</td>
</tr>
<tr>
<td>INEEL</td>
<td>T-shirts, etc.</td>
<td>50</td>
<td>$10.00</td>
<td>$200.00*</td>
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<tr>
<td>US Navy</td>
<td>Waterbottles, etc.</td>
<td>200</td>
<td>$0.50</td>
<td>$100.00*</td>
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<tr>
<td>USU High School Relations</td>
<td>Four Year Scholarship</td>
<td>3</td>
<td>$14,224.68</td>
<td>$42,673.86</td>
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<tr>
<td>USU College of Science, RMNSGC, Thiokol, Boeing, INSGC, INEEL</td>
<td>T-shirts</td>
<td>445</td>
<td></td>
<td>$1,489.66</td>
</tr>
<tr>
<td>USU College of Science, RMNSGC, Thiokol, Boeing, INSGC, INEEL</td>
<td>Purchased Prizes</td>
<td></td>
<td>$2,178.60</td>
<td>$2,382.49</td>
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<tr>
<td>Total Prizes</td>
<td></td>
<td></td>
<td></td>
<td>$56,046.35</td>
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</table>

* Estimated value.
## Summary of Purchased Prizes

<table>
<thead>
<tr>
<th>Number</th>
<th>Item</th>
<th>Vendor</th>
<th>Date</th>
<th>Cost</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Demonstration items (M677705)</td>
<td>Arbor Scientific</td>
<td></td>
<td>$110.49</td>
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<tr>
<td>2</td>
<td>Prizes (M677691)</td>
<td>Scienticals</td>
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<td>$70.10</td>
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<tr>
<td>3</td>
<td>Demonstration Items</td>
<td>Educational Innovations</td>
<td></td>
<td>$259.93</td>
</tr>
<tr>
<td>4</td>
<td>Books (A271350, A271352)</td>
<td>Amazon.com</td>
<td></td>
<td>$930.69</td>
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<tr>
<td>5</td>
<td>Supplies (Tanya)</td>
<td>PDP</td>
<td></td>
<td>$16.43</td>
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<tr>
<td>6</td>
<td>T-Shirts (R266768)</td>
<td>Ye Ole Shirt Shop</td>
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<td>$1,489.66</td>
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<tr>
<td>7</td>
<td>Prizes (M677693)</td>
<td>Tower Hobbies</td>
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<td>$445.77</td>
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<tr>
<td>8</td>
<td>Prizes (M677705)</td>
<td>PASCO</td>
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<td>$130.50</td>
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<tr>
<td>9</td>
<td>Prizes (R271355)</td>
<td></td>
<td></td>
<td>$118.81</td>
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<td>10</td>
<td>Prizes (M680716)</td>
<td>Magical Moon Toys</td>
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<td>$49.98</td>
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<tr>
<td>11</td>
<td>Prizes (M680715)</td>
<td>Magical Moon Toys</td>
<td></td>
<td>$249.79</td>
</tr>
<tr>
<td></td>
<td>Prizes SubTotal</td>
<td></td>
<td></td>
<td>$3,872.15</td>
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<tr>
<td>12</td>
<td>Posters (M680713)</td>
<td>Kinko’s</td>
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<td>$82.70</td>
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<tr>
<td>13</td>
<td>Accelerometer (M677699)</td>
<td>Pasco</td>
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<tr>
<td>14</td>
<td>Supplies</td>
<td>Cash</td>
<td></td>
<td>$16.99</td>
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<tr>
<td>15</td>
<td>Supplies</td>
<td>Cash</td>
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<td>$33.92</td>
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<tr>
<td>16</td>
<td>Web Site development</td>
<td>USU Physics</td>
<td></td>
<td>$300.00#</td>
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<tr>
<td>17</td>
<td>Letterhead and envelops</td>
<td>USU Physics</td>
<td></td>
<td>$0.00</td>
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<tr>
<td>18</td>
<td>Postage</td>
<td>USU Physics</td>
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<td>$0.00</td>
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<tr>
<td>19</td>
<td>Transportation to Physics Day</td>
<td>USU Physics</td>
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<td>$84.00</td>
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<tr>
<td></td>
<td>Other USU Expenses Sub Total</td>
<td></td>
<td></td>
<td>$850.81</td>
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<td></td>
<td>Total Expenses</td>
<td></td>
<td></td>
<td>$4,722.96</td>
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</tbody>
</table>

# Not yet spent.
# PHYSICS DAY AT LAGOON 2004
## MIDDLE SCHOOL PRIZES

### FIRST PLACE

<table>
<thead>
<tr>
<th>Teachers</th>
<th>Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>K’Nex Kit</td>
<td>K’Nex Kit</td>
</tr>
<tr>
<td>Science Book</td>
<td>Lagoon Day Pass</td>
</tr>
<tr>
<td>Lagoon Day Pass</td>
<td>2004 Physics Day T-Shirt</td>
</tr>
<tr>
<td>2004 Physics Day T-Shirt</td>
<td></td>
</tr>
</tbody>
</table>

### SECOND PLACE

<table>
<thead>
<tr>
<th>Teachers</th>
<th>Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power Puck</td>
<td>Science Book</td>
</tr>
<tr>
<td>Snakey Pendant</td>
<td>Hobermann Microsphere</td>
</tr>
<tr>
<td>Lagoon Day Pass</td>
<td>Lagoon Day Pass</td>
</tr>
<tr>
<td>2004 Physics Day T-Shirt</td>
<td></td>
</tr>
</tbody>
</table>

### THIRD PLACE

<table>
<thead>
<tr>
<th>Teachers</th>
<th>Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mega Magnet Book</td>
<td>Hobermann Microsphere</td>
</tr>
<tr>
<td>Two Super Magnets</td>
<td>Flip Over Buggy</td>
</tr>
<tr>
<td>Lagoon Day Pass</td>
<td>Lagoon Day Pass</td>
</tr>
<tr>
<td>2004 Physics Day T-Shirt</td>
<td></td>
</tr>
</tbody>
</table>
PHYSICS DAY AT LAGOON 2004
HIGH SCHOOL PRIZES

FIRST PLACE

Teachers
K’Nex Kit
Science Book
Lagoon Day Pass
2004 Physics Day T-Shirt

Students
GeoMag Demonstration
Lagoon Day Pass
2004 Physics Day T-Shirt

In Addition Each Member of the Winning Physics Bowl Team will Receive a Four Year Scholarship To Utah State University

SECOND PLACE

Teachers
Power Puck
Snakey Pendant
Lagoon Day Pass
2004 Physics Day T-Shirt

Students
Science Book
Hobermann Microsphere
Lagoon Day Pass
2004 Physics Day T-Shirt

THIRD PLACE

Teachers
Mega Magnet Book
Two Super Magnets
Lagoon Day Pass
2004 Physics Day T-Shirt

Students
Magic Pendulum
Lagoon Day Pass
2004 Physics Day T-Shirt
PHYSICS DAY AT LAGOON 2004

PRIZES FOR STUDENT WORKBOOKS

STUDENTS SUBMITTING STUDENT WORKBOOKS WILL RECEIVE AN OPPORTUNITY TO PARTICIPATE IN A RANDOM DRAWING

HUNDREDS OF PRIZES INCLUDE

10 SEASON PASSES TO LAGOON
25 DAY PASSES TO LAGOON
100 SPACE POSTERS

and much more…
UTAH STATE UNIVERSITY
PHYSICS DAY at LAGOON

CONTEST WINNERS (2004)

PHYSICS BOWL

**First Place:**
Layton High School
James Lindsay, Advisor
Layton, UT 84041

Justin Messenger
Layton, UT 84040

Jon Holbrook
Layton, UT 84040

Chad Chavez
Layton, UT 84041

**Third Place:**
Riverton High School
Lye Cox

Kevin Eggett

Neil Hinckley

**Second Place:**
Hillcrest High School
Randy Waite
Ammon, ID 83406

Ryan Norman
Idaho Falls, ID 83406

Lisa Pfopt
Idaho Falls, ID 83406

Rich Wilson
Idaho Falls, ID 83406

**Fourth Place:**
Lone Peak High School
Bryson Gregory

Benji Parker

Ryan Himmighoefer
PHYSICS DEMONSTRATION DESIGN CONTEST
HIGH SCHOOL DIVISION

First Place:
Cyprus High School
Anne Beus, Advisor
Magna, UT 84094
Tina Nguyen
Tasha Olson
Pablo Alvarez
Kyna Mace
Highland, UT 84003
Jeff Thompson
Bryson Gregory
Eli Ashby

Second Place:
Lone Peak High School
Tom Erekson, Advisor

Third Place:
Hillcrest High School
Randy Waite, Advisor
Idaho Falls, ID 83406
Timothy A. Barnes

PHYSICS DEMONSTRATION DESIGN CONTEST
MIDDLE/JUNIOR HIGH SCHOOL DIVISION

First Place:
Kaysville Junior High School
Mark Tolman, Advisor
Kaysville, UT 84037
Jake Jensen
Mark Tolman, Advisor
Kaysville, UT 84037
Karlianne Gelter

Second Place:
Kaysville Junior High School
Kristyn Clark

Third Place:
Kaysville Junior High
Mark Tolman, Advisor
Kaysville, UT 84037
RIDE DESIGN CONTEST
HIGH SCHOOL DIVISION

**First Place:**
Hillcrest High School  
Randy Waite, Advisor  
Idaho Falls, ID 83406  
“Airborne: The Maglev Hover Coaster of Tomorrow:”  
Timothy A. Bernes

**Second Place:**
Hillcrest High School  
Randy Waite, Advisor  
Idaho Falls, ID 83406  
“Test Run”  
Nayeli Gomez  
Dustin Lyon  
Jessica Barton  
Thuy Nguyen

**Third Place:**
Cyprus High School  
Anne Beus, Advisor  
Magna, UT 84044  
“Roller Coaster Design”  
Cort Pincock  
Jenn Cook

RIDE DESIGN CONTEST
MIDDLE/JUNIOR HIGH SCHOOL DIVISION

**First Place:**
Kaysville Junior High School  
Mark Tolman, Advisor  
Kaysville, UT 843037  
“Super Nova Aftermath”  
Marcie Wallace

**Second Place:**
Bountiful Junior High School  
Gail Ballew & Matt Smith, Advisors  
Salt Lake City, UT 84117  
“Swirliing Rapids”  
Matt Parkin  
Heather Jones  
Candice Thomas  
Andrea Downie

**Third Place:**
Kaysville Junior High School  
Mark Tolman, Advisor  
Kaysville, UT 843037  
“Raging Monkey”  
Ben Meyers
LOGO DESIGN CONTEST
HIGH SCHOOL DIVISION

**First Place:**
Lone Peak High School
Tom Erekson, Advisor
Highland, UT 84003

Rebecca Flores
Denise Hernandez

**Second Place:**
American Falls High School
Sandy Powell, Advisor
American Falls, ID 83211

Nathan Bonham

**Third Place:**
Box Elder High School
Katie Geldmacher, Advisor
Brigham City, UT 84302

Brenden Oliva

LOGO DESIGN CONTEST
MIDDLE/JUNIOR HIGH SCHOOL DIVISION

**First Place:**
Kaysville Junior High School
Mark Tolman, Advisor
Kaysville, UT 84037

Mitchell Eller

**Second Place:**
Kaysville Junior High School
Mark Tolman, Advisor
Kaysville, UT 84037

Parker Flood

**Third Place:**
Bountiful Junior High School
B. Ballew and M. Smith, Advisors
Salt Lake City, UT 84117

Jessie Kagie

CURRICULUM DEVELOPMENT CONTEST

**First Place:**
Ron Cefalo
Box Elder High School
Brigham City, UT 84302

“It’s About Time”
COLOSSUS' COLOSSAL G-FORCES CONTEST
HIGH SCHOOL DIVISION

First Place:
Malad High School
Lucinda Bingham, Advisor
Malad, ID 83252
Gayla Bennett
Ivy Wang
Mattie Jones

Second Place:
Hillcrest High School
Randy Waite, Advisor
Idaho Falls, ID 83406
Jenn Cook
Ryan Norman

COLOSSUS' COLOSSAL G-FORCES CONTEST
MIDDLE/JUNIOR HIGH SCHOOL DIVISION

First Place:
Churchill Junior High School
Brian Lestarge, Advisor
Salt Lake City, UT 84104
Gary Higgs
Taylor Parkin
Nate Rhoner
Brandon Beam

Second Place:
Burley Junior High School
Carrie Carson, Advisor
Chris Hogan
Josh Hedges

Third Place:
San Rafael Junior high School
Barry Bishop, Advisor
Ferron, UT
Jeff Gordon
2004 Logo Contest Winners

High School Winners

First Place
Nathan Bonham
Lone Peak High School
Tom Erekson, Advisor

Second Place
Rebecca Flores & Denise Hernandez
American Falls High School
Sandy Powell, Advisor

Third Place
Brenda Oliva
Box Elder High School
Katie Geldmacher, Advisor

Middle School Winners

First Place
Parker Flood
Kaysville Junior High School
Mark Tolman, Advisor

Second Place
Mitchell Eller
Kaysville Junior High School
Mark Tolman, Advisor

Third Place
Jessie Kagie
Bountiful Junior High
B. Ballew and M. Smith, Advisor