

# Mountaineer Skies

Volume 8, Issue 2

<http://www.as.wvu.edu/~planet/index.html>

April – June 2008

## From the Editor's Desk

**Tomchin Planetarium is getting a new digital projector.** It should be installed by the end of June. This new acquisition will allow us to give shows that use the entire dome, instead of just the southern part. The shows will not be slide based, but animation based. This will make for a much more interesting experience. Initially, there will be two shows, *It's About Time* and *Earth's Wild Ride*.

*It's About Time* takes us on a journey to a space station by way of a space elevator. This way of traveling to orbit was conceived by Arthur C. Clarke, author of *2001, A Space Odyssey*.

*Earth's Wild Ride* takes place in 2081 by which time the Moon has been colonized. We watch as a grandfather shows his Moon grown grandchildren an eclipse and tells them about the wonders of the Earth, a place they can see but never visit.

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## In The Sky This Month

### Visible Planets in the Night Sky

#### Beginning of April, 2008

	Const	Rise	Transit	Set	Mag
Sun		06:59	13:23	19:46	-26.8
Mercury	Psc	06:39	12:34	18:31	-0.7
Venus	Psc	06:26	12:19	18:13	-3.9
Mars	Gem	11:47	19:26	03:03	0.8
Jupiter	Sgr	03:15	08:02	12:53	-2.2
Saturn	Leo	16:11	22:57	05:42	0.3

#### Beginning of May, 2008

	Const	Rise	Transit	Set	Mag
Sun		06:16	13:16	20:16	-26.8
Mercury	Tau	06:59	14:21	21:45	-0.8
Venus	Ari	05:56	12:38	19:20	-3.9
Mars	Gem	11:03	18:31	01:58	1.2
Jupiter	Sgr	01:25	06:13	11:01	-2.4
Saturn	Leo	14:09	20:55	03:42	0.5

#### Beginning of June, 2008

	Const	Rise	Transit	Set	Mag
Sun		05:51	13:17	20:44	-26.8
Mercury	Tau	06:29	13:55	21:16	4.0
Venus	Tau	05:47	13:09	20:32	-3.9
Mars	Cnc	10:29	17:39	00:47	1.5
Jupiter	Sgr	23:20	04:08	08:55	-2.6
Saturn	Leo	12:11	18:56	01:42	0.6

Psc	Pisces, the Fishes
Gem	Gemini, the Twins
Sgr	Sagittarius, the Archer
Leo	Leo, the Lion
Ari	Aries, the Ram
Tau	Taurus, the Bull
Cnc	Cancer, the Crab

## About: **Martian Meteorites on Earth**

The show that we presented in Tomchin Planetarium during autumn 2007 and spring 2008, was entitled **Oceans in Space**. It is about looking for life on other planets or moons, both within our solar system and in other solar systems far away. When the show examines the possibility of life on Mars, we learn that geologists have found meteorites from the planet Mars in the Antarctic. That seems simple enough, until we think about how in the world did rocks from Mars end up in the barren wastes of the Antarctic region of Earth, and how do we know that the rocks did indeed come from Mars?

Let's first look at the last question, "**How do we know the rocks did indeed come from Mars?**". The atmosphere of Earth is composed chiefly of nitrogen (79%) and oxygen (20%). The remaining 1% is made up of various trace elements. The Martian atmosphere is quite different. It is predominately composed of carbon dioxide (95.3%) and nitrogen (2.7%). The remaining 2% contains various trace elements including a very small amount of oxygen (0.13%). As you can see, we could not possibly breathe the Martian atmosphere; nor, if there are any Martians, could they breathe ours. This difference is how we can tell that a particular meteorite came from Mars.

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### **Request for Articles and Photographs**

If you have an article or photographs that you would like to submit for publication, please send them to:

John Hopkins  
Subject: Submissions  
256 Hodges Hall  
West Virginia University  
Morgantown, WV 26506

Rocks, regardless of where they originate, are not completely solid. They have small holes, or cavities, where the ambient gasses (atmosphere) are trapped. After the analysis of the rock, it was concluded that the composition of the gasses within the meteorite was the same as the gasses of the atmosphere of Mars. Hence, the rocks were from the Red Planet. This, of course, came as quite a surprise, because then we had to decide how Martian rocks reached Earth.

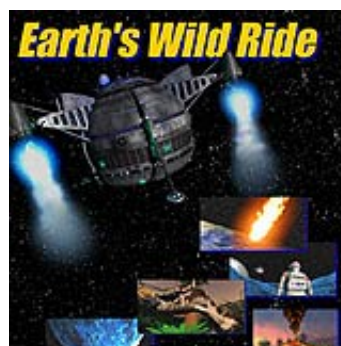
Although intriguing, the idea that Martian space craft brought the rocks to the Antarctic continent was quickly discarded and other ways were inspected.

All bodies of the solar system, planets, minor planets (Ceres, Pluto, and Eris), and moons, have been bombarded by meteorites and comets of various sizes since the birth of the solar system some 4.5 billion years ago. The scarring that resulted is more evident on moons than on planets because of the active weathering system found on these planets which tends to erase these blemishes. For example, on the moons that exist within our solar system, there is no wind or flowing water, as far as we know, to smooth out these pockmarks .

If a meteor or comet of sufficient mass and velocity collides with Mars, the planet can throw up material that has enough speed to leave the gravitational pull of the Red Planet. This debris can drift for millions of years until it is sufficiently close to a body, in this case Earth, to be gravitationally attracted to it.

So in this case, the drifting Martian rocks landed on Earth where they were discovered by geologists.

## 2008 Planetarium Shows



April 11 & 25, 2008 <i>Oceans in Space</i>	May 9 & 23, 2008 <i>Oceans in Space</i>	June 13, 2008 <i>Oceans in Space</i>
	July, 2008 Closed	

For those who are interested in bringing a group, such as schools or scouts, during the day, please call for more information. These shows are usually given on Tuesday or Thursday mornings.

For further information or reservations, please call John Hopkins at (304)293-3422, extension 1443 or by email at: [jhopkins@mail.wvu.edu](mailto:jhopkins@mail.wvu.edu)

### Selected Sunrise/Sunset and Moon Rise/Moon Set Times

Date	Sunrise	Sunset	Moon Rise	Moon Set	Moon Phase
April 5	6:57 A.M.	7:47 P.M.	6:23 A.M.	7:37 P.M.	New Moon
April 12	6:46 A.M.	7:54 P.M.	12:03 P.M.	2:42 A.M.	First Qtr.
April 20	6:35 A.M.	8:02 P.M.	8:43 P.M.	6:16 A.M.	Full Moon
April 28	6:24 A.M.	8:10 P.M.	2:36 A.M.	12:35 P.M.	Last Qtr.
May 5	6:15 A.M.	8:16 P.M.	5:53 A.M.	9:05 P.M.	New Moon
May 11	6:09 A.M.	8:22 P.M.	12:15 P.M.	1:57 A.M.	First Qtr.
May 19	6:01 A.M.	8:30 P.M.	8:38 P.M.	5:16 A.M.	Full Moon
May 27	5:56 A.M.	8:37 P.M.	1:33 A.M.	12:35 P.M.	Last Qtr.
June 3	5:53 A.M.	8:42 P.M.	5:13 A.M.	9:10 P.M.	New Moon
June 10	5:51 A.M.	8:46 P.M.	1:24 P.M.	1:18 A.M.	First Qtr.
June 18	5:51 A.M.	8:49 P.M.	9:18 P.M.	5:21 A.M.	Full Moon
June 26	5:53 A.M.	8:51 P.M.	12:48 A.M.	1:46 P.M.	Last Qtr.

April 2008 Sky Chart\* for:  
 10:00 P.M at the beginning of the month  
 9:00 P.M in the middle of the month  
 8:00 P.M at the end of the month



\*Sky Chart used with the kind permission of **Heavens-Above** at <http://www.heavens-above.com/>

The TOMCHIN PLANETARIUM is named in honor of the late Harold Tomchin, of Princeton, W.Va., who made a generous donation to ensure its continuing operation, and whose family continues to support the planetarium for the educational benefit of WVU students, staff, and faculty members, as well as the local community. Contributions can be made in support of the planetarium through the WVU Planetarium Project at the **WVU Foundation, Inc.**, phone (304)284-4000. Thank You.



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