The Kavli Institute for Cosmological Physics (KICP) at the University of Chicago will host a two-day workshop focusing on solid-state technologies to build cameras for both space and ground-based astroparticle physics experiments. In particular, alternatives to MAPMTs for the JEM-EUSO focal plane and CTA cameras will be discussed including SiPM and G-APD. The workshop will be structured as a series of presentations with ample time for discussions and working sessions.

**Local Organizing Committee**

<table>
<thead>
<tr>
<th>Name</th>
<th>Institution</th>
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</thead>
<tbody>
<tr>
<td>Pedro Facal</td>
<td>Kavli Institute for Cosmological Physics</td>
</tr>
<tr>
<td>Toshihiro Fujii</td>
<td>Institute for Cosmic Ray Research &amp; Kavli Institute for Cosmological Physics</td>
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<tr>
<td>Jeff Grube</td>
<td>Adler Planetarium/EFI</td>
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<tr>
<td>Andrew McCann</td>
<td>Kavli Institute for Cosmological Physics</td>
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<td>Angela Olinto</td>
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<tr>
<td>Paolo Privitera</td>
<td>Kavli Institute for Cosmological Physics</td>
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<tr>
<td>Scott Wakely</td>
<td>Kavli Institute for Cosmological Physics</td>
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<tr>
<td>Christopher Williams</td>
<td>Kavli Institute for Cosmological Physics</td>
</tr>
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</table>
# WORKSHOP PROGRAM

May 9-10, 2013 @ LASR, University of Chicago

## Thursday - May 9, 2013

### MORNING SESSION I
**Chair: Christopher Williams**

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
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</table>
| 9:00 AM - 9:10 AM | **WELCOME**  
Angela Olinto                                      |
| 9:10 AM - 9:30 AM | Angela Olinto, Kavli Institute for Cosmological Physics  
**JEM-EUSO Science Overview**                          |
| 9:30 AM - 9:50 AM | Jeff Grube, Adler Planetarium/EFI  
**CTA Science Overview**                                 |
| 9:50 AM - 10:10 AM | **COFFEE BREAK**                                                          |

### MORNING SESSION II
**Chair: Javier Tiffenberg**

<table>
<thead>
<tr>
<th>Time</th>
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</table>
| 10:10 AM - 10:50 AM | Marco Casolino, RIKEN & INFN  
**The Focal Surface of JEM-EUSO detector**                  |
| 10:50 AM - 11:00 AM | **QUESTIONS: JEM-EUSO FOCAL PLANE**  
Marco Casolino                                            |
| 11:00 AM - 12:00 PM | Juan Estrada, Fermilab  
**MAPMT Performance compared with Requirements Discussion** |
| 12:00 PM - 1:00 PM | **LUNCH**                                                                |

### AFTERNOON SESSION I
**Chair: Christopher Williams**

<table>
<thead>
<tr>
<th>Time</th>
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</table>
| 1:00 PM - 1:30 PM | Ardavan Ghassemi, Hamamatsu  
**Latest MPPC Developments from Hamamatsu 1**                |
| 1:00 PM - 1:30 PM | Ardavan Ghassemi, Hamamatsu  
**Latest MPPC Developments from Hamamatsu 2**               |
| 1:30 PM - 2:15 PM | Nepomuk Otte, Georgia Tech  
**Nuisances of SiPMs and how to deal with them in Cherenkov telescopes on the example of the CTA SC-MST** |
| 2:15 PM - 2:30 PM | **QUESTIONS: NUISANCES OF SIPMS AND HOW TO DEAL WITH THEM**  
Nepomuk Otte                                                 |
| 2:30 PM - 3:15 PM | Thomas Bretz, ETH Zurich  
**FACT Telescope**                                           |
| 3:15 PM - 3:30 PM | **QUESTIONS: FACT TELESCOPE**  
Thomas Bretz                                                  |
| 3:30 PM - 4:00 PM | **COFFEE BREAK**                                                          |

### AFTERNOON SESSION II
**Chairs: Toshihiro Fujii**

<table>
<thead>
<tr>
<th>Time</th>
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</table>
| 4:00 PM - 5:00 PM | John W Mitchell, Goddard Space Flight Center  
**SiPMs and G-APD Discussion**                             |
| 5:00 PM - 6:00 PM | Marco Ricci, INFN, Laboratori Nazionali Frascati - ITALY  
**Mechanics and Thermal Requirements Discussion**          |
Friday - May 10, 2013

MORNING SESSION I
Chair: Jeff Grube

9:00 AM - 9:45 AM  
David A Williams, University of California, Santa Cruz  
Characterization of SiPMs for Use in Cherenkov Telescopes

9:45 AM - 10:00 AM  
QUESTIONS: SIPM FOR CTA  
David Williams

10:00 AM - 10:15 AM  
COFFEE BREAK

MORNING SESSION II
Chair: Jeff Grube

10:15 AM - 11:00 AM  
Paul Rubinov, Fermilab  
Electronics for large focal plane arrays

11:00 AM - 11:05 AM  
QUESTIONS: ELECTRONICS  
Paul Rubinov

11:05 AM - 11:50 AM  
Justin Vandenbroucke, KIPAC, SLAC  
Waveform digitization with the TARGET chip

11:50 AM - 12:00 PM  
QUESTIONS: WAVEFORM DIGITIZATION WITH THE TARGET CHIP  
Justin Vandenbroucke

12:00 PM - 1:00 PM  
LUNCH

AFTERNOON SESSION I
Chair: Juan Estrada

1:00 PM - 1:45 PM  
Grzegorz W Deptuch, Fermilab  
3D integrated and digitally read-out solid-state photo-multiplier - proposal

1:45 PM - 2:00 PM  
QUESTIONS: 3D SIPM  
Grzegorz Deptuch

2:00 PM - 2:45 PM  
Eric Oberla, UChicago HEP  
Development of large area Micro-channel Plate Photodetectors for imaging and fast-timing applications

2:45 PM - 3:00 PM  
QUESTIONS: PSEC MCP  
Eric Oberla

3:00 PM - 3:30 PM  
COFFEE BREAK

AFTERNOON SESSION II
Chair: Pedro Facal

3:30 PM - 4:30 PM  
ELECTRONICS DISCUSSION

4:30 PM - 5:00 PM  
SUMMARY AND FUTURE