August 4 & 5: Global HOU/GTTP Collaboration Meeting  8:30am-7:00pm

Agenda Topics for Day 1:
Registration: 8:00 AM

8:30am  Opening and Welcome: Carl Pennypacker -- “Another Good Year for GHOU and More Work and Successes Ahead!”
9:00am  Pedro Russo (Keynote Speaker): Astronomy Education 2020
9:45am  Kevin Govender (Keynote Speaker): Astronomy and Developing Nations
10:30am Break
10:45am Tim Slater (Keynote Speaker): Modern Astronomy Education
11:30am Rosa Doran (Keynote Speaker): How to recruit, train, and sustain 20,000 teachers around the world in the GTTP -- we have the numbers -- how do we bind us together?

12:15pm Lunch on your own

Reports from Exemplary Nations Succeeding and Growing with GHOU (15 minutes each):

1:00pm  Suzanne et Michel Faye: “How to engage Toute la France in GHOU”
1:20pm  Sergio Cabezon: Building a Sustainable System for Teacher Training in Chile with an Internet Infrastructure and regular Workshops”
1:40pm  Rosa Doran: “Reaching Many Teachers with Many Different Methods in Portugal”
2:00pm  Bonnie Thurber and Nepalese Collaborator: “Building GTTP and GHOU in Nepal -- Real Workshops with Salsa J!!”
2:20pm Break
2:40pm  David Platz: GHOU in Atherton, Australia
3:00pm  Kentaro Yaji: Solar Observation Data Education in Classroom
3:20pm  Paulo Bretones : GHOU in Brazil!
3:40pm  James Adzamli: Astronomy in Ghana
4:00pm  Alan Gould & Rich Lohman: USA-report from HOU-USA meeting, July 2015
4:20pm  Hongfeng GUO: GHOU Activities in China
4:40pm  Karen Masters: Astronomy Outreach with Galaxy Zoo and the Zooniverse

Poster presentations and Roundtable Discussions

5:00-7:00pm
Table 1  Kazuhisa Kamegai: Recent Expansion of the Science Live Show UNIVERSE
Table 2  TimSpuck: The 2015 Chile-U.S. Astronomy Education Outreach Summit in Chile
Table 3  Richard Gelderman: Allowing Robotic Telescopes to Enable a Hands-On Astronomy Course
Table 4  Alan Gould: NASA Kepler and K2 Mission Education News
Table 5  Extended Discussions
Table 6  Extended Discussions

Please pay fees on our website http://handsonuniverse.org/ghou2015/fees/
Agenda Topics for Day 2: Ideas to Move Forward

8:30am  Rosa Doran: Welcome and International Year of Light 2015 (45 minute talk)
9:30am  Carl Pennypacker: Ideas for More Focused GHOU Fundraising Activities, beginning with Latin America!!
10:00am Break
10:15am Bonnie Thurber: “Let us get $100,000 Dollars a year -- Fundraising Strategies and Plans -- the One Hundred Foundation Approach Strategy” (round table with participation by all)
11:15am How do we engage the IAU scientists and others in our activities?

12:00pm Lunch on your own

1:00pm History of Astronomy in China as a shared GHOU Resource
1:30pm Richard Gelderman: WKU Exemplary Activities We Can Share Now!
2:30pm Break

GHOU Association Membership Business Meeting-
2:45pm Please send your topics to b-thurber@northwestern.edu

Luau ($50.00 extra fee)
5:00pm Please join us for our private Luau In the IfA Courtyard. We guarantee authentic Luau food, drinks, music, Hawaiian dancing and great company.

Please pay fees on our website http://handsonuniverse.org/ghou2015/fees/
Global Hands-On Universe & Galileo Teacher Training, Honolulu, Hawaii
University of Hawaii Institute for Astronomy, Auditorium C-214
2680 Woodlawn Dr., Honolulu, Hawaii

Note: We have three two-day workshops scheduled in three different rooms as listed below.
Welcome is at 8:30am. Each day closes at 5:00pm with a Special Saturday program 5:00pm.
Cost is $35 for the two days. The cost includes coffee breaks and lunch.
Registration: http://handsonuniverse.org/ghou2015/registration/
All workshops strongly support Common Core Math Standards and New NGSS Science Standards

August 8 & 9: Hawaii and International Teacher and Scientist Workshops

For High School Teachers

Day 1 Understanding the Universe with Modern Tools, Auditorium C-214
8:45am Move to session rooms and introductions of teachers, leaders and scientists
9:00am Introduction to image processing
9:45am Measuring Size/Calculation of Plate Scale
10:30am Break
10:45am Calibrating a Smartphone as Telescope
   teachers need to bring USB cord for transferring images easily
11:30am Moons of Jupiter
12:00pm Lunch in the Courtyard
1:00pm Jupiter mass
1:30pm Measuring Distance (Inverse Square Law)
2:00pm Using Parallax to Measure Distance
2:45pm Break
3:00pm Find a supernova to Measure Distance
3:45pm Introduction to Stellarium
4:30pm Planning Night-time Observing Sessions

Special Evening Activity for all in Auditorium C-214:
5:00 pm Linda Strubbe will discuss “astroEDU: Developing Open-Access Peer-Reviewed Astronomy Education Activities”

Day 2, Auditorium C-214:
8:30am SDSS Voyages: Galaxies, Nebula and everything SLOAN
10:00am Break
10:15am SDSS Voyages continued
11:30am Using Global Observatory Network of Telescopes: A Pilot Use Study!
12:00pm Lunch in the Courtyard
1:00pm Exoplanets
2:30pm Break
2:45pm Black holes, missing mass, Hubble Expansion with Supernovae
4:15pm Black Holes in my School (students exploring stellar mass Black Holes)
5:00pm Certificates for Workshop completion

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August 8 & 9: Hawaii and International Teacher and Scientist Workshops

For Middle School Teachers

Understanding Size, Scale, Ratios in the Classroom and the Universe for (Focus on Integrating Math and Science)
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Day 1 Topics include in Fern Room C-221:
8:45am  Teacher Introductions
9:00am  Maps of Hawaii, the Earth, the Solar System, and the Universe -- intro to Salsa J
10:00am Playdough recipes scaled, make Playdoh based scale model of Solar System
10:30am Break
10:45am Stellarium: position of Sun versus time and season, speed of objects
12:00pm Lunch in the Courtyard
1:00pm Angular Size - understanding pixel size in angles and physical size
  Smartphones with USB plugs brought to workshop
2:15pm Break
2:30pm Estimated size / distance using scale plate (fireball)
3:30pm Beyond water rockets

Special Evening Activity for all in Auditorium C-214:
5:00pm Linda Strubbe will discuss “astroEDU: Developing Open-Access Peer-Reviewed Astronomy Education Activities”

Day 2 Topics include in Fern Room C-221:
8:30am  Crater Impacts, death of dinosaurs, moon craters, simulate crater formation in class, craters throughout the solar system
9:30am  Salsa J journey of exploration - understand solar system objects in open ended discovery times -- students decide and classify what they see and make models.
10:30am Break
10:45am Tracking an asteroid -- predict position
12:00pm Lunch
1:00pm Hot wheel cars and electric cars tracks and trajectories and energy and linear equations
2:15pm Break
2:30pm Viewing the night sky with and without telescopes
3:45pm Inquiring the Moon (an inquiry based activity)
5:00pm Certificates for Workshop completion
Global Hands-On Universe and Galileo Teacher
University of Hawaii Institute for Astronomy
2680 Woodlawn Dr., Honolulu, Hawaii

August 8 & 9: Hawaii and International Teacher and Scientist Workshops

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For Eager Middle School and High School Teachers

IASC: Real Discoveries of Asteroids International Asteroid Search Campaign & Other Topics -- for Eager Middle and High School Teachers

Day 1 Topics include in Moon Room B-228:
8:45am Teacher introductions
9:00am Overview of asteroids -- KT extinctions.
   YouTube videos that teachers can use to engage students
10:30am Break
10:45am Other web resources on asteroids: http://goo.gl/WfoA6j
11:30am The history of Ceres’ discovery is equally interesting:
   http://en.wikipedia.org/wiki/Ceres_%28dwarf_planet%29
12:00pm Lunch in the Courtyard
1:00pm Why asteroids move! Teachers try to derive asteroid motion versus time
2:00pm Asteroids in those liberio images with Salsa J
2:30pm Break
2:45pm Wise images of asteroids and asteroid temperatures.
3:00pm Richard Gelderman: Astronomical Spectroscopy and Remote Telescopes

Special Evening Activity for all in Auditorium C-214:
5:00-6:30pm Linda Strubbe will discuss “astroEDU: Developing Open-Access Peer-Reviewed Astronomy Education Activities”

Day 2: Astrometrica and Asteroid Searching in Moon Room B-228:
9:00am How to find and report on asteroids.
10:30am Break
12:00pm Lunch in the Courtyard
2:30pm Break
5:00pm Certificates for Workshop completion

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