

The IAS News & Views

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www.iasindy.org

IAS General Meeting February 11, 2012

7:00 PM

**Holcomb Observatory
Butler University**

The Kepler Mission Finding the Next Earth

**by Greg McCauley
NASA/JPL Solar System Ambassador**



The Kepler Mission

The centuries-old quest for other worlds like our Earth has been rejuvenated by the intense excitement and popular interest surrounding the discovery of hundreds of planets orbiting other stars.

There is now clear evidence for substantial numbers of three types of ExoPlanets; Gas Giants, Hot-Super-Earths, and Ice Giants. The challenge now is to find terrestrial planets approximately the size of Earth, especially those in the habitable zone of their stars where liquid water and possibly life might exist.

The Kepler Mission is specifically designed to survey a portion of our region of the Milky Way galaxy to discover Earth-size planets in or near the habitable zone and determine how many of the billions of stars in our galaxy have such planets. That centuries-old quest for other worlds like our Earth may soon be realized.

This presentation on The Kepler Mission will discuss the mission, the spacecraft and the science behind the hunt for the next Earth.

About the Speaker

Greg is a member of the Indiana Astronomical Society. In the early 1970's, Greg worked as a

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NASA contractor at the Manned Spacecraft Center (now Johnson Space Center) in Houston Texas in the Mission Planning and Analysis Division for the lunar missions of Apollo 15 and 16, and was a member of the Lunar Launch Team for Apollo 17.

Greg is currently a Solar System Ambassador for NASA/JPL. The Solar System Ambassadors Program is sponsored by the Jet Propulsion Laboratory in Pasadena, CA, an operating division of the California Institute of Technology (Caltech) and a lead research and development center for the National Aeronautics and Space Administration (NASA).

The Solar System Ambassadors Program is a public outreach designed to work with trained volunteers across the nation. These volunteers communicate the excitement of JPL's space exploration missions and information about recent discoveries to people in their local communities.

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Membership Status

The following changes in membership took place in January:

Total Membership: 145

Renewals: 9

New Members:

Ryan Hurd - Brownsburg
William Chase - Lebanon

Reactivated from Inactive status:

Eric Hoschtetler - Plainfield

Inactive Status:

Ethan Sauer - South Bend
Jeff Clemens - Moved to Cary, North Carolina
Dennis Rader - Moving to Florida
Marion Hakes - Franklin

Other News

Bruce Bowman Receives A/L Observing Awards

Bruce Bowman was honored at the January meeting with presentations of observing awards for both the Messier Objects and the Herschel 400. Bruce has been observing for over 20 years and now is working on his Globular cluster and Herschel II lists.



Pay Your Dues by PayPal

We can now pay dues on our website using paypal. There is a cart system where you can pay dues, order magazines, or donate to the Society. Thanks to John Shepherd and Doug Sangunetti for getting it done. It was not as easy as it seemed. The cart is found in the Join the Society section of the website. You will have to establish a PayPal account for yourself to make the transactions.

Logo Clothing

The Board has developed a new supply of logo ware with our new logo using Mid Central Trophy in Kokomo, IN. Typically T shirts, sweatshirts, polo shirts, and caps are available. Now we are even making it easier for you. We have changed our method of order so that you can have better service. Call Linda, tell her this is an order for the IAS logo ware, discuss what you want and give her the size. She can determine the cost and shipping and mail the order to your home directly.

Linda

Mid-Central Trophy

422 Arnold Ct

Kokomo, IN 46902

765-453-5494

All Major credit cards are accepted.

Hours 9-5 EST

IAS Calendar of Events for February

February 11 General Meeting at Holcomb Observatory

February 14 Board Meeting

NASA Space Place

The Nerdiest Video Game Ever

By Dr. Tony Phillips

NASA has a job opening. Wanted: People of all ages to sort, stack, and catalogue terabytes of simulated data from a satellite that launches in 2015. Agile thumbs required.

Sorting terabytes of data? It's more fun than it sounds.

In fact it's a game: Satellite Insight. The Space Place Team at the Jet Propulsion Laboratory created the entertaining app for iPhones to get the word out about GOES-R, an advanced Earth science satellite built by NOAA and NASA.

Described by the *Los Angeles Times* as possibly "the nerdiest game ever," Satellite Insight may be downloaded for free from Apple's app store. Be careful, though, once you start playing it's hard to stop. Some reviewers have likened it to Tetris, one of the most popular video games of all time.

GOES, short for "Geostationary Operational Environmental Satellite," is the workhorse spacecraft for weather forecasters. NOAA operates two (at a time) in geosynchronous orbit, one above the west coast of N. America and one above the east coast. They monitor clouds, wind, rain, hurricanes, tornadoes and even solar flares. The GOES program has been in action since 1975.

GOES-R is the next-generation satellite with advanced technologies far beyond those of the older GOES satellites. It has sensors for lightning detection, wildfire mapping, storm tracking, search and rescue, solar imaging, and more. Many of the sensors are trailblazers. For example, the Advanced Baseline Imager has 60 times the capability of the current imager—16 channels instead of 5. It has twice the spatial resolution and five times the temporal refresh rate, including the 30-second imaging of weather systems over a region of 1000 km x 1000 km. Also, the Geostationary Lightning Mapper can count and pinpoint lightning bolts over the Americas 24/7. It's the first such detector to fly on a geosynchronous satellite, and it could lead to transformative advances in severe storm warning capability.

All in all, GOES-R represents a "huge technological leap from the current GOES." We know this because Satellite Insight tells us so. The app has an informative "Learn More" feature where players can find out about the satellite and the data they have been sorting.

Which brings us back to sorting data. It's a bit like eating Cheerios; just don't tell the kids it's nutritious, and they love it. Helping GOES-R gather and stash data from all those advanced sensors is just as satisfying, too—a dose of Earth science wrapped in thumb-flying fun.

More information about Satellite Insight may be found on the web at <http://itunes.apple.com/us/app/satellite-insight/id463588902?mt=8>. The game also available in web form (flying thumbs optional) at spaceplace.nasa.gov/satellite-insight.

This article was provided by the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics and Space Administration.



New iPhone game is first NOAA app and only the second NASA game app. Just as with the real GOES-R, the challenge with Satellite Insight is to keep up with the massive influx of weather and other environmental data.

Observing Activities

Activities for February:

Link Observatory - None Planned

McCloud Activities– None Planned

Prairie Grass Observatory Activities–

We are able to go to the Link, Prairie Grass Observatories, and McCloud Nature Park at non scheduled times if they do not conflict with reserved activities:

For those interested in going to The Link Observatories for observing call John Shepherd at 1 317-862-3442.

For those interested in going to McCloud to observe, please call the park office 765 676 5437 before 4PM on the day you want to go out. They will give you permission to be there at night and make arrangements to cut off the lights.

For those interested in going to Prairie Grass Observatory for observing call Hoppe at 1-765-296-2753.

Other Observing Activities

IU Kirkwood Observatory Bloomington

The Kirkwood Observatory Solar Telescope is open on the "First Saturday" of each month from 1-3 PM. Viewers may even be able to see a solar prominence or two weather permitting. Updated weather conditions and closings will be posted at the Kirkwood Observatory Hotline at (812) 855-7736, and at the Observatory webpage, <http://www.astro.indiana.edu/kirkwood.shtml>.

Monthly openings of the solar telescope are planned for the first Saturday of each monthly during our 2011 and 2012 observing seasons. And if you want to follow the Sun in between our monthly Solar Telescope openings, the website www.spaceweather.com provides daily updates.

Kirkwood Observatory on the IU campus is open each Wednesday evening from spring break until mid-November, weather permitting! Join us for a night of observing the night sky with the Kirkwood 12" refractor. Please visit our schedule at <http://www.astro.indiana.edu/kirkwood.shtml>, for a list of dates and times. For updated weather conditions and closings, please call the Kirkwood Observatory Hotline at (812) 855-7736.

IAS LIBRARY:

There is a link on our website page for our Multi-Media Library containing a multitude of videos that are on the web. We think it will be a great addition to our library for both novices and experienced observers.

Do you have a question or need?

We have established a list of members who would be willing to receive calls for help on specific objects. If you have a specific skill and would be willing to help others please contact Jeff Patterson KB9SRB@hotmail.com.

Based upon the responses we received to your intro question recently, perhaps we should add a section to the bulletin naming those members who would be willing to receive calls for help on **specific subjects**.

William Conner (wmtconner@att.net) - for CCD imaging and film photography.

Jeff Patterson (Contact Jeff via the webpage iasindy.org under the contact us section) – Observatory design and construction

Eric Allen (ericandroberta@sbcglobal.net) - Telescope making and mirror grinding

Brian Murphy (bmurphy@monumentcompanies.com) - "telescope construction and collimation".

Public Outreach Programs – If you want to schedule a program at the Link Observatory or at your site, please contact the following people:

Gerald Venne is our Public Events Coordinator. He will be responsible for coordinating Public Events for the IAS. To schedule a public event contact Gerald Venne (Contact Gerald via the webpage iasindy.org under the contact us section).

He needs your help. Let Gerald know if you would like to show the public our sky. We need people to help at Link and elsewhere. It is actually a lot of fun.

If you would like to schedule the Goethe Link Observatory, please contact John Shepherd. Contact John via the webpage iasindy.org under the contact us section)

Astro Ads

Are you changing or upgrading your equipment? Do you have or are you looking for astronomical materials and equipment? The Indiana Astronomical Society as a service to its members, will publish non-commercial ads at no charge. The ad will stay in the Bulletin for 4 months and may be renewed at the owner's request.

To place an ad, contact:

Bulletin Editor

Jeff Patterson

1780 S. Morgantown Rd.

Greenwood, IN 46143

(317) 300-0449

E-Mail: KB9SRB@Hotmail.com

For Sale: MEADE 8" F/4.5 NEWTONIAN

Includes German Equatorial Mount with three counterweights, felt-lined mounting rings, RA and Dec slow motion controls, accessory tray and 6x30 finder scope. Eyepieces include 25mm MA and 9mm Ortho. All instruction manuals are included.

Additional Accessories:

- * Quartz RA motor drive incl battery pack
- * Polar alignment viewfinder
- * 12.5mm illuminated reticle eyepiece
- * Meade 60mm guidescope with mounting rings and 1.25" diagonal
- * 1.25" camera adapter
- * Piggyback camera bracket

Aluminized mirror has been cleaned and collimated. Optics are excellent, like new.

Telescope is in very good condition. A complete package for wide-field astrophotography and deep sky observation.

Asking \$450.00 – Call Bill at 892-2036 or e-mail at bwilhite@tds.net.

For Sale or Trade: CELESTRON HEAVY-DUTY TRIPOD, WEDGE, DRIVE, FORK ARMS

Heavy-duty tripod and wedge for the classic C8. Tripod has 2" legs that are extendable with step-locks and has a center post with an integral leg spreader. Wedge is cast iron with a hand-screw latitude adjustment. These components were built to last a lifetime and then some. I'm also including the drive base, fork arms, and power cord. This is the old-style base with the RA spur

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drive (no worm). The drive has slow-motion controls and setting circles and yes, it still works.

The C8 optical tube assembly is NOT included. \$300 takes all. I will also consider taking a good wide-field eyepiece in exchange (20mm f.l. minimum). Contact bruce.bowman@tds.net or call 317-539-2753

For Sale Starmaster 14.5" Hybrid Truss "Go to" Tracking Telescope and Televue Lens Package
All the equipment you need to do some spectacular deep sky stargazing.

<http://www.starmastertelescopes.com/hybridscopes.htm> ([Redesigned 14.5 Hybrid Truss](#))

Zambuto mirror optics 14.5" primary F/4.3 Thin mirror allows fast equilibration of optics for superior performance Sky Tracker goto-then-track drive system - This device interfaces with a Sky Commander digital setting circle unit TRUE goto and full tracking abilities. NO external computer or platform is needed. Remote Hand Controller

2" Crayford focuser with 1-1/4" adapter

Secondary Mirror Heater to keep you dew free with wiring package from secondary to the 12 volt outlet on the Sky Tracker accessory plate.

Kendrick Laser Collimator and Cheshire Collimator system

Light shroud & truss case

Rigel Quickfinder

Catsperch observing chair

Includes Televue Lens Package:

- Televue 22mm Panoptic
- Televue 9 mm Nagler
- 2" TeleVue ParaCorr
- 2" Televue Big Barlow

Price: \$ 5500.00 Firm

Direct cash purchase only

Email ldenglish101@gmail.com

Phone: 317-518-0601

A Convenient "Grab & Fly" Telescope Setup

February, 2012

By Tom Koonce

Lancaster, California

Have you ever headed out on a long trip and wished that you could do a little star-gazing once you arrived at your destination? But perhaps you have thought about the logistics of traveling with a telescope like the inconvenience of getting your telescope equipment through airport security, potential damage to the telescope, or maybe been daunted about what eyepieces and accessories to take? This article could help you to stop worrying... and start packing.

I had a unique opportunity to travel "down under" to observe from the dark skies of south central Australia, east of Melbourne, and then from the large island of Tasmania located off the southern tip of Australia. I knew I had to take a telescope with me or I'd certainly regret it. Major airlines fly into Melbourne, but only small "regional" airlines fly into Tasmania, so the amount of baggage I could take on the three week trip was strictly limited to a total weight of 23 kg (50.7

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lbs). My astronomy setup would have to fit into an already limited volume that included work attire, a bulky jacket, shoes, shaving kit, notebooks of work materials, and a laptop. While the observing portion of this trip was secondary to the business portion of this trip, it was still very important to me personally and deserved careful planning ahead of time.

Some of my initial questions to be answered were concerning the climate of the location. Would it be hot or cold this time of year? Cloudy or clear? Dark skies or urban light pollution? My excitement grew as each of these answers were favorable to potential great southern sky views of the Clouds of Magellan, Southern Cross, Alpha Centauri, Canopus, the Coal Sack, the Tarantula Nebula, and on and on. Wow.

Now what telescope should be taken? It had to be portable, deliver wide-field views when paired with one or two eyepieces, but be of sufficient quality that I could “crank up the power” if I wanted to. It needed to be rugged enough to survive the jostling of going through security (I foresaw a major hassle regarding this) and the vibration shock of the flight and maybe a rough landing. It also needed to be light enough to be supported by a photo tripod since such a tripod was the only possible support within my weight and luggage volume limitations. The Tele Vue Pronto ED doublet refractor telescope with a 480 mm focal length, f/6.8 and an objective diameter of 70 mm was chosen. I had purchased a Pronto in mint used condition from a friend for \$500 several years ago and loved it. When this short refractor is paired with both a Tele Vue 13mm Ethos and an 8mm Ethos, it can provide stunning views. The scope was also fitted with a 90 degree prism, two inch eyepiece focuser, a glass solar filter and a simple red dot sight.

I made a new foam insert for the stock Tele Vue Pronto padded carry bag to fit the telescope, both Ethos eyepieces, the right angle prism and accessories. I chose a closed cell foam with sufficient density to provide cushioning for all of the items, but rigid enough to hold each item securely. The solar filter, small red flashlight, my small southern sky atlas, dust blower and an O-III filter had to be carried in a 1 gallon ziplock in my suitcase, but still I was pleased that I managed to get my observing essentials down to such a small package.

The tripod I chose was the Manfrotto "Bogen" Carbon Fiber Tripod (BOG190CXPRO4) with a standard ball head. The entire tripod was no longer than the Pronto's carry case and I attached to the case with Velcro straps. The tripod was very light, but surprisingly stable with the 6 lb Pronto, diagonal, and with a 2 lb Ethos eyepiece mounted on it. Its maximum load was stated to be 11 lbs. The lack of a celestial drive was not an issue for my visual observations made with this setup. Also the time to setup and take down was less than 5 minutes. There was the expected difficulty looking at any object at zenith with this setup. To be honest, a big reason why I chose this tripod was because a friend offered to let me borrow one for the trip, and it's hard to argue with “free”. It is an expensive tripod, but a perfect “Grab and Fly” match for this telescope setup.



The “Grab and Fly” Telescope Case and Contents

Before the trip I had a concern regarding what this telescope/eyepiece/tripod package would look like to the airport security folks on their scanners since they probably didn't see too many telescopes come through as carry-on baggage? Primarily because of this, an extra hour was planned for security questions prior to the flight. I could have relaxed. I had no fluids (of course) in the bag, and nothing looked like a weapon on the X-ray. The TSA was very reasonable and had no problems whatsoever with the telescope. They did ask me what it was, to which I told them it was a “telescope lens”, and then they sent me on my way. I was to my gate with an extra hour to spare. Once on the plane, this entire setup conveniently fit into an overhead aircraft bin, even on the regional-type aircraft from Melbourne south to Tasmania.

The trip allowed me ample time to observe the southern sky. The telescope setup worked like a champ. While I only used the solar filter once, I had the telescope out every night for at least two hours and all night long on the weekends. The weather in Tasmania had me chasing openings in the clouds for a couple of nights, but it cleared up and provided the darkest observing skies I have ever seen in my life. Regretfully the 70mm Tele Vue Pronto isn't made anymore, but its been replaced by its close (more expensive) cousin, the Tele Vue 76 APO Doublet Refractor.

While this article has been about the selection of a convenient “Grab and Fly” telescope that could be taken anywhere one may be headed, I haven't said much about the deep sky views I had on my trip, of the hours I spent smiling, ear-to-ear, as I leisurely cruised from the Tarantula Nebula over to the Clouds of Magellan, or mention the friendliness of the Australian amateur astronomers I met. Those experiences were the real story made possible by having a “Grab and Fly” telescope.

Telescope Reviews:

Pronto: <http://www.company7.com/televue/telescopes/pronto.html>

Ranger: <http://www.company7.com/televue/telescopes/ranger.html>

Equipment Loan Program

The Loan Program has been helpful to those new to the hobby and others in need of observing equipment. We consider offers of equipment you may not have need for any longer.

Did you know you could borrow a scope or piece of astronomy equipment from the Society and take it for a test drive? The Society has a program where members who are trying to determine what kind of equipment to buy can borrow one of the Society's scopes for a month or two and see how they like it. Philip Dimpelfeld is the chairman of the program and can arrange for your pickup and training on the use of the particular instrument. This is a great way to see what telescope you want to purchase. We have several scopes, eyepieces and binoculars to loan. Philip Dimpelfeld **Contact via the webpage iasindy.org under the contact us section**

Board Meeting –February 14, 2012

The IAS Board Meeting is being held at 430 Massachusetts Avenue in downtown Indianapolis. The building is at the point of convergence of Mass. Ave., Vermont and Alabama Streets. There is a Starbucks located in the frontage of the building. The coffee shop stays open late into the evening. Try to park as close to Starbucks as possible, preferably in a metered space. On-street parking is free after 9pm. Some meter sites are still free after 6PM but are hard to find. . Handicapped parking is directly in front of Starbucks entrance. The entrance to the building is to the left of Starbucks around on the side. We meet in the basement. Ride the elevator (around the corner to your left) to the basement. Turn right as you exit the elevator and go through the first door on your right. This is the conference/meeting room. If you need further assistance, please contact Jeff Patterson via the webpage iasindy.org under the contact us section

2012 Calendar of Meetings

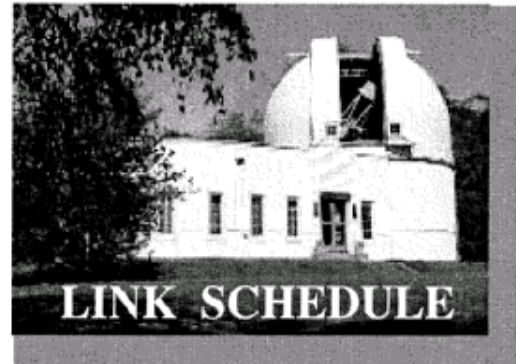
	NAG	General	Board
January		14	17
February		11	14
March		10	6
April	28	14	10
May	8	12	8
June	None	9	12
July	28	14	10
August	25	11	7
September	22	8	4
October	20	13	9
November		10	6
December		15	

Goethe Link Observatory

Observatory Address

**Goethe Link Observatory
8403 N. Observatory Lane
Martinsville, IN 46151**

Latitude: 39 degrees, 33 minutes north
Longitude: 86 degrees, 24 minutes west
Phone: (317) 831-0668



This schedule is being published to assure proper access to the Link Observatory for programs that are designed as observational, general education, astronomy conferences, or amateur research projects. Training programs are tentatively scheduled for Saturday evenings only. Although other requests can over-ride these sessions. It is the purpose of this listing to prevent activity conflicts.

If you need to acquire use of the 36-inch telescope: remember two important IAS guidelines: 1) *There has to be two or more IAS members present.....*2) *contact the Observatory Manager: John Shepherd* **Contact via the webpage iasindy.org under the contact us section. DON'T WAIT UNTIL THE LAST MINUTE TO MAKE YOUR REQUEST OR YOU MAY NOT GET ACCESS.**

IAS News & Views Stats

Accessing the IAS News & Views

The current bulletin can be found on the website www.iasindy.org

IAS News & Views

The monthly newsletter welcomes articles of local astronomical interest information and want ads:

Please submit to
The Indiana Astronomical Society, Inc
Jeff Patterson, editor
1780 S. Morgantown Rd
Greenwood, IN 46143
Phone: (317) 300-0449
KB9SRB@hotmail.com

Membership information Contact via the webpage iasindy.org under the contact us section

Contact any IAS officer or the Treasurer John Shepherd or Vicki Switzer

Observatory Manager

John Shepherd **Contact via the webpage iasindy.org under the contact us section**

Public Event Coordinator

Gerald Venne **Contact via the webpage iasindy.org under the contact us section**

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Equipment Loan Program Coordinator

Philip Dimpelfeld Contact Phil at philip.dimpelfeld@comcast.net

Membership Coordinator

Vicki Switzer Contact Vicki via the webpage iasindy.org under the contact us section

February Calendar, 2012

For a more detailed Calendar of Events see the webpage www.iasindy.org

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			1	2	3	4
5	6	7 Full Moon ○	8	9	10	11 General Meeting Holcomb Observatory 7PM
12	13	14 Board Meeting 7PM 3rd QTR ☾	15	16	17	18
19	20	21 New Moon ●	22	23	24	25
26	27	28	29 1 st QTR ☾			