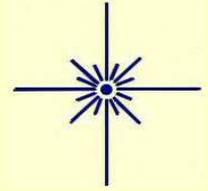




The Guide Star

Newsletter of the Amateur Astronomers Association of Pittsburgh Inc
Founded June 9, 1929 by Chester B. Roe and Leo J. Scanlon
Website: 3ap.org



May 2011

Volume 45, No.5

May 13th: AAAP General Meeting Carnegie Science Center 7:30 p.m. Featured Speaker: Herb Godlewski Topic: Plasma Cosmology Basics

Herb Godlewski has been a AAAP member, off and on, over the past 25 years. He is professionally an electrical engineer with heavy background and experience in electromagnetic systems involved in radar, communications, and electromagnetic compatibility engineering.

His educational background is not only engineering but physics and mathematics as well. He states that engineering pays better. His special interests are radio astronomy and of late, the budding field of plasma cosmology.

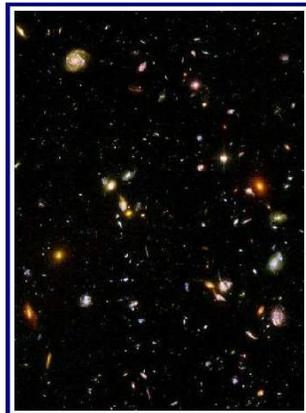
Plasma Cosmology: The first investigator to delve into this field was the Scandinavian scientist, Christian Birkeland. He investigated and actually measured the near earth currents resulting from the Northern Lights and initiated the investigations that eventually led to Hannes Alfvén's theories of cosmic plasma.

Our deep space probes have returned data that indicates that space is truly not a vacuum but full of charged matter, plasma in the "dark mode". Recent work has expanded on this base and strongly indicates that gravity isn't the only force governing the cosmos, and may in fact not be the principle force. Certainly a controversial issue with revolutionary implications for cosmological theory.

The video that will be presented is an introduction and tutorial on the emerging theory of plasma cosmology and the "Electric Universe".

A Brief Look at Alternative Cosmologies

The Hot Big Bang Cosmology wasn't always as widely accepted as it is today. "Big Bang" was actually a term of derision coined by Sir Fred Hoyle, perhaps the most famous astrophysicist of the mid-20th century and an author of "Steady State" theory, an alternate cosmology that flourished in the 50's. It proposed the continuous formation of matter in a forever expanding universe that had no beginning. The theory fell from grace when confronted with the Cosmic Microwave Background radiation identified in the mid-60's.



Big Bang criticisms range from a distaste for its "religious" single moment of creation in which matter, space and time arise from nothing, to a recognition that the theory paradoxically set the age of the universe as younger than some globular clusters and provided too little time for the formation of extremely large structures like galactic clusters. Also, concepts like inflation, dark matter and dark energy have been called

fudge factors invented to save the theory from embarrassment.

Further, the cornerstone of Big Bang cosmology, the expansion of the universe based on red shifts, was called into question as early as 1929 by the renowned astronomer Fritz Zwicky. He proposed that cosmic scale red shifts were due to "tired light", or light losing energy as it traveled through space. More recently, former Palomar astronomer Halton Arp noted that cosmological red shifts may be caused by the objects themselves, not their motion. He offers this view in an interesting book, Seeing Red.

Plasma Cosmology, another alternative to the Big Bang, was promoted by Nobel Prize winning physicist Hannes Alfvén. It asserts that plasma, or gaseous matter consisting of charged particles, permeates the universe - stars are, after all, plasma - and that electromagnetic, rather than gravitational, forces predominate on the large scale. This may obviate the need for dark matter. Plasma Cosmology and its advantages are detailed in Eric Lerner's The Big Bang Never Happened.

Nevertheless, despite its problems, the majority of scientific support still rests with the Big Bang. It's called the "Standard Cosmological Model" with good reason. But humanity's view of the cosmos has changed radically more than once. Nobel physicist Richard Feynman reminds us: "*Science is the culture of doubt.*"

- Guide Star Editor

Submit Your Vote for AAAP Officers

The nominating committee submitted the following candidates at the April business meeting. Ballots and instructions are on page 5. Votes will be counted at the May general meeting. Some candidate bios and comments follow.

Anthony Orzechowski - for President

"My wife and I have been members of the AAAP since 2004. We are both members of the Mingo Observatory Committee and I am also a member of the Executive Committee. I have a B.S and M.S. in I.T and am currently pursuing my masters in astronomy from Swinburne University.

Hopefully you have had the opportunity to read some of my emails that explain a few of my ideas for growing the club. I believe the president should provide the leadership, vision and direction for the club now and into the future. Finding a way to attract younger members is a vital part to the longevity of the club, but we also need to not forget who got this club to this point, our membership! As president, I would be sending out monthly reports of committee discussions, minutes of executive meetings and will be asking the general membership for their votes on planned projects and their required expenditures.

Communication is the key to make every member feel more involved, and hopefully in turn, help promote more involvement in club activities. I would also hope that any member would feel free to contact me at any time by either my cell phone or personal email.

Total disclosure and the welcoming of you and your family back to AAAP will be one of my highest priorities! Thank you for your consideration during this election. My wife and I hope to meet you and your family during the up coming star party season."

[Craig Lang for Vice-President](#)

"I have been a member since 2004, served as the VP from 2009 - present, and as the IT Chairperson in 2005 & 2006. I have been active at Mingo Observatory and Ryerson Station star parties presenting Night Sky Network presentations, planisphere demos, planetarium shows, and was also awarded the George Lindbloom Memorial Award in 2006. Professionally, as a software developer and electrical engineer, I am experienced with problem solving and project management.

I am looking forward to serving the club following in the footsteps of past Vice Presidents and will continue the tradition of bringing interesting and inspiring speakers to the general club meetings as well as the general duties of the Vice President."

[John Mozer for Corresponding Secretary](#)

John Mozer was born and raised in Pueblo, Colorado. After completing his graduate studies in civil engineering at the University of Colorado in 1967, John and his wife, Sheila, moved to Pittsburgh, PA, where they have lived for the past 42 years. During the first six of those years, John taught in the Civil and Environmental Engineering Department at Carnegie Mellon University. He then left the academic world to work for GAI Consultants, Inc., a civil engineering consulting firm located in Homestead. At GAI, John worked on projects in Argentina, Canada, Chile, Honduras, Indonesia and the United States. He retired in May 2009, after 36 years of employment at GAI.

John has been a member of AAAP since 2003 and currently serves as the AAAP Corresponding Secretary, a position he has held for the past three years. He owns two telescopes, an 8-inch Dobsonian and a 102-mm EQ mounted Mak-Cassegrain. His favorite deep-sky objects are open star clusters. John enjoys volunteering at star parties, traveling, reading, visiting with his children and grandchildren and becoming involved in politics and environmental issues.

[John Cheng for Guide Star Editor](#)

I've been a member since 1999 and edited the Guide Star this past year. I've been a committed visual observer since my teens. I feel that the real benefit of amateur astronomy is the change it can make in the person behind the eyepiece, the skills he cultivates, the knowledge she gains.

I think the Guide Star should both inform the membership about club activities and continually encourage the activity that initially draws many to join an astronomy club – observing. To that end, the newsletter tries to include content that might enrich and help observers at all levels.

[Dennis Derda for Recording Secretary](#)

[Don Hoecker for Membership Secretary](#)

[From the VP's Desk....](#)

As an organization we do a lot of what is called "outreach". We volunteer at community days, privately requested star parties, and even field questions from reporters. I offer up many thanks and praise to all those that have served in any of those endeavors.

We are also a "club". Joining the AAAP is a great way to learn more about astronomy. There are many "experts", many "specialists", many "generalists", and many "newbies" in our club. While reaching out to the public, those outside of the AAAP, is good for us as a group, serving the individuals in the club is also very necessary, maybe even more important.

There have been several members that have extended invitations on the mailing list to help those 'who cannot get their telescopes working', several members mentioning that they would be at one of the observatories on a random night and others could join them, and even those that carpool to non-AAAP star parties.

This is a great way for us all to learn more about astronomy and meet others while doing it. A magazine can only help so much. Star-charts are worthless unless someone shows one how to star hop or even how to read them. There is always someone else who has some knowledge you do not and there is always someone that is looking for the knowledge you have.

Why not get together more often?

Get on out to special 'members only' star parties. Call up a member that lives nearby you and invite them to observe with you. Take those folks that put invitations on the mailing list or at meetings seriously and accept their offers. There have even been some that have explicitly said they want no reimbursement for their time....now that is a great offer!

The member directory is a great way to find those nearby you, just remember to be kind and courteous when you could call a fellow member. I have noted that we have members in many directions away from Pittsburgh, and with gas prices climbing I can completely understand wanting to travel little. So maybe setup a star party with those that live nearby. Use a local park or area sports complex parking lot.

Lastly, keep in mind that any chance to observe is great. No need to always lug your telescope out or maybe you do not even have one of your own to lug....binoculars and a planisphere are just perfect for a good night of observing. Even a cheap pair of binos tossed in the trunk of your car can suffice when you have some spare time out in the dark. Maybe even take that special someone along and experience the night sky and... well you get the idea.

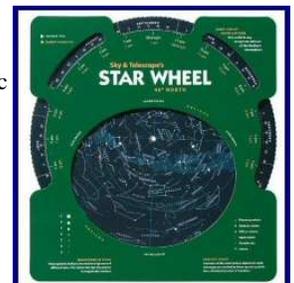
[Some Recommendations for Newer Observers](#)

People new to amateur astronomy soon find that everyone has opinions on what to get. So, admitting guilt, here's my list to make observing more rewarding for those starting out. Everything mentioned:

- Is available new. Nothing's out of print, no longer made, or only available used.
- Is affordable. That's a relative term, but most things are under \$20.00. That rules out computer based tools.
- Is immediately helpful. This means newer observers will find it useful. Some great things are best for people who've been around awhile. Burnham's *Celestial Handbook* and Walter Houston's *Deep Sky Wonders* come to mind.
- I've owned and used.

[Learning to get around the sky](#)

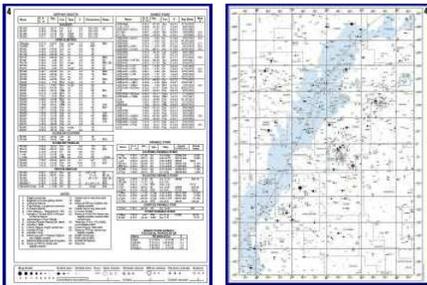
A *planisphere*, also called a star wheel or star finder, shows *what constellations are now up at your location* and give a graphic lesson on how stars daily move across the sky. They're inexpensive. The model shown is about \$11.50 at Amazon. You may even find one for free as a promotion. Just get one suitable for our latitude, 40° North, dial in current time and date and you're good to go.



I'll admit an old cardboard planisphere taught me more about the night sky than any one tool I ever used.

Star maps or an *atlas* show the sky in greater detail, suitable for use with binoculars or a scope. At only \$9.95 ***Bright Star Atlas*** by Wil Tirion and Brian Skiff is a good choice for people new to the hobby. It's a small investment and inexpensive enough that making notes on the pages won't make you feel guilty. It's a soft cover book that's meant to be used outdoors, not displayed on a desk or shelf.

It has only ten maps, covering stars to magnitude 6.5, that's a bit deeper than the best we see with naked eye in our area. Each map shows a large section of the sky so it's easy to see the relationships between constellations and get a feel for the layout of the sky. Facing each map is a table of features in the area covered. They're compiled by Lowell Observatory astronomer Brian Skiff and make up an observing list to get you started with a telescope.



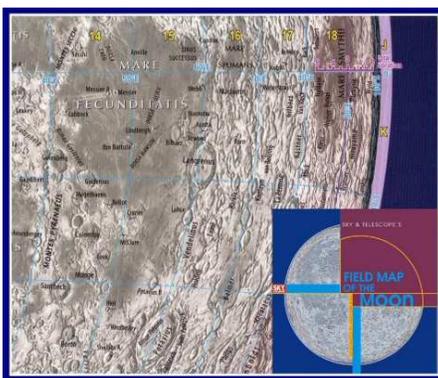
Frankly, your ideal atlas will probably be more detailed and elaborate than ***Bright Star*** – it may not even be on paper, but computer based. But a first atlas is a learning tool, eventually lost, misplaced or set aside, but always fondly remembered.

Bright Star Atlas is available from its publisher Willmann Bell: <http://www.willbell.com/atlas/atlas1.htm>

A Moon Map to learn Lunar Features

Our Moon is close enough that even small scopes show enough of its 9,000 named features to last a lifetime. There's plenty to learn about planetary geology and the formation of the early Solar System by observing the lunar surface. A good map is a must as a first step.

Sky & Telescope's Field Map of the Moon is the most practical chart I've ever used as a lunar observer. Something like this should have been available decades ago. It's a folded 12 by 12 inch laminated chart that opens into a 24 by 24 map of the entire near side of our Moon. It can be used folded to show a only quadrant or a hemisphere of the lunar surface.



The map includes about 1000 labeled features which are also alphabetically indexed. ***Field Map*** comes in two versions: normal orientation and a mirror-image version for observers with scopes that have diagonals, like refractors or SCTs, which only flip east and west.

Available at less than \$8.00 and designed to withstand

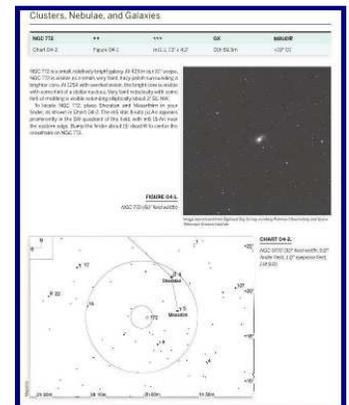
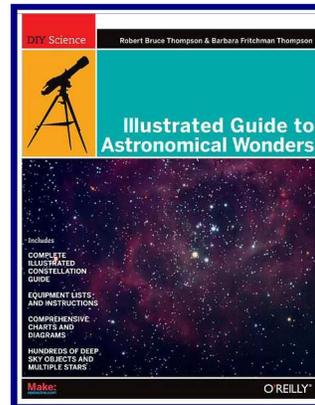
abuse and moisture, it would be the first item I'd get to look at our Moon. It's a keeper even for an experienced lunar observer.

A Guide & Aid to Finding Deep Sky Objects

The Illustrated Guide to Astronomical Wonders by Robert and Barbara Thompson might be the only book you'll ever need over your deep sky observing career. The book covers 400 objects including the Messier objects, the Royal Astronomical Society of Canada Finest NGC objects, the Astronomical League's Deep-Sky Binocular List, Urban Observing

List and Doubles Star List. The objects are sorted by constellation and each constellation section contains a chart showing object locations, finder charts for each object with helpful 5 degree or 1 degree circles superimposed (making them adequate for field use), notes about the objects themselves and hints on how to find them.

Almost every object has uniform 1 square degree black and white photos which give a fair approximation of what you'll actually see in the eyepiece. Each object gets a 1 to 4 visual rating, ranging from unimpressive up to "showpiece" and a finding difficulty rating, going from very difficult to easy to find.



This is the finest beginner to intermediate guide I've seen. Its price is around \$20.00. – *Guide Star Editor*

Upcoming Events

May 6th & 7th Star Party, Mingo Creek Park Obs.
 May 6th & 7th Star Party at Wagman Obs.

May 27th AAAP at Breakneck Campground near McConnell's Mill State Park 8:00 pm for Beginner Astronomy and Star Gazing Party (see April Guide Star for details)

On Saturn

On April 4th Saturn came to opposition which is accompanied by ring brightening. The following images, courtesy of Christopher Go, based in the Philippines, show a gradual decline in ring brightness and that the "dragon storm", whose proper name is the Northern Electrostatic Disturbance (NED), has spread around the entire girth of the planet, the tail now reaching the longitude of the original outbreak.



April 11, 2011



April 13, 2011

- *Guide Star Editor*

Sun	Mon	Tue	Wed	Thu	Fri	Sat
<p>1</p> <p>SR:06:19 SS:20:15 MR:05:08 MS:19:03 PI:5%</p>	<p>2</p> <p>SR:06:18 SS:20:16 MR:05:37 MS:20:03 PI:2%</p>	<p>3</p>  <p>SR:06:17 SS:20:17 MR:06:10 MS:21:03 PI:0%</p>	<p>4</p> <p>SR:06:16 SS:20:18 MR:06:49 MS:22:01 PI:1%</p>	<p>5</p> <p>SR:06:14 SS:20:19 MR:07:33 MS:22:57 PI:3%</p>	<p>6</p> <p>Star Parties Mingo & Wagman Observatories</p> <p>Eta Aquarid Peak</p> <p>SR:06:13 SS:20:20 MR:08:25 MS:23:47 PI:7%</p>	<p>7</p> <p>Star Parties Mingo & Wagman Observatories</p> <p>SR:06:12 SS:20:21 MR:09:24 MS:***** PI:13%</p>
<p>8</p> <p>SR:06:11 SS:20:22 MR:10:27 MS:00:32 PI:21%</p>	<p>9</p> <p>SR:06:10 SS:20:23 MR:11:34 MS:01:12 PI:30%</p>	<p>10</p>  <p>SR:06:09 SS:20:24 MR:12:43 MS:01:47 PI:41%</p>	<p>11</p> <p>SR:06:08 SS:20:25 MR:13:53 MS:02:19 PI:52%</p>	<p>12</p> <p>SR:06:07 SS:20:26 MR:15:04 MS:02:49 PI:63%</p>	<p>13</p> <p>AAAP General Meeting Carnegie Science Center 7:30PM</p> <p>SR:06:06 SS:20:27 MR:16:17 MS:03:19 PI:74%</p>	<p>14</p> <p>SR:06:05 SS:20:28 MR:17:31 MS:03:51 PI:83%</p>
<p>15</p> <p>SR:06:04 SS:20:29 MR:18:47 MS:04:26 PI:91%</p>	<p>16</p> <p>SR:06:03 SS:20:30 MR:20:02 MS:05:05 PI:97%</p>	<p>17</p>  <p>SR:06:02 SS:20:31 MR:21:13 MS:05:51 PI:100%</p>	<p>18</p> <p>SR:06:01 SS:20:32 MR:22:16 MS:06:44 PI:100%</p>	<p>19</p> <p>Occultation of Magnitude 4.16 44 Ophiuchus approx. 02:29</p> <p>SR:06:00 SS:20:33 MR:23:10 MS:07:44 PI:97%</p>	<p>20</p> <p>SR:05:59 SS:20:34 MR:23:55 MS:08:49 PI:92%</p>	<p>21</p> <p>SR:05:58 SS:20:35 MR:***** MS:09:54 PI:85%</p>
<p>22</p> <p>SR:05:58 SS:20:36 MR:00:32 MS:10:58 PI:77%</p>	<p>23</p> <p>SR:05:57 SS:20:36 MR:01:04 MS:12:01 PI:67%</p>	<p>24</p>  <p>SR:05:56 SS:20:37 MR:01:31 MS:13:01 PI:58%</p>	<p>25</p> <p>SR:05:56 SS:20:38 MR:01:57 MS:13:59 PI:48%</p>	<p>26</p> <p>SR:05:55 SS:20:39 MR:02:21 MS:14:57 PI:39%</p>	<p>27</p> <p>Beginner Astronomy Party Breakneck Campground 8pm</p> <p>SR:05:54 SS:20:40 MR:02:45 MS:15:55 PI:30%</p>	<p>28</p> <p>SR:05:54 SS:20:41 MR:03:10 MS:16:54 PI:21%</p>
<p>29</p> <p>SR:05:53 SS:20:41 MR:03:38 MS:17:53 PI:14%</p>	<p>30</p> <p>SR:05:53 SS:20:42 MR:04:10 MS:18:54 PI:8%</p>	<p>31</p> <p>SR:05:52 SS:20:43 MR:04:46 MS:19:53 PI:4%</p>	<p>All times given are local.</p> <p>Legend: SR = Sunrise, SS = Sunset, MR = Moonrise, MS = Moonset, PI = Approximate Percentage Visible Lunar Surface Illuminated Local Midnight</p> <p>Details for AAAP Events can be found at: https://nightsky.jpl.nasa.gov/event-list.cfm?Club_ID=675&EventEra=Future</p>			

Some Celestial Highlights for May

From The Observers Handbook: “Mercury, Venus, Mars & Jupiter lie within 10° during the first 3 weeks of May, with Mercury, Venus, and Jupiter within 3° from the 9th to the 13th. Mercury, Venus & Mars lie within 3° from the 19th to the 23rd.”

Mercury at greatest western elongation of 27° on the 7th, rising at 05:19
Venus in the morning sky, within 2° of Mercury from the 4th to the 22nd will pass 0.6° S of Jupiter on the 11th. Venus rises at 05:17 on the 1st and 04:53 on the 30th.

Mars low in the eastern sky at dawn. Rises at 05:37 on the 1st and 04:39 on the 30th.

Jupiter low in the eastern sky at dawn, rising at 05:39 on the 1st and 04:01 on the 30th.

Saturn is visible most of the night, rising at 17:34 on the 1st and 15:34 on the 30th.

Uranus is visible in the eastern morning sky in Pisces, rising at 04:51 on the 1st and 02:59 on the 30th.

Neptune rises after midnight, rising 02:39 on the 2nd and at 01:40 on the 30th

GRS transits: **Jupiter’s System II longitude** is 157°.

Selenographic Colongitude is 233.10° at 0h UT at beginning of the month. Add 12.2° each day.

(All times below are local)

19th 02:29 Approx. time of the disappearance of 4th magnitude 44 Ophiuchus behind bright limb of the 16 day old Moon



A Welcome to Our New Members

- Patrick Bechman*
- Fred Childs*
- Carl Engman*
- David E. Larson*
- Raphael Nash*
- Robert J. Trageser*

Guide Star Submissions

All AAAP members are encouraged to submit items to the club newsletter. Articles, images, observations, notices, ads, book, software and equipments reviews, all are welcome.

Only submissions received before the 15th of the prior month are assured inclusion in the coming issue. The Guide Star is posted online and sent to print on the 20th of the prior month.

Send submissions or questions to: gseditor@3ap.org

AAAP 2011 ELECTION BALLOT

(CHECK THE BOX NEXT TO CANDIDATE OR YOUR WRITE-IN CHOICE)

PRESIDENT

- Tony Orzechowski**
- Write-In:** _____

CORRESPONDING SECRETARY

- John Mozer**
- Write-In:** _____

VICE PRESIDENT

- Craig Lang**
- Write-In:** _____

MEMBERSHIP SECRETARY

- Don Hoecker**
- Write-In:** _____

RECORDING SECRETARY

- Dennis Derda**
- Write-In:** _____

GUIDE STAR EDITOR

- John Cheng**
- Write-In:** _____

***Bring ballot to the May 13th AAAP General Business Meeting
 Or Mail in to: AAAP Treasurer,
 1070 Sugar Run Road,
 Venetia, PA 15367-1514***

AMATEUR ASTRONOMERS ASSOCIATION
OF PITTSBURGH, INC
1070 SUGAR RUN ROAD
VENETIA, PA 15367-1515

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Attention: Club Officer Election Ballot Enclosed

Amateur Astronomers Association of Pittsburgh, Inc.

2010-2011 Executive Officers

President: Edward Moss
president@3ap.org

Vice President: Craig Lang
vicepresident@3ap.org

Treasurer: Michael Meteney
treasurer@3ap.org

Corresponding Sec: John Mozer
correspondingsecretary@3ap.org

Recording Sec: Dennis Derda
recordingsecretary@3ap.org

Membership Sec: Don Hoecker
membershipsecretary@3ap.org

Guide Star Editor: John Cheng
gseditor@3ap.org

AAAP Member Dues: \$ 24.00

Student Membership
(K-12 & full time
college student): \$16.00

Family Membership \$ 40.00

Basic Procedure for Paying Dues:

1. Make check payable to "AAAP Inc."
2. Send check to:

Michael Meteney, Treasurer
1070 Sugar Run Road
Venetia, PA 15367-1514