OCTOBER 1988

UPCOMING EVENTS:
10-18 Tuesday: First Quarter Moon
10-20 Thursday: Orionid Meteor Shower; Radiant at 6h 20m, +15 deg -- Maximum at 10 p.m. MDT
10-22 Saturday: Monthly meeting of the Society at Regener Hall, UNM
10-25 Tuesday: Full Moon
10-27 Thursday: Society Board Meeting at UNM Physics & Astronomy Building, Room 186, at 7:30 p.m.
10-30 Sunday: Daylight Savings Time Ends
11-1 Tuesday: Last Quarter Moon
11-2 Wednesday: S. Taurid Meteor Shower; Radiant at 3h 32m, +14 deg -- Maximum 10 p.m. MST
11-4 Friday: Lecture at the VLA near Socorro, NM, on "Hunting for Supernovae as an Amateur Astronomer," by Rev. Robert Evans of Australia
11-5 Saturday: Star Party at Shooting Range Park
11-9 Wednesday: New Moon
11-10 Thursday: Lecture on "The Age of the Observable Universe," by Nobel Prize Winner Dr. William Fowler at Nacey Center, Socorro, NM at 8 p.m.
11-12 Saturday: Dark Sky Night at Gran Quivira
11-16 Wednesday: First Quarter Moon
11-17 Thursday: Leonid Meteor Shower; Radiant at 10h 08m, +22 deg -- Maximum at 3 a.m. MST

NEW LOCATION FOR THE ALBUQUERQUE ASTRONOMICAL SOCIETY MEETINGS:
Beginning with this October meeting, the Albuquerque Astronomical Society will hold all its regular meetings in Room 103 of Regener Hall. This is the large auditorium that was used for the lecture given by Dr. Clyde Tombaugh.

The seating capacity of Room 103 is approximately 350 persons. By contrast, the seating capacity of Room 186 in the Physics and Astronomy Building is officially 155 persons. At our September meeting we had more than 100 people attend a meeting (approximately 110 people). An organization that can draw a crowd of more than 1000 people to an event like "Mars Madness," sell out for Dr. Tombaugh's lecture, and enjoy a 35% to 50% meeting attendance by its membership, NEEDS a larger place to meet!

Look for the map showing Regener Hall in this issue. Save it with the rest of the maps in your membership packet. See you there!

MARS MADNESS, AN UPDATE:
Last month's Public Star Party was a huge success. As usual, the members of this society came through when the need arose. For the benefit of our new members, Mars Madness was held at the Coronado Monument State Park on Saturday, September 17th. The purpose of this event was to share Mars with the public and promote astronomy.

Vice President Dave Finley made arrangements with Robin Marshman of KBGM TV-Channel 13 to broadcast live from the site. The Albuquerque Journal and KBQM Radio both gave us some free publicity. With all this publicity, the anticipation of a large crowd was not unreasonable. Now, I wondered, would we handle the traffic? Fortunately, fellow member Bob Hufnagel provided the solution. Estimates of attendance were in excess of a thousand people. Bob and his assistants Mike Fisk, Alan Trever, and Russ Helland successfully parked cars and directed traffic all night long. Armed with radios, flashlights, and orange cones, they kept this event from becoming a disaster.

For those who came to see Mars, there were plenty of telescopes to look through. Some of the best equipment in the society was there. Jerry Boke used a video camera, hooked it up to his telescope, and had the moon on a video monitor. Mars was a beautiful sight to behold. Many people who attended had never seen a planet through a telescope before. People who came early got to see Saturn and the moon. Those of us who closed the park at about 2 or 3 A.M. even got to see the great Orion Nebula.

All in all, a great time was had by everyone. To all of you who pitched in and helped . . . Thank you from all of us who enjoyed your efforts.

George Pellegrino
President

SOME FUTURE PLANS:
In 1986 and 1987 when Bruce Levin was President, he revived an annual tradition that somehow had gotten misplaced for a while—the pot luck dinner. For two years in a row they were held in Bruce's home. That worked fine when we had 50 or 60 members. We now have more than 200 members. At this point, I think it is safe to say we have outgrown Bruce's house. Our potluck is usually held in December. This year will be no different. Our winter solstice celebration will be held on Saturday, December 17th (if all goes well). Look for further details in next month's Sidereal Times.

Our General Meeting will be held in January. Elections will be held at that meeting just like they are every year. Usually these meetings are very poorly attended. Who wants to go to a meeting that is all business? If I was not the President, I would call in sick for that one. HOWEVER, this January meeting will be different! The board of directors and I have come up with some great ideas for a heck of a good time. You will not want to miss this one. Keep an eye on your newsletter for more details. This meeting is tentatively set for Saturday, January 21st, 1989—(Happy New Year!) . . . George Pellegrino
THE OCTOBER MEETING:

Ever wonder what it would be like to observe at Palomar? How about Kitt Peak or Las Campanas or the VLA? For our October program, Dr. Bel Campbell of the UNM Physics and Astronomy Department will talk about observing at some of the world's major observatories. She will also tell how astronomers used the infrared Astronomical Satellite (IRAS) and how observations will be made with the Hubble Space Telescope, due to be placed in orbit next year by the Space Shuttle.

Dr. Campbell is no stranger to our Society. She heads the UNM public observing night program at the campus observatory, where many of our members serve as volunteer docents. She also gave us a fascinating lecture last February on star formation, her research specialty. Her studies of star formation have taken her to the observatories she will describe in her lecture. A 1984 Ph.D. graduate of the University of Arizona, Dr. Campbell observes regions of star formation in radio, infrared, and optical areas of the spectrum. She is an assistant professor in UNM's Physics and Astronomy Department and a member of the university's Institute for Astrophysics.

The meeting will be held Saturday, October 22, at 7:30 P.M. at REGENERATOR HALL on the UNM campus. For information on how to reach Regener Hall, see the above article and map for the membership packet in this newsletter.

LAST MONTH'S MEETING:

Our September meeting featured a fascinating talk by Dr. Chris Patterson of the Los Alamos National Laboratory. His topic, The Formation of Planets, focused on the distances of the planets from the sun. He talked about the Greek idea of the "Music of the Spheres", complete with a musical keyboard demonstration, and about the Titius-Bode Law of planetary distances. Many of us have read or were taught that the Titius-Bode law was a mere coincidence, with no physical meaning. Dr. Patterson's talk has put all this in a new light.

Dr. Patterson explained to us what orbital resonances are, and then proceeded to build a case for his model of planetary formation which puts young planets preferentially in orbits where resonances occur. This lecture opened new vistas of thought about solar-system formation, and gave us a good background to follow developments as Dr. Patterson's model becomes more widely known and debated among astronomers.

Following the lecture, we were joined by Dr. Patterson in a Mars observing session at the UNM campus observatory.

SHUTTLE COMMUNICATIONS REBROADCAST ON SHORTWAVE:

America is back in space! With the resumption of Space Shuttle flights, the Goddard Amateur Radio Club, composed of radio "hams" who worked at the Goddard Space Flight Center in Greenbelt, Maryland, has resumed a public service activity which makes the NASA audio channel, including all air-to-ground communications from the orbiter itself, available to anyone with a good quality shortwave receiver. These shortwave broadcasts include all communications between Mission Control and the Orbiter during the flight, as well as public-information briefings and updates by NASA spokesmen at Mission Control. In addition, amateur radio operators at Goddard sometimes fill in "dead air" times by reading NASA informational press releases. All in all, this is a very interesting broadcast for us space enthusiasts.

To receive these broadcasts, you need a good shortwave receiver capable of receiving single-sideband transmissions on the amateur bands. The frequencies on which the Goddard club is broadcasting are:

3,860 KHz, lower sideband
7,185 KHz, lower sideband
14,295 KHz, upper sideband
21,395 KHz, upper sideband

These broadcasts were heard "loud and clear" in Albuquerque during the September-October flight of Discovery.

Dave Finley, Vice President

THE UPCOMING JANSKY LECTURE:

(Submitted by Kathleen Hedges--New Mexico Tech Public Information Service)

Once a year, the VLA has a special lecture called the Jansky Lecture, in honor of Karl Jansky, the pioneer of radio astronomy. This year's lecture is by Dr. William Fowler, a Nobel Laureate in physics from Caltech. Dr. Fowler will speak on "The Age of the Observable Universe". The lecture is at 8 P.M. on Thursday, November 10th, in Macey Center on the New Mexico Tech campus in Socorro. It is free and open to the public.

To reach Macey Center from Albuquerque, drive south on I-25 and take exit 150 for Socorro. Go straight and turn right at Kentucky Fried Chicken. Pass two stop signs. Shortly after the second stop sign, you will enter the Tech campus, and the road starts to curve left. At this point, you will see Macey Center, a large modern building on the right. It takes about one hour and fifteen minutes to reach Socorro from Albuquerque.

UNM CAMPUS OBSERVATORY UPDATE:

The Campus Observatory is being overwhelmed by public interest in astronomy. People want to see Mars! There were more than 500 men, women, and children of all ages at the observatory during the evening of September 23rd to see the "warrior planet" near opposition. The public was also treated to views of Saturn, the nearly full moon, and other celestial objects. One week later on the eve of the Albuquerque International Balloon Fiesta on September 30th, the observatory opened house to a crowd of more than 300 people. Many telescopes were set up in the patio area with views of Saturn, Mars, the Ring Nebula, the Andromeda Galaxy, and numerous other objects. The dome, as usual, was opened up for everyone to view through the 12-inch F-5 Astrograph.

The Campus Observatory is open each Friday evening this Fall Semester up to and including the evening of December 9th except for the Friday during the week of Thanksgiving. The hours of operation are from 8:00 P.M. to 10:00 P.M. during Standard Time and from 7:00 P.M. to 9:00 P.M. during Standard Time after the clocks are set back. Our volunteers show up one half hour before the observatory is open to the public to help set up and then show many people spectacular sights that they have never seen before.

If you are volunteering or wish to volunteer in this program, please contact Bruce Levin at 299-0891 with the dates that you can participate. Volunteers get a special information letter informing them about the details of this program. Many thanks are extended to those of our members who have been helping with this endeavor.
TRADING PLACES:
This month I'm taking over as Software Coordinator. I feel that with my computer knowledge I can help build a strong lending library of computer software. If you have any programs that would be useful to others or you are looking for one to help you with something, feel free to contact me at 268-4885. I can not manage being Software Coordinator, Secretary, and Editor (obviously). Bruce Levin has offered to take over as Editor and I would like to accept his offer and thank him for the work he has done in the past to help with the newsletter. (While I'm at it I'd like to thank all the members of the Board of Directors who have written articles also.)

Michael Fisk

OCCULTATION TIMINGS IN NOVEMBER:
Members not expecting to participate but having a battery-operated radio capable of receiving WWV that they are willing to lend to another member who would like to participate are requested to give me a call.

TOTAL OCCULTATIONS OF STARS BY MOON:
In the table below, the events which occur at reasonable hours are listed for November. Remember, on October 30th we go back to standard time so to convert U.T. to MST we subtract 7 hours from U.T.

<table>
<thead>
<tr>
<th>TIME/DATE</th>
<th>BB:</th>
<th>USA:</th>
<th>MAG</th>
<th>SP</th>
<th>D</th>
<th>V</th>
<th>SH</th>
<th>ELG</th>
<th>CA</th>
<th>P</th>
<th>N</th>
<th>MOON</th>
<th>SUN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nov 1</td>
<td>6</td>
<td>44</td>
<td>29</td>
<td>R</td>
<td>X13328</td>
<td>6.2</td>
<td>F8</td>
<td>86</td>
<td>51-</td>
<td>91</td>
<td>295</td>
<td>219</td>
<td>205</td>
</tr>
<tr>
<td>Nov 1</td>
<td>7</td>
<td>8</td>
<td>14</td>
<td>R</td>
<td>1315</td>
<td>6.9</td>
<td>A2</td>
<td>67</td>
<td>51-</td>
<td>91</td>
<td>815</td>
<td>276</td>
<td>262</td>
</tr>
<tr>
<td>Nov 13</td>
<td>25</td>
<td>25</td>
<td>7</td>
<td>D</td>
<td>2784</td>
<td>5.4</td>
<td>K0 V</td>
<td>49</td>
<td>20+</td>
<td>53</td>
<td>865</td>
<td>89</td>
<td>92</td>
</tr>
<tr>
<td>Nov 14</td>
<td>1</td>
<td>56</td>
<td>13</td>
<td>D</td>
<td>2790</td>
<td>5.4</td>
<td>K0 V</td>
<td>47</td>
<td>20+</td>
<td>53</td>
<td>-552</td>
<td>213</td>
<td>287</td>
</tr>
<tr>
<td>Nov 15</td>
<td>1</td>
<td>50</td>
<td>41</td>
<td>D</td>
<td>X28004</td>
<td>6.8</td>
<td>G5</td>
<td>36</td>
<td>30+</td>
<td>66</td>
<td>23</td>
<td>107796</td>
<td>-241</td>
</tr>
<tr>
<td>Nov 16</td>
<td>1</td>
<td>58</td>
<td>40</td>
<td>D</td>
<td>5493</td>
<td>5.1</td>
<td>A3</td>
<td>57</td>
<td>30+</td>
<td>67</td>
<td>495</td>
<td>120</td>
<td>152</td>
</tr>
<tr>
<td>Nov 17</td>
<td>2</td>
<td>58</td>
<td>12</td>
<td>D</td>
<td>X29270</td>
<td>6.7</td>
<td>K2</td>
<td>36</td>
<td>40+</td>
<td>79</td>
<td>455</td>
<td>129</td>
<td>119</td>
</tr>
<tr>
<td>Nov 18</td>
<td>2</td>
<td>55</td>
<td>34</td>
<td>D</td>
<td>3355</td>
<td>5.0</td>
<td>M9</td>
<td>39</td>
<td>65+</td>
<td>105</td>
<td>37</td>
<td>34</td>
<td>164808</td>
</tr>
<tr>
<td>Nov 19</td>
<td>3</td>
<td>50</td>
<td>19</td>
<td>D</td>
<td>X32828</td>
<td>8.0</td>
<td>F5</td>
<td>26</td>
<td>52+</td>
<td>92</td>
<td>844</td>
<td>64</td>
<td>82</td>
</tr>
<tr>
<td>Nov 20</td>
<td>8</td>
<td>7</td>
<td>39</td>
<td>R</td>
<td>1353</td>
<td>6.4</td>
<td>F5</td>
<td>77</td>
<td>111</td>
<td>45</td>
<td>326</td>
<td>316</td>
<td>98446</td>
</tr>
</tbody>
</table>

TOTAL OCCULTATIONS OF STARS BY ASTEROIDS:
Nov 9 01:04 5554.4m star at RA 3h34m44s Dec +20 deg, 30.5 min. I will provide details for anyone interested, including star-locating assists.

GRAZING OCCULTATIONS OF STARS BY MOON:
<table>
<thead>
<tr>
<th>Date</th>
<th>Approx. MDT</th>
<th>Nearest Expedition</th>
<th>Target Moon</th>
<th>Percent Grazing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nov 9 01:04</td>
<td>Contreras</td>
<td>Morgan</td>
<td>Single</td>
<td>8.4</td>
</tr>
<tr>
<td>Nov 14 20:00</td>
<td>Bernalillo</td>
<td>Morgan</td>
<td>Single</td>
<td>12.8</td>
</tr>
<tr>
<td>Nov 30 03:27</td>
<td>La Joya</td>
<td>Morgan</td>
<td>Single</td>
<td>53.0</td>
</tr>
</tbody>
</table>

Mac Morgan 296-3983

LAST MINUTE NEWS:
At the September meeting, Secretary and Editor Mike Fisk and Helen Brasfield informed us about two expositions we could get into--Saturday, October 8th at the Winrock Mall and Saturday, October 15th at the Coronado Mall. As of this printing, the October 8th show was a smashing success! There will be more details available at the next meeting.

Thanks to the efforts of Dean Balmer and Roger Flegel, the new "Albuquerque Astronomical Society Planisphere" will be available at the next meeting. Permission for sale of the design was given to us by the Amarillo Astronomy Club of Amarillo, Texas. Supplies are limited.

P.S.: The large and extra large Albuquerque Astronomical Society tee shirts are in. We will have them at the next meeting. See you at Regener Hall!

ASTRONOMICAL CLASSIFIEDS:
TELESCOPES for sale. Must sell 24" and 8" telescopes. 24": custom, tandem axle, enclosed trailer; superb F75 optics, alt-az mount with 0.1 degree circles, pocket computer, 8" auxiliary scope, eyepieces, ladder, much more. 15 minute setup. $12,000 or make offer. 8": Dobsonian, F/6 Meade optics, quick interchange diagonals for high contrast and wide angle views, 2" 32mm Konig, BaK Konig eyepieces, solar filter. $1400. Contact Mel Bartels, 5004 2nd Street, Springfield, Oregon 97478, (503) 741-9301.

ORION 10x70 BINOCULARS for sale. Mint condition, 3 degree field of view, 7mm exit pupil. Hard case, carrying strap, tripod adaptor. Original packaging and warranty. Asking $125. Call Brian at 765-4418(W) or 292-5975(H).

MEADE PHOTOGRAPHIC TRIPOD for sale. Spring loaded, 3-way pan head. Geared elevating center column. Extends to 63" max. height. Orion sells this tripod under the Celestron name for $119. Asking $78. Call Brian at 765-4418(W) or 292-5975(H).
DUES: Please note the expiration date on your mailing label. If you are due for membership renewal, you may send your dues by mail to:

Albuquerque Astronomical Society, P.O. Box 54072, Albuquerque, NM 87153

or give them to the treasurer at the next meeting. Please include the membership application that is sent with your newsletter when it is time to renew. Discount subscriptions to Sky & Telescope and Astronomy Magazine publications are available through our Society. Include any publication renewal mailers and subscription payment as part of your renewal check. Membership dues are $10.00 per year and $2.00 per additional family member. Membership Packets cost $1.75 each for new members or renewing members without the Packet.

ARTICLES: If you would like to submit an article for the Sidereal Times, contact Bruce Levin at the listed number below. Please submit articles within two weeks after the latest Society meeting. Computer files in ASCII format are preferred.

---

**Club Staff**

President: George Pellegrino 821-8516 (home)
Vice President: Dave Finley 291-0402 (home)
Treasurer: Jim Cox 293-5061 (work) 1-832-6486 (home)
Secretary/Software Coord: Michael Fisk 268-4885 (home)
Librarian: Lee Mesibov 292-1249 (home)
Newsletter Editor: Bruce Levin 299-0891 (home)
Telescope Curator: Alan Trever 275-2601 (home)
Occultation Coordinator: Mac Morgan 296-3983 (home)
Board Member: Cal Currier 897-2451 (home)
Board Member: John Hockemeyer 293-5133 (home)
Board Member: Art Jacobs 299-6311 (home)