



# Focal Point



July, 2011

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## Annual MAS Picnic on July 30<sup>th</sup>

The Milwaukee Astronomical Society is organizing the Annual Picnic for MAS members and their guests. The event will be held on July 30<sup>th</sup>, 4:00pm at the MAS Observatory in New Berlin. Beverages and charcoal grills will be provided, the members should bring the food. We will do observing that evening weather permitting.

Please join us, and have fun! Bring along your family or friends.



## Special Key Holder Night on July 23<sup>rd</sup>

Dear MAS Members,

Normally when a key holder is assigned a night to open up the observatory grounds, they wait for telephone calls from members interested in using telescopes.



I would like to try something different for my night on July 23<sup>rd</sup> by announcing a class on how to use setting circles to point a telescope.

We will use the Buckstaff telescope for hands-on experience. Naturally we will have to start a little earlier than normal observing hours so as not to waste the night. since the sun sets around 8:30, let's set the time for 8:00 that evening.

We will meet rain or shine and await for an opportunity to use our new-found knowledge if clouded out. If interested, or have questions, call me at: (262) 889-2039 or email me at [neilsimm@gmail.com](mailto:neilsimm@gmail.com).

Clear Skies,  
Neil Simmons

## Treasurer's Report

The MAS has received a donation from Russell Chabot, and Gerry Samolyk in the last month and earned \$105 in parking donations. Our insurance payment to Zurich Insurance has gone up by \$56 for the next year. Our checking account balance is \$3,076.96, the majority of which is set aside for project work which continues under Russell Chabot's direction. The Albrecht fund for the dark sky site is at \$7,887.08. The financial status of the MAS is in the black.

Although not necessarily the function of the Treasurer, I would like to report here that the renewal notices for the 2011-2012 year have been printed, and stuffed in envelopes. Members attending the picnic will be able to pick theirs up then. The remaining renewals will be shipped out shortly afterward. The renewal deadline is September 1. Any subscription renewals received after that date may be delayed.

Respectfully Submitted,  
Neil Simmons, Treasurer

## No Membership Meetings in July and August

The MAS will not hold Membership Meetings during the summer months (June, July, August). All other activities are going according to regular schedule, e.g. public nights, Saturday key holder nights, MAS picnic, issuing Focal Point Newsletter. The next General Membership Meeting will be scheduled for September and announced in the Newsletter.

## Observatory Director's Report

On July 2<sup>nd</sup> Russell scheduled a work party. Three people showed up (Russell, Neil, and myself). Some of the brush that was cut along the west property line was burned and the grass was cut.



On Saturday night we experienced two equipment problems. The CCD camera on the 12" LX200 did not cool properly. The images had problems and the camera became hot to the touch. That camera was removed and backup camera was installed on that scope. It was then found that the communication between the scope and the computer was not working. I was able to find a target star manually but clouds aborted the run.

On Monday, Neil and I did some troubleshooting. The communication with the LX200 is due to a failed COM chip on the scope main board. These chips are very inexpensive; Neil will follow up with purchasing the replacement part. Until the new chip is installed the GOTO function on the scope will be down.

We ran the camera with a laptop on Monday. The cooling was working properly. We ran the camera in focus mode and got normal looking images. The best theory is that something (maybe lady bugs) was preventing the cooling fan on the camera from running. I recommend that all users make sure that fan starts up when the cameras are powered up.

As long as we were at the Observatory on Monday, we installed the solar filter on B scope and viewed two sunspot groups on the Sun. Each group had a large spot that showed a penumbra region around a dark umbra as a number of small spots.

Jill Roberts has promised to clean up the large pile of yard waste that she dumped in the west parking lot but so far no action has been taken.

Respectfully Submitted,  
Gerry Samolyk,  
Observatory Director

## Book Review

### Public Observing Nights

The fourth Public Observing Night was held under massively cloudy sky, just as the previous one. Still 25-30 enthusiastic guests showed up. Brian gave a presentation about the Sunspots. It was not possible to do any



observations, but the visitors were given a tour of the Observatory. We collected \$55 from parking fee (\$5/car) for the MAS.



2011 Public Observing Nights	
April 8	The Moon
May 6	Eta Aquarid Meteors
May 27	Saturn's Rings
June 24	The Sun & Sunspots
August 19	The Milky Way Galaxy
September 23	Galaxies
October 14	The Fall Constellations

The fifth public observing night is scheduled for August 19<sup>th</sup> at 7:30PM at the MAS Observatory. Topic: **The Milky Way Galaxy**. The kind help of MAS members during the night is encouraged and highly appreciated.

### The Search for Life in the Universe

This text book was written by Professor Tobias Owen, a former member of MAS, and Donald Goldsmith.

This is a University text book, but it is readily understandable by any reasonably intelligent person, especially with almost no math in the text. The book is divided into 5 parts: 1. Why Do We Search, 2. The Universe, 3. Life, 4. The Search for Life in the Solar System, 5. The Search for Extraterrestrial Intelligence.

Section 1, as its title states, talks about the reasons for our search for life in the rest of the universe.

Section 2 is a basic course in astronomy, from the makeup of the Solar System, going up in scale, to the largest structures in the universe.

Section 3 is a basic course in organic chemistry and the chemical structure of living bodies.

Section 4 discusses the different structures in the solar system and the potential for finding life on them.

Section 5 discusses the possibilities of finding intelligent beings outside of the solar system, how we may go about finding intelligence elsewhere and what our chances are of finding this intelligence. They talk about the great difficulties, or the near impossibility, of traveling from one star to another and discuss the notion that so many people think that we are so interesting to any other beings in the galaxy that we must be visited by them to see why we are so special. I agree with the authors that any creature that can travel from star to star probably isn't going to be interested enough in us to come and secretly study us.

I recommend this book to anyone interested in finding any life elsewhere and as a summary of various aspects of astronomy and organic chemistry. Also I enjoyed reading this book because it is written by a former member of the MAS, as this gives a connection with the author.

You can find this book in the MAS library.

Russell Chabot

## Member's Stories

Unfortunately, no contribution was submitted this month into the Member's Story section.

We keep encouraging all members to share the description of their astronomical activity with others.

## In the Astronomical News

### Two Dying Stars to Be Reborn as One

White dwarfs are dead stars that pack a Sun's -worth of matter into an Earth-sized ball. Astronomers have just discovered an amazing pair of white dwarfs whirling around each other once every 39 minutes. This is the shortest-period pair of white dwarfs now known. Moreover, in a few million years they will collide and merge to create a single star.

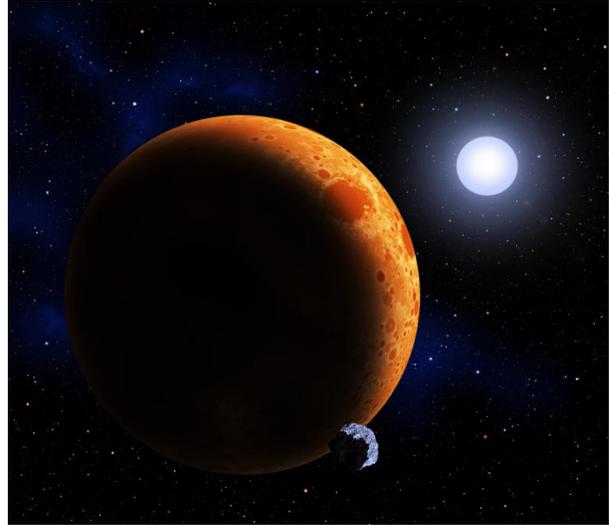
"These stars have already lived a full life. When they merge, they'll essentially be 'reborn' and enjoy a second life," said Smithsonian astronomer Mukremin Kilic (Harvard-Smithsonian Center for Astrophysics), lead author on the paper announcing the discovery. Out of the 100 billion stars in the Milky Way, only a handful of merging white dwarf systems are known to exist. Most were found by Kilic and his colleagues. The latest discovery will be the first of the group to merge and be reborn.

The newly identified binary star (designated SDSS J010657.39 -- 100003.3) is located about 7,800 light-years away in the constellation Cetus. It consists of two white dwarfs, a visible star and an unseen companion whose presence is betrayed by the visible star's motion around it. The visible white dwarf weighs about 17 percent as much as the Sun, while the second white dwarf weighs 43 per cent as much. Astronomers believe that both are made of helium.

The two white dwarfs orbit each other at a distance of 140,000 miles -- less than the distance from Earth to the Moon. They whirl around at speeds of 270 miles per second (1 million miles per hour), completing one orbit in only 39 minutes.

The fate of these stars is already sealed. Because they wheel around so close to each other, the white dwarfs stir the space-time continuum, creating expanding ripples known as gravitational waves. Those waves carry away orbital energy, causing the stars to spiral closer and closer together. In about 37 million years, they will collide and merge.

When some white dwarfs collide, they explode as a supernova. However, to explode the two combined have to weigh 40 percent more than our Sun. This white dwarf pair isn't heavy enough to go supernova. Instead, they will experience a second life. The merged



In this artist's conception the reborn star is shown with a hypothetical world. Image Credit: Harvard-Smithsonian Center for Astrophysics)

remnant will begin fusing helium and shine like a normal star once more. We will witness starlight reborn.

This binary white dwarf was discovered as part of a survey program being conducted with the 6.5m MMT Observatory on Mount Hopkins, Ariz. The survey has uncovered a dozen previously unknown white dwarf pairs. Half of those are merging and might explode as supernovae in the astronomically near future. Follow-up high-speed photometric observations obtained at the McDonald Observatory's 2.1m Otto Struve telescope revealed ellipsoidal variations from the distorted primary star. This is the first example of a tidally distorted white dwarf.

The paper on this newfound binary star will be published in the *Monthly Notices of the Royal Astronomical Society*. Kilic's co-authors are Warren Brown and Scott Kenyon (Smithsonian Astrophysical Observatory); Carlos Allende Prieto (Instituto de Astrofísica de Canarias); J. Andrews (Columbia Astrophysics Laboratory); Scot Kleinman (Gemini Observatory); and K. Winget, D. Winget, and J. Hermes (University of Texas at Austin).

The above story is adapted from *ScienceDaily*.

## Adopt a Telescope Program - Signup Sheet

	Adoptee	Scope	Location
<u>1</u>	Sue Timlin	18" F/4.5 Obsession	D Shed
<u>2</u>	Neil Simmons	12.5" F/7.4 Buckstaff	B Dome
<u>3</u>		12.5" F/9 Armfield	A Dome
<u>4</u>	Dan Yanko	10" F/6 Newtonian	Albrecht Observatory
<u>5</u>	Tamas Kriska	25" F/15 Zemlock	Z Dome
<u>6</u>	Henry Gerner	12" LX 200	Tangney Observatory
<u>7</u>		14" Z-Two scope	Ray Zit Observatory
<u>8</u>		10" LX 200	Jim Toeller Observatory

- Telescopes still waiting for adoption

### At Your Service

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Lana Silke	262-966-4929
Neil Simmons	262-889-2039
Sue Timlin	414-460-4886
Dan Yanko	262-255-3482

#### July/August Key Holders

7/16	Tom Schmidtkunz	414-352-1674
7/23	Neil Simmons	262-889-2039
7/30	Dan Yanko	262-255-3482
8/6	Paul Borchardt	262-781-0169
8/13	Brian Ganiere	414-961-8745
8/20	Henry Gerner	414-774-9194



#### MAS Observatory

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[www.milwaukeeastro.org](http://www.milwaukeeastro.org)