

# The Prairie Astronomer

The Official Newsletter Of The Prairie Astronomy Club, Inc.

April 2003

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## APRIL PROGRAM

April program: To be announced

PAC-LIST: If you have an e-mail address and are not on the PAC List, you may subscribe by submitting an e-mail to [list@4w.com](mailto:list@4w.com). Write "Subscribe PAC-List" in the body of the e-mail.

## CLUB EVENTS

### Club Star Party

Friday, April 25, 2003

### PAC Meeting 7:30pm

Tuesday, April 29, 2003

### NSP Planning Meeting 7:30pm

Thursday, May 08, 2003 Mahoney Lodge

### Mahoney Star Party

Friday, May 09, 2003

### Total Lunar Eclipse

Thursday, May 15, 2003

### UNL Student Observatory Open

Thursday, May 15, 2003

### PAC Meeting 7:30pm

Tuesday, May 27, 2003

### Club Star Party

Friday, May 30, 2003

### Mahoney Star Party dates for 2003:

May 9, June 20, July 18, August 22, September 19.

### Nebraska Star Party:

July 27 to August 1, Merritt Reservoir, Valentine, Nebraska.

## READ THIS NEWSLETTER ONLINE

Those who wish to help with publishing and postage costs by receiving only the on-line version of the newsletter should contact Liz Bergstrom at 464-2038. Mark Dahmke or Liz can give you the logon account and password for access. You may receive both the mailed version and the on-line version if you wish. A printable PDF version of this newsletter is also available through the website.



Hyde Volunteer of the Year – Joey Churilla

## CONTENTS:

Secretary's Report – Lee Taylor	Page	2
Hyde Schedule	Page	3
Astronomy Day 2003– Dave Knisely	Page	3
NASA Orbiter Team Begins Daily Mars Picture Posting	Page	4
NASA Rovers to Examine Two Intriguing Sites on Mars	Page	4
Star Chart	Page	6
Events Calendar	Page	7
Club Viewing Site Directions and List of Club Officers	Page	8

The Prairie Astronomer is published monthly by the Prairie Astronomy Club, Inc. Membership expiration date is listed on the mailing label. Membership dues are: **Regular \$20/yr, Family \$22/yr.** Address all new memberships and renewals to: **The Prairie Astronomy Club, Inc., PO Box 5585, Lincoln, NE 68505-0585.** For other club information, please contact one of the club officers listed on the last page of this newsletter. Newsletter comments and articles should be submitted to: **Mark Dahmke, PO Box 80266, Lincoln, NE 68501 or [mdahmke@4w.com](mailto:mdahmke@4w.com),** no less than ten days prior to the club meeting. The Prairie Astronomy Club meets the last Tuesday of each month at Hyde Memorial Observatory in Lincoln, NE.

## Secretary's Report — Lee Taylor

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Prairie Astronomy Club Minutes for the Meeting of March 25, 2003

President Dave Knisely called the meeting to order. We had some new guests this month. Erica Black and her father Brian, formerly of OAS, now new members of PAC. Welcome aboard Erica and Brian!

The last star party at Olive Creek was apparently clouded out, prospects don't look good for the next one either on Friday March 28, but we can still hope. Anytime someone would like to go out and do some observing, put a note on the PAC-list and you just might get some company.

This Friday's PAC star party is the best one this year for the Messier Marathon, where you try to observe as many Messier objects as possible in one night, most if not all of them are visible during the course of the evening.

The next NSP planning meeting is tentatively scheduled for May 8.

The next PAC meeting will be Tuesday April 29 at 7:30PM at Hyde.

On Sunday April 6, 2003, PAC will celebrate Astronomy Day at Mueller Planetarium. Members are encouraged to bring their 'scopes out and provide the public with information on astronomy, etc. Coordinators Jack Dunn and Martin Gaskell have several things planned this year, including a demonstration of Viewspace, the new software from the Space Telescope Science Institute. Also, Rob Landis from JPL will be there to discuss current Mars projects. Members are urged to arrive by 12:00 Noon to set up. Also, on April 5, Hyde will be hosting a public star party in honor of Astronomy Day. Member are encourage to bring their telescopes out to show the public what types of telescopes are available, help beginners with their new 'scopes, and show them how they work and what to expect from them.

On Thursday May 15, Hyde will be open for the lunar eclipse from 8:00 PM -?. Again, members are encouraged to bring their telescopes out to help the public view the event.

Becky Seth, Lincoln Parks and Rec. liaison to Hyde's board of supervisors, has asked club members to bring their telescopes out to the Pioneers Park Nature center to help celebrate their 40th anniversary.

The new solar array on Hyde's roof is online, generating 1.9kW of electricity on sunny days. Since activation, the array has supplied about 90% of Hyde's power needs.

Hyde Volunteer Coordinator, Dave Churilla is always looking for more volunteers to help out on Hyde's public nights. If you're interested in being a volunteer, contact Dave and he'll get you started.

Treasurer Liz Bergstrom says there are about 30 subscribers to the online newsletter, saving PAC a significant sum on postage. Thanks to all of those who receive the newsletter online. If you'd like to sign up for the online newsletter, contact Liz.

As of the February meeting, The Prairie Astronomy Club executive board has chosen the new club refractor, an Orion Skyview Pro 100mm. Included in the purchase will be a shory 3-Element, 2x barlow; equatorial mount w/ tripod, single-axis drive system and carrying case. It is on order and should be here by the April meeting. This new 'scope will be available for checkout just like the club 13" reflector. Which, by the way is currently available. To check out and use either of these 'scopes, contact PAC equipment manager, Dave Brokofsky.

Auditors for the annual PAC audit will try to complete their work by the next meeting.

The Astronomical League's Mid-States regional convention will be held June 20-22, 2003 in Tulsa, Oklahoma.

Liz moved to adjourn and John Lammers seconded.

Adjourn to the programs of Jack Dunn's Arizona adventure and light pollution display and Dave Churilla's demonstration of tracking platforms for dob's.

Respectfully submitted by,

Lee Taylor

## Hyde Observatory Volunteer Schedule

Date	Team Leader	Operators		Supervisor	Events
<b>April</b>					
4/19/03	Dave Churilla	Joey Churilla	Karla Bachman	Brian S	
4/26/03	Dave Hamilton	Jeff Campbell	Justin DeVries	Rick J	
<b>May</b>					
5/3/03	Brian Sivill	AJ Benker	Lynda Beck	Jack Dunn	
5/10/03	Jeff King	Jeff Campbell	Steve Lloyd	Dave H	
5/15/03	Jeff Campbell	AJ Benker	TBA	Dave C	Lunar Eclipse
5/17/03	Bill Wells	Joey Churilla	Bob Leavitt	Dave C	
5/24/03	Jeff King	Karla Bachman	Josh Machecek	Rick J	
5/31/03	Dave Hamilton	Dan Delzell	Jared Delzell	Brian S	
<b>June</b>					
6/7/03	Dave Churilla	Joey Churilla	Jeff Campbell		
6/14/03	Jeff King	Karla Bachman	Josh Machacek	Martin G	
6/21/03	Dave Hamilton	Lynda Beck	Steve Lloyd	Dave C	
6/28/03	Bill Wells	AJ Benker	Bob Leavitt	Martin G	
<b>Summer Hours: April through September (Sundown to 11:00 PM)</b>					
<b>Winter Hours: October through March (7:00 PM to 10:00 PM)</b>					

## Astronomy Day 2003– Dave Knisely



Sunday afternoon, April 6th, the Prairie Astronomy Club, in conjunction with the staff of Mueller Planetarium and the University of Nebraska State Museum, put on an outstanding Astronomy Day Celebration at Morrill Hall. This year's event was the best organized and perhaps the best attended display in the entire history of the club's participation in Astronomy Day dating back to the first display in 1979 at Gateway. Unlike previous years, this year's display was held in multiple locations all over the main floor of the museum, as well as in the lobby of the Planetarium. Club members braved a misty rain/snow mix to begin unloading things at the east door of Morrill Hall around noon, with the museum staff helping move equipment and put people in the proper locations for their exhibits. Once things got set up and the museum opened, a huge crowd of hundreds of people visited the exhibits, which included telescopes and telescope making, astrophotography, a computerized solar-system simulator, and some hands-on help with a few scopes brought by some visitors to the museum. The Planetarium

held its sky shows, while in the main section of Elephant Hall, a fine talk was presented by Rob Landis of NASA on the Mars Rovers, which are to be launched soon. The event was also covered in the news media on the evening TV news reports. It generated some much-needed exposure of our club and our hobby to the general public. I want to thank Jack Dunn, Martin Gaskell, the staff of the museum, and all of the club members who participated in making Astronomy Day 2003 one that will go down in the record books.



## NASA Orbiter Camera Team Begins Daily Mars Picture Postings

The camera team for NASA's Mars Global Surveyor mission is beginning daily Internet postings of pictures that showcase the rich diversity of martian landscapes. The first "Mars Orbiter Camera Picture of the Day" shows frost-covered sand dunes in the springtime as they begin to defrost. It is available online at the camera team's Web site where a different picture will be posted every day, including weekends and holidays:

<http://www.msss.com>.

The site will soon add other new features for the public enjoyment of pictures from Mars, said Dr. Michael Malin, principal investigator for the Mars Orbital Camera on Global Surveyor. It already offers access to more than 123,800 images of Mars. The spacecraft has been orbiting Mars since September 1997.

The Jet Propulsion Laboratory, Pasadena, Calif., manages Mars Global Surveyor for NASA's Office of Space Science, Washington, D.C. JPL is a division of the California Institute of Technology in Pasadena. JPL's industrial partner is Lockheed Martin Astronautics, Denver, which developed and operates the spacecraft. The Mars Orbiter Camera is operated by Malin Space Science Systems, San Diego.

Additional information about Mars Global Surveyor is available online at <http://mars.jpl.nasa.gov/mgs/>. For more information about NASA and other space science programs on the Internet, visit <http://www.nasa.gov>.



Frost-covered sand dunes on Mars

## NASA Rovers Slated to Examine Two Intriguing Sites on Mars

NASA has chosen two scientifically compelling landing sites for twin robotic rovers to explore on the surface of Mars early next year. The two sites are a giant crater that appears to have once held a lake, and a broad outcropping of a mineral that usually forms in the presence of liquid water.

Each Mars Exploration Rover will examine its landing site for geological evidence of past liquid water activity and past environmental conditions hospitable to life.

"Landing on Mars is very difficult, and it's harder on some parts of the planet than others," said Dr. Ed Weiler, NASA associate administrator for space science in Washington, D.C. "In choosing where to go, we need to balance science value with engineering safety considerations at the landing sites. The sites we have chosen provide such balance."



The designated landing site for the first Mars Exploration Rover mission is Gusev Crater, seen here in its geological context from NASA Viking images.





Gusev Crater, with topographic information and higher-resolution imaging from instruments on the Mars Global Surveyor and Mars Odyssey orbiters.

The first rover, scheduled for launch May 30, will be targeted to land at Gusev Crater, 15 degrees south of Mars' equator. The second, scheduled to launch June 25, will be targeted to land at Meridiani Planum, an area with deposits of an iron oxide mineral (gray hematite) about two degrees south of the equator and halfway around the planet from Gusev.

Which rover is targeted to a specific site is still considered tentative, while further analyses and simulations are conducted. NASA can change the order as late as approximately one month after the launch of the first rover. The first mission will parachute to an airbag-cushioned landing on Jan. 4, 2004, and the second on Jan. 25, 2004.

"A tremendous amount of effort has gone into evaluating possible landing sites in the past two years, to maximize the probability of mission success," said Peter

Theisinger, Mars Exploration Rover project manager at NASA's Jet Propulsion Laboratory, Pasadena, Calif.

Images and measurements from two NASA spacecraft orbiting Mars provided scientists and engineers evaluating potential landing sites with details of candidate site topography, composition, rockiness and geological context.

"Meridiani and Gusev both show powerful evidence of past liquid water, but in very different ways," said Dr. Steve Squyres, principal investigator for the rovers' science toolkit and a geologist at Cornell University, Ithaca, N.Y. "Meridiani has a chemical signature of past water. Gray hematite is usually, but not always, produced in an environment where there is liquid water. At Gusev, you've got a big hole in the ground with a dry riverbed going right into it. There had to have been a lake in Gusev Crater at some point. They are fabulous sites, and they complement each other because they're so different."

Mars Exploration Rover site selection began with identifying all areas on Mars that fit a set of engineering-driven requirements, said JPL's Dr. Matt Golombek, co-chair of a landing-site steering committee. To qualify, candidate sites had to be near the equator, low in elevation, not too steep, not too rocky and not too dusty, among other criteria; 155 potential sites were studied. A series of public meetings evaluated the merits of potential landing sites. More than 100 Mars scientists participated in the meetings.

"These two landing sites have been studied more than anywhere else on Mars. Both sites have specific scientific hypotheses that can be tested using the instruments on board each rover. It should be a very busy and exciting time after landing for the scientists analyzing the wealth of new data from the ground," said Dr. Cathy Weitz, Mars Exploration Rover program scientist at NASA Headquarters.

"Clearly there is tremendous interest in the science community in what these missions can accomplish and eagerness to help see that the rovers go to the best possible sites," said the National Air and Space Museum's Dr. John Grant, the steering committee's other co-chair.

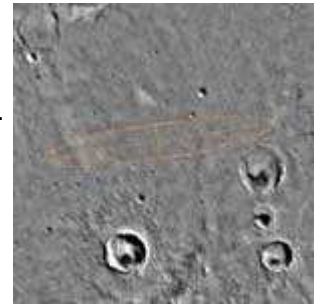


Meridiani Planum, with topographical information and higher-resolution imaging from instruments on the Mars Global Surveyor and Mars Odyssey orbiters.

Once they reach their landing sites, each rover's prime mission will last at least 90 martian days (92 Earth days). The rovers are solar-powered, and in approximately 90 days, dust accumulating on the solar arrays likely will be diminishing the power supply.

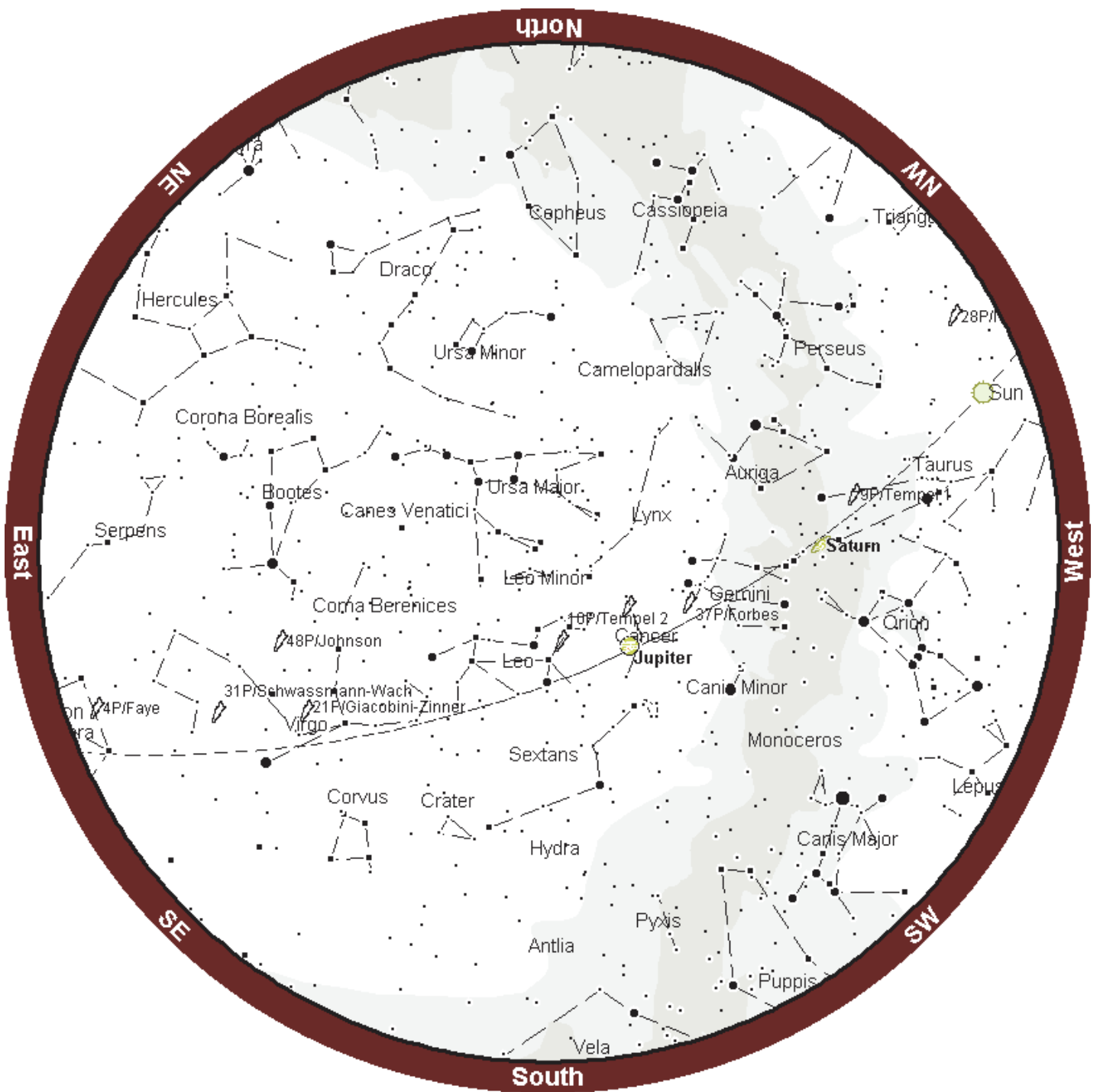
The twin Mars Exploration Rover spacecraft are at NASA's Kennedy Space Center, Fla., in preparation for launch. JPL built the rovers and manages the project for NASA's Office of Space Science, Washington D.C. JPL is a division of the California Institute of Technology in Pasadena.

Information about the Mars Exploration Project is available online at <http://mars.jpl.nasa.gov/mer/>. For more information about NASA on the Internet, visit <http://www.nasa.gov>.



The designated landing site for the second Mars Exploration Rover mission is Meridiani Planum, seen here in its geological context from NASA Viking images.

# May Star Chart



# Events Calendar

May 2003						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
				1 	2 	3 
				Sun: 18:24 - 08:22	Sun: 18:23 - 08:23	Sun: 18:22 - 08:24
						Hyde Observatory open to the public
4 	5 	6 	7 	8 	9 	10 
Sun: 18:21 - 08:25	Sun: 18:19 - 08:26	Sun: 18:18 - 08:27	Sun: 18:17 - 08:28	Sun: 18:16 - 08:29	Sun: 18:15 - 08:30	Sun: 18:14 - 08:31
				NSP Planning Meeting 7:30	Mahoney Star Party	Hyde Observatory open to the public
11 	12 	13 	14 	15 	16 	17 
Sun: 18:13 - 08:32	Sun: 18:12 - 08:33	Sun: 18:11 - 08:34	Sun: 18:10 - 08:35	Sun: 18:09 - 08:36	Sun: 18:08 - 08:37	Sun: 18:07 - 08:38
				UNL Student Obsv. Open; Total Lunar Eclipse; Hyde Observatory open to the public		Hyde Observatory open to the public
18 	19 	20 	21 	22 	23 	24 
Sun: 18:06 - 08:39	Sun: 18:05 - 08:40	Sun: 18:04 - 08:41	Sun: 18:03 - 08:41	Sun: 18:03 - 08:42	Sun: 18:02 - 08:43	Sun: 18:01 - 08:44
						Hyde Observatory open to the public
25 	26 	27 	28 	29 	30 	31 
Sun: 18:01 - 08:45	Sun: 18:00 - 08:46	Sun: 17:59 - 08:47	Sun: 17:59 - 08:48	Sun: 17:58 - 08:48	Sun: 17:58 - 08:49	Sun: 17:57 - 08:50
		PAC Meeting 7:30pm			Club Star Party	Hyde Observatory open to the public

**Directions to Olive Creek  
Observing Site**

Shorter:

Take Hwy 77 South out of Lincoln until you get to the Crete corner (junction Hwy 77 and Hwy 33). Go West on Hwy 33 (toward Crete) until you get to SW 72 St. Turn Left (South) on SW 72 St. and go about 5 miles until you get to SW Panama Rd. Turn right (West) until you get to SW 100 St. (SW 100 St does NOT go through to Hwy 33). Turn Left (South) on SW 100 St and go about 1 to 1 1/2 miles until you see the sign and entrance to Olive Creek (this is the West side of the Park). It's on your left (East) side of the road. More Black Top:

Take Hwy 77 South out of Lincoln until you get to the Crete corner (junction Hwy 77 and Hwy 33). Go West on Hwy 33 (toward Crete) until you get to about SW 114 St. - the first intersection after SW 100 St. (forgot to look at this street sign, sorry - you'll see a sign for Olive Creek though at this road- but don't count on anymore signs after that, I didn't see any). Turn Left (South) on SW 114 St and go about 5 miles or so until you get to SW Panama Rd (you'll see a church and small school on your right). Turn Left (East) and go about a mile to SW 100 St, then turn Right (South) and go 1 to 1 1/2 miles until you see the Olive Creek entrance and sign (on your left hand side of the road).

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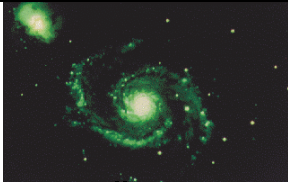
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**The Prairie Astronomer  
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First Class Mail

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**Next PAC Meeting  
April 29, 2003  
7:30 PM  
Hyde Observatory**