Wednesday, March 5, 2014

3:00-5:00 pm  Registration/Check-In - University Guest House
If you are going to need to check-in after 5 pm, please call Mateo at 801-209-1016 to make arrangements.

5:00-5:30 pm  Load Shuttles to James Fletcher Building – University Guest House

5:30-6:15 pm  “Physics is Fun” – James Fletcher Building 101

6:30-7:30 pm  Welcome Buffet – University Union, Saltaire
Director, Mateo Remsburg

7:30-8:00 pm  Load Shuttles back to University Guest House – University Union

8:00-9:30 pm  Presenters Meeting – University Guest House, East Ballroom
Oral and Competitive Poster presenters meet for guidelines and to load presentations on computers.
The schedule starting on page 5 shows the rooms in which you will be presenting.
  Competitive Poster – Biology and Behavioral Science – East Ballroom
  Competitive Poster – Engineering, Earth & Space Science, and Physical Science – Bonneville
  Orals – Biology and Behavioral Science - City Creek
  Orals – Earth & Space Science, Engineering, Math & Computer Science, and Physical Science – Alpine

Observers Meeting – University Guest House, West Ballroom
Observers meet for a presentation on how to prepare your research for next year’s IJSHS competition.
Thursday, March 6, 2014

6:00-9:00 am  Continental Breakfast
University Guest House – 1st Floor

7:00-8:00 am  Non-competitive Poster Set-up
University Guest House – West Ballroom
Please set up your non-competitive posters on the easels provided.

8:00-8:45 am  Non-competitive Poster Session
University Guest House – West Ballroom.

8:50-12:10 pm  Competitive Oral Presentation
Check in with the moderator in your assigned presentation room by 8:30 am
Orals – Biology and Behavioral Science - City Creek
Orals – Earth & Space Science, Engineering, Math & Computer Science, and Physical Science – Alpine

9:10-12:15 pm  Competitive Poster Presenters
Check in with the moderator in your assigned presentation room by 8:50 am.
Poster – Biology and Behavioral Science – East Ballroom
Poster – Engineering, Earth & Space Science, and Physical Science – Bonneville

12:30 -1:30 pm  Lunch at Heritage Center

2:00-2:45 pm  Admissions Info Session
University Guest House – East/West Ballrooms

3:15-3:25 pm  Board TRAX for trip to Gateway
First TRAX train leaves promptly at 3:27 pm

4:30- 5:15 pm  IMAX Movie; Hubble 3D – Clark Planetarium

5:15-7:30 pm  Explore Gateway/Dinner on your own

7:30-7:40 pm  Board TRAX at Gateway to return to University Guest House
Last TRAX train leaves promptly at 7:31pm
You will arrive back to the Guest House at 8:00pm if you take this train

8:00-10:00 pm  Free Time - Optional
Board Games – Alpine
Friday, March 7, 2014

6:00-8:00 am  Continental Breakfast  
University Guest House – 1st Floor  

8:15-8:30 am  Assemble for Group Tours  
Assemble in front of the Guest House and get with your group tour. We will start walking at 8:30. Tours will depart on time from this location. Guides will remain with the group the entire time. Wear good walking shoes. No students will be allowed to switch tours, to leave the group, or not participate in the tours.

9:00-11:30 am  Group Tours  

12:00-1:30 pm  Lunch at Heritage Center  

2:30-3:00 pm  Load Shuttles to Student Union  

3:00-4:30 pm  Free Time - Optional  
Billiards or bowling – Student Union, Crimson Commons  
Board Games – University Guest House, Lobby  

6:30 pm  Awards Banquet  
University Guest House – East/West Ballrooms  
No T-shirts or jeans please. Semi-formal or business dress attire recommended.

8:30-11:30 pm  Dance – Officer’s Club
Saturday, March 8, 2014

Continental Breakfast 1st Floor Lobby

Checkout time is Noon.

Those who wish to stay and enjoy our beautiful city do so at their own expense. Discount rates may be available in the Marriott Hotel or University Guest House.
**2014 Intermountain Junior Science and Humanities Symposium**  
**Presentations Schedule, March 6th**

**ORALS**  
**Biology and Behavioral Science**  
**City Creek**

8:50 am  
**Daji Landis**  
Incentives as Memory Biases

9:10 am  
**John Meyers**  
Patience in the Computer Age

9:30 am  
**Kate Bradford**  
Cognitive Impairment and Behavioral Testing in a Mouse Model of Epilepsy

9:50 am  
**Bridger Fiore**  
Comparison of crested wheatgrass (*Agropyron cristatum*) seedbank analysis

10:10 am  
**Naveen Rathi**  
Developing a Polydimethyl Siloxane (PDMS) Microfluidic Spotter System for In Vitro Drug Testing on Ovarian Cancer Patients

10:30-10:50 am  
**Break**

10:50 am  
**Bovey Rao**  
Investigation of Different Pretreatments on the Synthesis of Bioethanol from Grass Clippings

11:10 am  
**Brandon Healey**  
The Effects of Copper in a Clinical Setting

11:30 am  
**Emma Mackey**  
Speed of Phytochrome Activation in Lettuce Seeds

11:50 am  
**Jalyssa Swensen**  
The physical and biochemical effects of Montana’s native moss (*Syntrichia ruralis*) on spotted knapweed (*Centaurea stoebe*) germination

12:10 pm  
**END OF SESSION**
ORALS
Earth & Space Science, Engineering, Math/Computer Science, and Physical Science

Alpine

9:30 am  Anthony Cheng
Analysis of Montane Rainforest Dwellings using Connected Components Labeling

9:50am  Annika Hansen
Nova Delphini 2013: Estimation of Velocity by the Doppler Effect

10:10 am  Jacob Alborano
Determining the Effectiveness of Hydraulic Fracturing Proppants

10:30 am  Shannon Hatch
Effect of Changing the Distance of the Mylar Balloon and Fixing the Light on the Photophone

10:50-11:10 am  Break

11:10 am  Melissa Ivie
Networking Nuances: Creating Hardware and Software Solutions Using UDP/IP Datagrams

11:30 am  Daniel Lui
Recovering the Effective Thermal Conductivity of SIMBA Sea Ice with a Composite Material Model

11:50 am  Brandon Cui
A Green Method for Preconcentration and Analysis of Heavy Metals in Water

12:10 pm  END OF SESSION
<table>
<thead>
<tr>
<th>Time</th>
<th>Presenter</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>9:10 am</td>
<td>David Sagae</td>
<td>Effect of Temperature on Enzymatic Rate</td>
</tr>
<tr>
<td>9:20 am</td>
<td>Grason Lamb</td>
<td>Does the Socio-economic and Political Structure of a Country Affect the Happiness of the Population through Policy?</td>
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<tr>
<td>9:30 am</td>
<td>Luke Becker</td>
<td>The Identification and Isolation of E. coli Bacteriophages</td>
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<tr>
<td>9:40 am</td>
<td>Triston Isakson</td>
<td>Cutthroat Trout Re-Introduction Phase IV – Individual Stream Modeling</td>
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<tr>
<td>9:50 am</td>
<td>Anika Heilweil</td>
<td>The Effect of Phosphorus, Nitrogen, and Herbicides on the Mortality of Brine Shrimp</td>
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<tr>
<td>10:00 am</td>
<td>Gabriel Freeman</td>
<td>Synthesis of Gold Nanorods and Nanocages for Hyperthermic Tumor Targeted Drug Delivery</td>
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<tr>
<td>10:10 am</td>
<td>Kate Johnston</td>
<td>Effect of targeted sheep grazing on spotted knapweed (<em>Centaurea maculosa</em>) control.</td>
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<tr>
<td>10:20-10:40 am</td>
<td>Break</td>
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<tr>
<td>10:40 am</td>
<td>Katie Larsen</td>
<td>Knee Bracing System for Post-Polio Patients Designing Process</td>
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<tr>
<td>10:50 am</td>
<td>Sam Miller</td>
<td>The Effectiveness of AC Saltlander Wheat Grass in Alkali Soil</td>
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<tr>
<td>11:00 am</td>
<td>Jake Oetinger</td>
<td>Effects of Plyometric vs. Resistance Training on Peak Power Output in High School-Aged Males</td>
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<tr>
<td>11:10 am</td>
<td>Calvin Yu</td>
<td>Neighborhood Built Environment and No Leisure-time Physical Activity Participation in Utah</td>
</tr>
<tr>
<td>11:20-12:15 pm</td>
<td>Judges Review Posters</td>
<td><em>students stand by your posters to answer questions</em></td>
</tr>
</tbody>
</table>
COMPETITIVE POSTERS
Earth & Space Science, Engineering, and Physical Science

Bonneville

9:10 am  Connor Overcast  The Economic and Environmental Benefits of Mineral Oil Submersion

9:20 am  Lauren Engar  What is Comet Ison Composed of? A Study of Earth and Space Science

9:30 am  Danelle Toren  Temperature Lapse Rate of the Troposphere

9:40 am  Matt Hansen  Radiation Shielding on the Orion Spacecraft: Cost Weighed Against Benefit of Various Shields

9:50 am  Christina Lambert  Monte Carlo Modeling of New Materials for Radiation Shielding in Space Using GEANT4

10:00 am  Tara Hazeltine  Cost Efficiency Analysis of a Ground Source Heat Pump vs. an Air Source Heat Pump

10:10-10:30 am  Break

10:30 am  Nityam Rathi  Reconditioning of Hydrophobic Soil

10:40 am  Caid Lunt  Optimizing the Utilization of Wind Energy with an Alternative Engineering Design: A Horizontal Dual Generator Turbine Phase II

10:50 am  Eric Harrison  Hydrolyzing Cellulose, Hemicellulose, and Lignin with Caldicellulosiruptor bescii

11:00 am  Riley McVey  Luminescence Quenching by Transition Metal Ions on Luminescent Surfaces

11:10 am  Ryan Barney  Efficacy of Five Methods of Water Purification and Their Possible Uses in Third-World Countries

11:20-12:15 pm  Judges Review Posters  (students stand by your posters to answer questions)
Participating Schools

Big Sky High School, Missoula, MT
Carbon High School, Price, UT
Copper Hills High School, West Jordan, UT
Fairfield High School, Fairfield, MT
Hellgate High School, Missoula, MT
Hillcrest High School, Midvale, UT
Juan Diego Catholic High School, Draper, UT
North Toole County High School, Sunburst, MT
Riverton High School, Riverton, UT
Sentinel High School, Missoula, MT
Simms High School, Simms, MT
Skyline High School, Salt Lake City, UT
Spring Creek High School, Spring Creek, NV
Springville High School, Springville, UT
Wasatch Jr. High School, Salt Lake City, UT
Weber High School, Ogden, UT
West High School, Salt Lake City, UT