

# Proceedings of the Third Hot-Wiring Transient Universe Workshop

November 2013

Santa Fe, New Mexico

Editors

P. R. Woźniak, M. J. Graham, A. A. Mahabal, and R. Seaman

Organized by Los Alamos National Laboratory

Sponsored by Los Alamos National Laboratory,  
National Optical Astronomy Observatory,  
Large Synoptic Survey Telescope,  
and International Virtual Observatory Alliance



## Foreword

### Science and Engineering for Time Domain Astronomy

The third edition of the Hot-wiring the Transient Universe Workshop took place at the Eldorado Hotel in Santa Fe, NM between November 13 and 15, 2013. The meeting explored opportunities and challenges of massively parallel time domain surveys coupled with rapid coordinated multi-wavelength follow-up observations. The interdisciplinary agenda includes future and ongoing science investigations, information infrastructure for publishing observations in real time, as well as novel data science to classify events and systems to optimize follow-up campaigns. Time domain astronomy is at the fore of modern astrophysics and crosses fields from solar physics and solar system objects, through stellar variability, to explosive phenomena at galactic and cosmological distances. Recent rapid progress by instruments in space and on the ground has been toward a continuous record of the electromagnetic sky with ever increasing coverage, sensitivity, and temporal resolution. With the advent of gravitational wave and neutrino observatories we are witnessing the birth of multi-messenger astronomy.



## Acknowledgements

Many individuals contributed their skills and efforts to make the HTU-III workshop successful.

The Organizing Committee developed an excellent scientific program that attracted very strong participation from the time-domain astronomical community despite serious restrictions on conference travel and the United States federal government shutdown that ended less than 4 weeks before the meeting.

The workshop could not have happened without Rob Seaman who has been promoting close interactions between science and technology oriented astronomers for as long as I remember. Rob knows all the secret ingredients necessary for a productive workshop series.

Barbara Roybal provided expert advise and excellent administrative support that made it possible for LANL to host HTU-III.

Many thanks to Rachel O'Donoghue and the Eldorado Hotel staff for putting together a great venue and highly professional site support, Brandy Putt for preparing welcome packages and helping with the registration process, and Jim Douglass for providing poster stands.

Pete Marenfeld created another awesome workshop poster, the best yet of an impressive series that make the Hotwiring meetings even more enjoyable. Iair Arcavi took the conference photo.

We thank the LDRD program at LANL for sponsoring the event. Funding for posters was provided by LSST.

Przemek Woźniak  
Chairman, Organizing Committee



## Workshop Organization

Przemek Woźniak	Organizing Committee Chair
Rob Seaman	Program Chair
Brandy Putt	Conference Secretary
Barbara Roybal	Conference Coordinator

### Organizing Committee

Przemek Woźniak	Los Alamos National Laboratory
Tom Vestrand	Los Alamos National Laboratory
Josh Bloom	University of California, Berkeley
Matthew Graham	California Institute of Technology
Lynne Jones	University of Washington
Mansi Kasliwal	Carnegie Observatories
Ashish Mahabal	California Institute of Technology
Tom Matheson	National Optical Astronomy Observatory
Andrej Prsa	Villanova University
Rob Seaman	National Optical Astronomy Observatory
Rachel Street	Las Cumbres Observatory Global Telescope Network
John Swinbank	Low-Frequency Array for Radio Astronomy
Lucianne Walkowicz	Princeton University
Roy Williams	Laser Interferometer Gravitational Wave Observatory