



# CROP Summer Workshop Agenda



## Wednesday, May 28<sup>th</sup> 2014

## Thursday, May 29<sup>th</sup> 2014

Time	Activity	Location				
9:00 – 9:30	Participants arrive, nametags.	JH 136				
9:30 – 9:40	Welcome and review agenda.	JH 136				
9:45 – 10:40	Calorimetry & Showers.	JH 136				
9:40 – 10:45	CROP Pre-tests and Survey*.	JH 145				
10:40 – 10:55	Break					
10:55 – 12:00	Cosmic Rays Signals & Background.	JH 136				
12:00 – 1:00	Lunch	JH Atrium				
1:00 – 1:45	CROP Data Acquisition Software and Data Analysis Tools.	JH 136				
1:45 – 2:00	Break					
2:00 – 3:15	Labwork: Parallel Sessions:					
	<table border="1"> <tr> <td>Group 1 - Station A</td> <td>Group 2 - Station B</td> </tr> <tr> <td>Group 3 - Station C</td> <td>Group 4 - Station D</td> </tr> </table>	Group 1 - Station A	Group 2 - Station B	Group 3 - Station C	Group 4 - Station D	
Group 1 - Station A	Group 2 - Station B					
Group 3 - Station C	Group 4 - Station D					
3:15 – 4:15	Special topics and Q&A: Quantum Mechanics. (Dr. Claes)	JH 136				
4:15	Adjourn					

Time	Activity	Location				
9:30 – 10:30	Phototubes and Scintillators.	JH 136				
10:30 – 10:40	Break					
10:40 – 12:00	Labwork: Parallel Sessions:					
	<table border="1"> <tr> <td>Group 1 - Station B</td> <td>Group 2 - Station A</td> </tr> <tr> <td>Group 3 - Station D</td> <td>Group 4 - Station C</td> </tr> </table>	Group 1 - Station B	Group 2 - Station A	Group 3 - Station D	Group 4 - Station C	
Group 1 - Station B	Group 2 - Station A					
Group 3 - Station D	Group 4 - Station C					
12:00 – 1:00	Lunch	JH Atrium				
1:00 – 2:00	Cosmic Rays Spectrum.	JH 136				
2:00 – 2:05	Break					
2:05 – 3:20	Labwork: Parallel Sessions:					
	<table border="1"> <tr> <td>Group 1 - Station C</td> <td>Group 2 - Station D</td> </tr> <tr> <td>Group 3 - Station A</td> <td>Group 4 - Station B</td> </tr> </table>	Group 1 - Station C	Group 2 - Station D	Group 3 - Station A	Group 4 - Station B	
Group 1 - Station C	Group 2 - Station D					
Group 3 - Station A	Group 4 - Station B					
3:20 – 4:20	Special topics and Q&A: Einstein's Special Relativity. (Dr. Snow)	JH 136				
4:20	Adjourn					

## Friday, May 30<sup>th</sup> 2014

Time	Activity	Location				
9:30 – 10:50	Labwork: Parallel Sessions:	JH 136				
<table border="1" style="margin: auto;"> <tr> <td style="background-color: #d9ead3;">Group 1 - Station D</td> <td style="background-color: #fff2cc;">Group 2 – Station C</td> </tr> <tr> <td style="background-color: #d9ead3;">Group 3 – Station B</td> <td style="background-color: #d9ead3;">Group 4 – Station A</td> </tr> </table>			Group 1 - Station D	Group 2 – Station C	Group 3 – Station B	Group 4 – Station A
Group 1 - Station D	Group 2 – Station C					
Group 3 – Station B	Group 4 – Station A					
<table border="1" style="margin: auto;"> <tr> <td style="background-color: #fff2cc;">10:50 – 11:00</td> <td style="background-color: #fff2cc;">Break</td> <td></td> </tr> </table>			10:50 – 11:00	Break		
10:50 – 11:00	Break					
11:00 – 11:30	Charged Particles in Matter.	JH 136				
11:30 – 12:00	Mini Experiment Set-up					
<table border="1" style="margin: auto;"> <tr> <td style="background-color: #fff2cc;">12:00 – 1:00</td> <td style="background-color: #fff2cc;">Lunch</td> <td style="background-color: #fff2cc;">JH Atrium</td> </tr> </table>			12:00 – 1:00	Lunch	JH Atrium	
12:00 – 1:00	Lunch	JH Atrium				
1:00 – 2:00	Array Experiments: Analyzing Experiment Data.					
<table border="1" style="margin: auto;"> <tr> <td style="background-color: #fff2cc;">2:00 – 2:05</td> <td style="background-color: #fff2cc;">Break</td> <td></td> </tr> </table>			2:00 – 2:05	Break		
2:00 – 2:05	Break					
2:05 – 3:05	Counting Experiments and Statistics	JH 136				
3:05 – 3:30	Q&A	JH 136				
3:00 – 3:30	Returning teachers Q&A session*	JH 145				
<b>3:30</b>	<b>Adjourn and Clean Up</b>					

### Lab Work Stations

#### Station A – JH 141

Scintillators, and Light-Leak Testing: single rates & coincidences  
*Shelby and Dr. Snow*

#### Station B – JH 137

Oscilloscope Lessons Activities.  
*Savanna and Phillip*

#### Station C – JH 111

Threshold Scans with DAQ Card and LabView Software  
*Soundar and Michael Angelo*

#### Station D – JH 131

Efficiency Scans.  
*Aniruddha and Dr. Claes*

### Groups/Schools

**Group 1 – Pius X High, Pleasanton High**

**Group 2 – Mount Michael High, Loup City High**

**Group 3 – Southwest High**

**Group 4 – Omaha central High, Acceleré**

### Special Sessions\*

9:40 – 9:55      CROP Pre-Survey.      JH 145

9:55 – 10:45      CROP Background survey/pre-test.      JH 145

3:00 – 3:30      Returning teachers Q&A session      JH 145