Physics Day at Lagoon 2013

The twenty-forth annual Utah State University Physics Day at Lagoon was held on May 17. This year Idaho National Lab (INL) and the USU Physics Department teamed to coordinate and run the event. There were approximately 4568 students and 509 teachers & chaperones from schools in four states [Utah, Idaho, Nevada and Wyoming] who attended.

<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>12 Teams, 33 Students</td>
<td>2 Teams, 6 Students</td>
</tr>
<tr>
<td>Smart Phone</td>
<td>2 Teams, 3 Students</td>
<td>1 Team, 3 Students</td>
</tr>
<tr>
<td>G-forces Contest</td>
<td>13 Teams, 33 Students</td>
<td>8 Teams, 20 Students</td>
</tr>
<tr>
<td>Demonstration Design Contest</td>
<td>36 Entries, 54 Students</td>
<td>16 Entries, 22 Students</td>
</tr>
<tr>
<td>Ride Design Contest</td>
<td>22 Entries, 39 Students</td>
<td>35 Entries, 61 Students</td>
</tr>
<tr>
<td>Logo Design Contest</td>
<td>89 Entries, 118 Students</td>
<td>159 Entries, 194 Students</td>
</tr>
<tr>
<td>Student Workbooks</td>
<td>6 Schools, 195 Students</td>
<td>8 Schools, 99 Students</td>
</tr>
<tr>
<td>Sky Drop Contest</td>
<td>41 Entries, 61 Students,</td>
<td>85 Entries, 118 Students,</td>
</tr>
<tr>
<td>Total Contest Participation</td>
<td>536 Participants</td>
<td>523 Participants</td>
</tr>
</tbody>
</table>

Totals Registered
(Numbers in the table reflect actual registration. Because registration is not required, these are a low estimate in participation.)

<table>
<thead>
<tr>
<th>Event</th>
<th>Schools</th>
<th>Teachers &amp; Chaperones</th>
<th>Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elementary Schools (Mindstorms)</td>
<td>14 Schools –</td>
<td>39 Teachers &amp; 74 Chaperones</td>
<td>368 Students</td>
</tr>
<tr>
<td>Grand Total</td>
<td>119 Schools</td>
<td>291 Teachers &amp; 218 Chaperones</td>
<td>4568 Students</td>
</tr>
</tbody>
</table>

It took 250 people to run Physics day at Lagoon. 109 faculty, staff, and students from the USU Physics Department, 20 Students and Faculty from SLCC, 7 INL staff, and about 29 additional judges and helpers other sponsoring agencies were on hand to assist with registration, organization and contest judging. 40 faculty, staff, and students from USU College of Science and USOE helped run MESA’s Robotic Arm Challenge. 44 volunteers from Boeing and the community helped run Mindstorm’s Lego Competition. There was an estimated $16,408 in prizes awarded this year, in addition to as much as $18,000 in scholarships to USU. Sponsors included IM Flash Technologies, Lagoon, Boeing, ATK, INL, Hill AFB, Navy, Portage, Marie Putnam, BEA, USU College of Science, USU Space Dynamics Laboratory, USU Bookstore, and USU Admissions Office.

Television coverage from KSL and Fox 13 in Salt Lake City provided very nice spots on the evening news of the event. The Davis County School and the Ogden Standard Examiner also had nice stories to cover the event.
Participation at Physics Day at Lagoon

![Graph showing participation trends for different categories over the years.](image-url)
<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>10</td>
<td>$107.00</td>
<td>$1070</td>
</tr>
<tr>
<td>Lagoon</td>
<td>Day Passes</td>
<td>140</td>
<td>$48.00</td>
<td>$6720</td>
</tr>
<tr>
<td>USU High School Relations</td>
<td>Stipend</td>
<td>3</td>
<td>$2000</td>
<td>$6000</td>
</tr>
<tr>
<td>USU High School Relations</td>
<td>Stipend</td>
<td>3</td>
<td>$4000</td>
<td>$12000</td>
</tr>
<tr>
<td>USU Prizes</td>
<td>Various</td>
<td>-</td>
<td>-</td>
<td>$5351.74</td>
</tr>
<tr>
<td>USU</td>
<td>Candy</td>
<td>-</td>
<td>-</td>
<td>$50.00</td>
</tr>
<tr>
<td>USU</td>
<td>T-shirts</td>
<td>135</td>
<td>$3.30</td>
<td>$445.50</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Prizes</td>
<td></td>
<td></td>
<td></td>
<td>$31,637.24</td>
</tr>
</tbody>
</table>

* Estimated value.  # Committed.
# Summary of Expenses

<table>
<thead>
<tr>
<th>Number</th>
<th>Item</th>
<th>Vendor</th>
<th>Date</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Prizes</td>
<td>Can You Imagine</td>
<td></td>
<td>$2000.00</td>
</tr>
<tr>
<td>2</td>
<td>Prizes</td>
<td>Can You Imagine</td>
<td></td>
<td>$186.24</td>
</tr>
<tr>
<td>3</td>
<td>Prizes</td>
<td>Arbor Scientific</td>
<td></td>
<td>$926.32</td>
</tr>
<tr>
<td>4</td>
<td>Prizes</td>
<td>Westminster</td>
<td></td>
<td>$1031.99</td>
</tr>
<tr>
<td>5</td>
<td>Prizes</td>
<td>Wal-Mart</td>
<td></td>
<td>$238.19</td>
</tr>
<tr>
<td>6</td>
<td>Prizes</td>
<td>Scientifics</td>
<td></td>
<td>$969.00</td>
</tr>
<tr>
<td>7</td>
<td>T-Shirts</td>
<td>Badger Printing</td>
<td></td>
<td>$2570.00</td>
</tr>
<tr>
<td>8</td>
<td>T-Shirts</td>
<td>Badger Printing</td>
<td></td>
<td>$71.00</td>
</tr>
<tr>
<td>9</td>
<td>Supplies- Eggs</td>
<td>Smiths</td>
<td></td>
<td>$97.86</td>
</tr>
<tr>
<td>10</td>
<td>Shipping</td>
<td>PDP</td>
<td></td>
<td>$961.02</td>
</tr>
<tr>
<td>11</td>
<td>Shipping</td>
<td>Distribution</td>
<td></td>
<td>$0</td>
</tr>
<tr>
<td>12</td>
<td>Travel</td>
<td></td>
<td></td>
<td>$662.63</td>
</tr>
<tr>
<td>13</td>
<td>Website Maintenance</td>
<td>Paul Brunson</td>
<td></td>
<td>$0</td>
</tr>
<tr>
<td>14</td>
<td>Sponsor Coordinator</td>
<td>Kristen Burns</td>
<td></td>
<td>$1000.00</td>
</tr>
<tr>
<td>15</td>
<td>Event Coordinator</td>
<td>Milo Maughan</td>
<td></td>
<td>$1,972.50</td>
</tr>
<tr>
<td>16</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Total Expenses</strong></td>
<td></td>
<td></td>
<td><strong>$12,686.75</strong></td>
</tr>
</tbody>
</table>

# Not yet spent.
# Summary of Sponsor Cash Contributions

<table>
<thead>
<tr>
<th>Number</th>
<th>Item</th>
<th>Source</th>
<th>Date</th>
<th>Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Contribution for prizes</td>
<td>USU College of Science</td>
<td></td>
<td>$750.00</td>
</tr>
<tr>
<td>2</td>
<td>Contribution for t-shirts</td>
<td>Boeing Corp.</td>
<td></td>
<td>$0.00</td>
</tr>
<tr>
<td>3</td>
<td>Contributions for operations</td>
<td>Lagoon</td>
<td></td>
<td>$5000.00</td>
</tr>
<tr>
<td>4</td>
<td>Contribution for prizes</td>
<td>RMNSGC</td>
<td></td>
<td>$500.00</td>
</tr>
<tr>
<td>6</td>
<td>Contribution for prizes</td>
<td>ATK Launch Systems (Thiokol)</td>
<td>*</td>
<td>$500.00</td>
</tr>
<tr>
<td>7</td>
<td>Contribution for prizes</td>
<td>USU College of Education</td>
<td></td>
<td>$864.00</td>
</tr>
<tr>
<td>8</td>
<td>Contribution for prizes</td>
<td>INL(BEA)</td>
<td></td>
<td>$500.00</td>
</tr>
<tr>
<td>9</td>
<td>Contribution for prizes</td>
<td>Space Dynamics Lab</td>
<td></td>
<td>$1500</td>
</tr>
<tr>
<td>10</td>
<td>Contribution for prizes</td>
<td>Marie Putnam</td>
<td></td>
<td>$1000.00</td>
</tr>
<tr>
<td>11</td>
<td></td>
<td>William Fletcher</td>
<td></td>
<td>$2500.00</td>
</tr>
<tr>
<td>12</td>
<td></td>
<td>Navy</td>
<td></td>
<td>$0.00</td>
</tr>
<tr>
<td>13</td>
<td></td>
<td>IM Flash Technologies (Micron)</td>
<td></td>
<td>$0.00</td>
</tr>
<tr>
<td>14</td>
<td></td>
<td>Aerospace Heritage Foundation of Utah</td>
<td></td>
<td>$0.00</td>
</tr>
<tr>
<td>15</td>
<td></td>
<td>EIRMC</td>
<td></td>
<td>$</td>
</tr>
<tr>
<td>16</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total Cash Contributions Received</td>
<td></td>
<td></td>
<td>$12,614.00</td>
</tr>
<tr>
<td></td>
<td>Total Cash Committed and/or Received</td>
<td></td>
<td></td>
<td>$13,114.00</td>
</tr>
</tbody>
</table>

* Support committed, but not yet received.
Contest Winners
Physics Bowl

1st Place
Samuel Hansen, Wyatt McNeill, Isaac Robertson
Riverton High School
Advisor:

2nd Place
Brittany Marriott, Krystal Matheson, Angelica Previte
Weber High School
Advisor:

3rd Place
Bruce Bangerter
Herriman High School
Advisor:

4th Place
Boston McClary, Braden Christensen, Cherice Cantrell
Lone Peak High School
Advisor:

High School

1st Place
Jared Musser & Justen Gardner
Alta High School
Advisor: Mr. Leiniger

2nd Place
Bruce Bangerter & Jack James
Herriman High School
Advisor: O’Brien

Middle School

1st Place
Brittany Hamilton
Central Davis Jr. High School
Advisor: Perkins

Sky Drop

Middle School cont.

2nd Place
Lauren Roberts & Whitney Nuekles
South Hills Middle School
Advisor: Mr. Talley

3rd Place
Kelsey Beck
Brighton High School
Advisor: Susan Raymond

4th Place
Addison Fenn
Good Foundations Academy
Advisor: Mrs Goers
**Demo Design**

**High School**

1st Place
Emma Wageman, Cherise Cantrell, Boston McClary, Braden Christensen, & Elizabeth Finlayson
Lone Peak High School
Advisor: Mrs Rief

2nd Place
Daniel Davis & Dirk Hull
Idaho Falls High School
Advisor: Mr Houser

3rd Place
Sesily Stewart
Compass Academy
Advisor: Jana Wixom

**Middle School**

1st Place
Amanda Thatcher
Early Light Academy
Advisor: Darci Cordero

2nd Place
Bethany Hales & Jozmyre Crane
North Sevier Middle School
Advisor: Jessica Jones

3rd Place
Mercede Hawks
Kaysville Jr. High School
Advisor: Mark Tolman

**Ride Design**

**High School**

1st Place
Elsa Stranberg & Lorna Fullmer
City Academy
Advisor: Usha Narrd

2nd Place
Max Flann
Intech High School
Advisor: Dr. Kawamura

3rd Place
Jordan Rosell, Audrey Anderson, & Sam Anderson
City Academy
Advisor: Usha Narard

**Middle School**

1st Place
Brianna Hall & M.Kala Kemeny
Bountiful Jr. High
Advisor: Becky Dunleary

2nd Place
Baily Carter & Cambry Dickson
Bountiful Jr. High
Advisor: Becky Dunleary

3rd Place
Colby Baker & Tanner Obray
Bountiful Jr. High
Advisor: Becky Dunleavy
G-Forces

High School
1st Place
Joseph, Austin, & Cole
Burley High School
Advisor: Mrs. Carson

2nd Place
Melissa McMurray
Burley High School
Advisor: Mrs. Carson

3rd Place
Kestle, Jamie, Colby, Lexi, & Britton
Burley High School
Advisor: Mrs. Carson

Middle School
1st Place
Carson, Bridger, Mitch & Josh
Burley Jr High
Advisor: Mrs. Carson

2nd Place
Dixie & Stephanie
Burley Jr High
Advisor: Mrs. Carson

3rd Place
Jared Slater, Kaitlyn Anderson, & Lexi Daniels
Legacy Jr High
Advisor: Illum

Logo Design

High School
1st Place
Jessica Smith
Alta High School
Advisor: Mr. Stanford

2nd Place
Erica Hauvermalle
Lone Peak High School
Advisor: Tom Ereckson

3rd Place
Naomi Hilton
Skyline High School
Advisor: Mrs. Smith

Middle School
1st Place
Emily Ellis
Kaysville Jr. High
Advisor: Mr. Tolman

2nd Place
Piper Stewart
Centennial Middle High
Advisor: Bigney/Herbert

3rd Place
Brigham Harrison & Tyler Kirkland
Centennial Middle School
Advisor: Mrs. Hierbert
High School
1st Place
Tori Cody & Stephanie Fitzgerald
City Academy
Advisor: Usha Narard

2nd Place
Saul Garcia-Garay
Horizante High School
Advisor: Nate Auck

Middle School
1st Place
Jared Slater, Lexi Daniels, & Katelyn Anderson,
Legacy Jr. High School
Advisor: Mr. Illum
# Logo Design

## High School

<table>
<thead>
<tr>
<th>1st Place</th>
<th>2nd Place</th>
<th>3rd Place</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Physics Day at Lagoon" /></td>
<td><img src="image2.png" alt="INL physics day at Lagoon" /></td>
<td><img src="image3.png" alt="PHYSICS DAY at Lagoon" /></td>
</tr>
</tbody>
</table>

## Middle School

<table>
<thead>
<tr>
<th>1st Place</th>
<th>2nd Place</th>
<th>3rd Place</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image4.png" alt="The Physics is THEORETICAL, but the FUN is REAL!" /></td>
<td><img src="image5.png" alt="PHYSICS DAY AT Lagoon" /></td>
<td><img src="image6.png" alt="PHYSICS LAKEYON DAY INL USU 2013" /></td>
</tr>
</tbody>
</table>