

Volume 18, No. 2  
 Summer 2008  
 Second Quarter

# PSF NEWS

Planetary Studies Foundation

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## The Planetary Studies Foundation announces 20th Annual Benefit Dinner with Apollo 16 Astronaut, Charlie Duke Jr.!

The Planetary Studies Foundation (PSF) is excited to celebrate its 20<sup>th</sup> Anniversary in 2009! For twenty years the PSF has been proud to share its achievements with its 200 members, educational institutions and the inquisitive public. Throughout our existence we inherited the James DuPont meteorite collection, ranked 10<sup>th</sup> largest in the world, presented StarLab, lectures and numerous science pres-

entations at schools, libraries and community events and have been active throughout our community. To celebrate, Paul Szipiera has been working diligently on the line-up of special guests for the Annual Benefit Dinner in 2009.

Read his *President's Message* on Page 2 for details on the progress within the PSF.

### From the travelogues of Herb Windolf...



### MEET THE ST. ANDREW'S ROCKET TEAM

This group of boys is determined to reach their goals and for their rockets to reach the heavens. Read their biographies and future plans on Page 10.

## NASA NEWS

### Ocean Wind Power maps Reveal Possible Wind Energy Sources

PASADENA, Calif. - Efforts to harness the energy potential of Earth's ocean winds could soon gain an important new tool: global satellite maps from NASA. Scientists have been creating maps using nearly a decade of data from NASA's QuikSCAT satellite that reveal ocean areas where winds could produce energy. Read full article on Page 7

### PSF LAUNCHES NEW WEBSITE

Andrea Cosentino and Daniel Dod have been working on updating PSF's website. Daniel has been the master mind in creating the new design and layout with the information provided from Andrea. They have worked very hard but still have a ways to go until the project is completed...please visit the new & improved website!

[WWW.PLANETS.ORG](http://WWW.PLANETS.ORG)

### Member Spotlight

Proudly presents...

an interview with

**Charlie Duke, Jr.**

Read the entire interview  
 on Page 3 & 4

## PRESIDENT'S MESSAGE

The second quarter of the year has been an extremely busy time for us at the Planetary Studies Foundation. As I had mentioned in a previous *PSF News*, the Planetary Studies Foundation is in transition and we are making exceptional progress in consolidating our operations and formulating a new strategic plan for the next ten years. Next February 8<sup>th</sup>, the PSF will celebrate its 20<sup>th</sup> anniversary and we can look back on that time with a great sense of pride on all our accomplishments. One aspect of our organization that has been very consistent throughout those years is that we do not sit-back and rest on our laurels. PSF is a very forward-looking organization and it is continuously searching for new opportunities. Our strategic planning committee has developed a very exciting plan for consideration, and it will be presented at the **Annual Members Meeting to be held on August 23<sup>rd</sup> at the Farmer's Guest House in Galena, Illinois**. I encourage as many members as possible to attend, but if that is not possible, the strategic plan will be published in the Fall issue of *PSF News*.

The PSF has finally consolidated all of its office, library, and museum exhibit materials at our Elizabeth, Illinois facility. For the past two and one-half years the PSF was situated at the Challenger Learning Center in Woodstock, Illinois. During our stay we provided numerous StarLab presentations, guest lecture programs, and developed an educational exhibit showcasing many of our meteorites, astronaut artifacts, and Antarctic expedition memorabilia. Challenger staff has estimated that over 30,000 people viewed our exhibit during its two-year tenure. At our April 2008 Executive Board meeting it was decided that we would consolidate all of our materials in one location and develop a new strategic plan for the future. In the final week of June, PSF staff members and several member volunteers provided the necessary "muscle" to support the professional movers. Specifically my thanks to: **Theresa Havlik-Butts, Eleanor Powell, and Diane, Paula, and Caroline Szipiera**. Also, special thanks for a generous monetary donation from **Robert Renguso of Marlin Environmental, Inc.** and the in-kind donation of **Gary Scharpf of Galena Moving**. Without the help of these individuals the move could not have been accomplished in such an efficient and timely manner. Now, with our central headquarters in Galena and our educational assets located only nine miles away in Elizabeth, Illinois, we are positioned to re-organize and prepare for our future endeavors.

It is with great pleasure that I can announce the full guest program for the PSF's **20<sup>th</sup> Anniversary Celebration on March 21, 2009**. Our featured speaker will be **Apollo 16 astronaut Charlie Duke**. Over the last ten years Charlie Duke has been a very special friend to the PSF and he has indicated that he has a wonderful surprise in store for us to commemorate our 20<sup>th</sup> anniversary. Joining Charlie Duke in our guest spotlight will be two television icons, **Jerry Mathers** and **Tony Dow** from the *Leave It To Beaver* Series. One might ask, what does Charlie Duke and *Leave It To Beaver* have in common? Trivia buffs might instantly make the connection. On October 4<sup>th</sup>, 1957 the Russians launched *Sputnik 1* into orbit, an event that initiated a *Space Race* that would eventually take us to the Moon. On that same night *Leave It To Beaver* aired its first program. So one could say that the *Race to the Moon* began with *Leave It To Beaver* in 1957, and ended with PSF members Charlie Duke in Apollo 16 and Jack Schmitt in Apollo 17 leaving their footprints on the Moon in 1972. Please join us for this very special night!

**Paul P. Szipiera**

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## DONOR'S SPOTLIGHT

Robert Renguso

*Marlin Environmental, Inc.*

Gary Scharpf

*Galena Moving*

### NEW MEMBERS

#### Contributing

Larry & Sindy Main

#### Student Member

Eleanor S. Powell

### RENEWING MEMBERS

#### Family

Jess & Kathie Farlow

Jim and & Sandy Napolitan

#### Individuals

Nancy Heggem

## MEMBERS CORNER

### *IN THE NEWS*

- **Sarah Butts**, daughter of PSF Associate Board member **David Butts**, has recently returned from Cambodia where she was a participant in a program of comparative medical procedures.
- **Richard Garriott** is currently in Russia preparing for his up-coming flight to the International Space Station. To follow Richard's progress and to ask him questions, he can be contacted at: [www.richardinspace.com](http://www.richardinspace.com) or at [www.challenger.com](http://www.challenger.com)
- In June, PSF Associate Board member **Trevor Ireland** from Australia, dropped in at PSF Headquarters in Galena for a short visit on his way to a science meeting in Madison, Wisconsin. He returned to Australia for a week and it was then off to St. Petersburg, Russia for another meeting. Trevor has extended an invitation to PSF members to come to Australia in 2012, when he and Australian National University are hosting the Annual Meteoritical Society Meeting in Cairns near the Great Barrier Reef.
- New student member **Eleanor S. Powell** is off to western Montana for a six week geological field camp. Eleanor is a senior at Smith College in Massachusetts and served this past June as a research intern working on the cataloging and inventory of the PSF Meteorite Collection.
- **Paul A. Solarz** recently returned from a European adventure where he participated as chaperon for high school students from the Arlington Heights School District. Rumor has it that Paul will be out of therapy by the beginning of the next academic year!
- **Herb and Ute Windolf** just returned safe and sound from their exciting safari to Africa. We look forward to Herb's descriptive narrative in a future *PSF News*.
- The **Planetary Studies Foundation** is sponsoring two students with travel grants to the **2008 Meteoritical Society Meeting in Japan**. The recipients, **Katerina Bartosova** from the University of Vienna, Austria and **Renaud Deguen** of the Maison des Geosciences in France, were selected by a committee from The Meteoritical Society.

### *CONGRATULATIONS*

- To **Andrea M. Cosentino**, PSF Administrative Assistant and *PSF NEWS* Editor on receiving her A.A. Degree from Harper College in Palatine, Illinois.
- To **Kenneth Johnson**, PSF student member and member of the St. Andrews Rocket Club, who is working as a summer intern with design engineers at the Glenn Research Center in Ohio.
- To **Jim and Diane Reed** on the recent marriage of their daughter Rebecca to Joel Wild. PSF's best wishes to the happy couple.
- To **Paula F. Szipiera** for taking first place in a Lions Club writing contest for her essay entitled: *Taking a Stand in History: Why Do We Even Say the Pledge of Allegiance?*
- To PSF astronaut members **Alan Bean**, **Scott Carpenter**, **Walt Cunningham**, **Charlie Duke**, **Owen Garriott**, **Jim Lovell**, **Jack Lousma**, **Edgar Mitchell**, **Jack Schmitt** and **Al Worden** who appeared in the Discovery Channel documentary *When We Left Earth*.

# Member Spotlight: Charlie Duke, Jr.

Interviewed by: Andrea Cosentino

Charlie Duke was born on October 3, 1935 in Charlotte, North Carolina. He attended Lancaster High School and after high school he started his long educational journey. In 1963 he married his wife, Dorothy Meade Claiborne. The two of them have two sons, Charles III and Thomas and eight grandchildren!

Duke has logged 4,147 hours of flying time which includes 3,632 hours in a jet aircraft. Duke is most famous for his participation in Apollo 16 as lunar module along with John W. Young as space commander and Thomas K. Mattingly II as command module pilot. Apollo 16 was the first scientific expedition to inspect, survey and sample materials and surface features in the Descartes region of the lunar highlands. Apollo 16 achievements include: largest payload placed in lunar orbit (79,109 pounds); first cosmic ray detector deployed on lunar surface; first lunar observatory with the far ultraviolet camera; and longest inflight EVA from a command module during trans-earth coast (1 hour and 13 minutes). Duke logged 265 hours and 51 minutes in space, which includes 21 hours and 28 minutes in extra-vehicular activities.



Charlie Duke Jr.

Duke retired from NASA in 1975 to enter private business in San Antonio. Currently, Duke serves as the owner of Duke Investments and President of Charlie Duke Enterprises, Inc. He actively works as a motivational and inspirational speaker. He and his wife reside in New Braunfels, TX and have co-authored the book, *Moonwalker*. Duke has spoke once before at an Annual Benefit Dinner for the Planetary Studies Foundation and according to most guests in attendance, he was one of the most interesting and funny speakers we have had to date. To learn more about Charlie Duke, visit his website at [www.charlieduke.net](http://www.charlieduke.net)

**PSF:** Where did you go to college and what did you study?

**Duke:** Graduated, Valedictorian, Admiral Farragut Academy, St. Petersburg, Florida, 1953

B.S., Naval Sciences, U.S. Naval Academy, 1957

M.S., Aeronautics & Astronautics, Massachusetts Institute of Technology, 1964

Graduated U.S. Air Force Test Pilot School, 1965

Honorary Ph.D. University of South Carolina, 1973

Industrial College of The Armed Forces, 1978

Honorary Ph.D. Francis Marion College, 1990

**PSF:** What inspired you into a space career?

**Duke:** As a young fighter pilot in 1961, I was impressed with the first manned space flights. Then at MIT, I worked on the Apollo Guidance & Navigation system and met some of the Astronauts. I began to think about an astronaut career then and in 1965 after graduating from Test Pilot School, I was qualified to apply an so I did.

**PSF:** What are you currently doing now?

**Duke:** I am doing a variety of things. Some consulting on the future Moon missions, speaking, Christian ministry, and some business interests.

**PSF:** Which other careers would you have liked to attempt besides the one you have now?

**Duke:** I have thought about a lot of other careers, sports, politics, but they were mostly dreams.

**PSF:** What is one of your most memorable achievements and what makes it special?

**Duke:** I think the landing on the moon and our subsequent exploration has to be a most memorable moment for me.

**PSF:** What are your hobbies?

**Duke:** Hunting, fishing, reading, flying and golf.

**PSF:** Which personal story do you never get tired of telling?

**Duke:** My walk on the moon and my walk with God.

**PSF:** What is one thing you wish people knew about you?

**Duke:** I really enjoy people and interacting with them.

**PSF:** What is the best advice you ever received?

**Duke:** Trust in the Lord with all your heart and lean not on your own understanding.

**PSF:** Where do you see yourself in ten years?

**Duke:** Hopefully still in good health, staying active and enjoying my grandchildren, and anticipating the next landing on the moon.



Charlie and Dottie Duke

**PSF:** Which actor would you have play you if they made a movie about your life?

**Duke:** Tom Hanks

**PSF:** Where has been your favorite place to travel?

**Duke:** We have enjoyed all of our travel around the world. We have been to every continent except Antarctica, I would still like to visit there.

**PSF:** How did you become involved with the PSF?

**Duke:** I met Paul and Diane many years ago when I was asked to speak in Chicago. Our friendship has continued since then. PSF is a great organization.

**PSF:** Which area of science interests you the most?

**Duke:** It would be Astronautics, Astronomy and then Geology.

**PSF:** Do you have any exciting plans for 2008?

**Duke:** We have traveled to India and Switzerland already this year and in the fall we are going to Germany and Croatia.

**PSF:** What advice would you give to our young readers?

**Duke:** Work hard. Do the best you can in school. Take care of your body. Set big goals and dream big dreams.

*Thank you Charlie! We look forward to seeing you in March!*

**The Planetary Studies Foundation**  
**Cordially invites you to attend the 20th Annual Benefit Dinner**  
**with Apollo 16 Astronaut and 10th man on the moon**  
***Charlie Duke, Jr.***



**Saturday, March 21, 2009**

**5:30 p.m.—10:00 p.m.**

**Cocktails, Dinner, Live Auction, Keynote speaker  
and an appearance by two Hollywood Celebrities**

**Poplar Creek Country Club  
1400 Poplar Creek Drive  
Hoffman Estates, Illinois**

**Price TBD at Annual Members Meeting  
Tickets go on sale November 1, 2008  
Limited Seating**

***To reserve a ticket, call the Planetary Studies Foundation at 815.858.2014***

## Ocean Wind Power maps Reveal Possible Wind Energy Sources

07.09.08

PASADENA, Calif. - Efforts to harness the energy potential of Earth's ocean winds could soon gain an important new tool: global satellite maps from NASA. Scientists have been creating maps using nearly a decade of data from NASA's QuikSCAT satellite that reveal ocean areas where winds could produce energy.

The new maps have many potential uses including planning the location of offshore wind farms to convert wind energy into electric energy. The research, published this week in *Geophysical Research Letters*, was funded by NASA's Earth Science Division, which works to advance the frontiers of scientific discovery about Earth, its climate and its future.

"Wind energy is environmentally friendly. After the initial energy investment to build and install wind turbines, you don't burn fossil fuels that emit carbon," said study lead author Tim Liu, a senior research scientist and QuikSCAT science team leader at NASA's Jet Propulsion Laboratory in Pasadena, Calif. "Like solar power, wind energy is green energy."

QuikSCAT, launched in 1999, tracks the speed, direction and power of winds near the ocean surface. Data from QuikSCAT, collected continuously by a specialized microwave radar instrument named SeaWinds, also are used to predict storms and enhance the accuracy of weather forecasts.

Wind energy has the potential to provide 10 to 15 percent of future world energy requirements, according to Paul Dimotakis, chief technologist at JPL. If ocean areas with high winds were tapped for wind energy, they could potentially harvest up to 500 to 800 watts of wind power per square meter, according to Liu's research. Dimotakis notes that while this is less than peak solar power, which is about 1000 watts per square meter on Earth's surface when the sky is clear and the sun is overhead at equatorial locations, the average solar power at Earth's mid-latitudes under clear-sky conditions is less than a third of that. Wind power can be converted to electricity more efficiently than solar power and at a lower cost per watt of electricity produced.

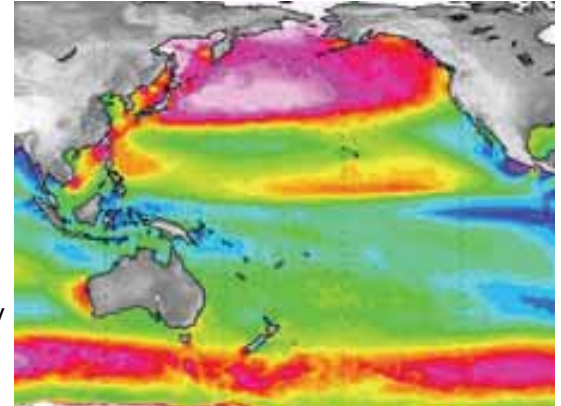
According to Liu, new technology has made floating wind farms in the open ocean possible. A number of wind farms are already in operation worldwide. Ocean wind farms have less environmental impact than onshore wind farms, whose noise tends to disturb sensitive wildlife in their immediate area. Also, winds are generally stronger over the ocean than on land because there is less friction over water to slow the winds down -- there are no hills or mountains to block the wind's path.

Ideally, offshore wind farms should be located in areas where winds blow continuously at high speeds. The new research identifies such areas and offers explanations for the physical mechanisms that produce the high winds.

An example of one such high-wind mechanism is located off the coast of Northern California near Cape Mendocino. The protruding land mass of the cape deflects northerly winds along the California coast, creating a local wind jet that blows year-round. Similar jets are formed from westerly winds blowing around Tasmania, New Zealand and Tierra del Fuego in South America, among other locations. Areas with large-scale, high wind power potential also can be found in regions of the mid-latitudes of the Atlantic and Pacific oceans, where winter storms normally track.

The new QuikSCAT maps, which add to previous generations of QuikSCAT wind atlases, also will be beneficial to the shipping industry by highlighting areas of the ocean where high winds could be hazardous to ships, allowing them to steer clear of these areas.

Scientists use the QuikSCAT data to examine how ocean winds affect weather and climate, by driving ocean currents, mixing ocean waters and affecting the carbon, heat and water interaction between the ocean and the atmosphere. JPL manages QuikSCAT for NASA. For more information about QuikSCAT, visit: <http://winds.jpl.nasa.gov>.



This is a portion of an image of QuikSCAT data that shows wind power density over global oceans for winter (top panel) and summer (lower panel) in the Northern Hemisphere. *Image courtesy: NASAJPL*

## Excursions in Saxony's Switzerland

An Area in southeastern Germany extending into the Czech Republic.

by Herb Windolf / October 2007

One hundred million years ago an ocean began to cover large parts of Europe. For fifteen million years streams and rivers eroded the islands and surrounding elevations, carrying mainly quartz sand to the ocean's bot-



tom, depositing this material, layer by layer, close to 600 meters deep. In time these layers were compressed to gray marine sandstone. These stone layers, from 20 to 120 meters thick, are interspersed by clay layers up to 4 meters thick. Clay was laid down early on, so that thicker sandstone layers dominate the upper layers. Subsequent uplifts created vertical cracks in the stone. Sandstone, being permeable, allows rainwater to penetrate downwards until it is stopped by an impermeable clay layer which directs it sideways until the water finds an exit.

When the ocean's waters finally retreated and erosion of

the sandstone masses by rain and the Elbe River began, the vertical cracks and the particular layering created a wild landscape of table mountains, spires, towers, needles and ridges, with clefts, narrow, steep canyons and small valleys. Were they not covered nowadays by forests and undergrowth these formations would be reminiscent of Monument Valley.

Beginning in the stone age, men built defensible positions on some of the peaks and table mountains, such as the mighty, never conquered Fortress Koenigstein. Other such elevations feature inns where the hiker can delight in one of Saxony's specialties, Sauerbraten with red cabbage and dumplings, washing them down with a stein of beer or some good Saxonian wine. From these heights we enjoyed far-reaching views across this so varied landscape – my wife, myself, together with our sister and brother-in-law. One of these table mountains, the Bastei, once an ancient mountain bastion, high above the Elbe river, even sports a hotel which can be reached by car.

For the hiker seeking simpler pleasures, many a promontory offers a place for a snack or sack lunch. Looking down a couple of hundred meters may be forested valleys or freshly plowed fields, others showing the tender green of recently sown winter-wheat. Nearby or in the distance, other rock formations and outcrops may be visible. For the knowledgeable, mushrooms grow

everywhere throughout the surrounding forests.

While some of the trails are level, most have steep elevation differences. The area's trails are maintained by the national park service. To overcome slopes with wooden beams providing stairways. When the trails pass through canyons, ravines and gorges, they become stairs and ladders of aluminum. In some of the wildest parts, there are steel rails or handles solidly imbedded in rock. We appreciated these handholds most when we descended the Wilde Hoelle (Wild Hell), a convoluted, narrow canyon which the normal hiker would be unable to cross without the handholds. Many a promontory would be inaccessible without the stairs and ladders.

On one of our excursions, our trail passed through several gorges along numerous stair-

**“In some of the wildest parts, there are steel rails or handles solidly imbedded in rock.”**

ways. Eventually, we had climbed up on ladders to the top of the Schrammsteine (Scarred Rocks). Then, being uncomfortable with the height, I climbed down to a lower flat area from where three trails departed. While I had a snack there, a large group of about twenty people came up the ladder, all looking like hikers, but some were carrying fancy photographic equipment. They took a



break from their climb right in front of me. Suddenly, I did a double-take. There, not three paces distant, being part of this group, stood the German President, Horst Koehler with his wife Luise. My wife, having come down by then, got very busy snapping his picture. While there are some substantial differences, imagine George and Barbara Bush climbing up there!

Among many other hikes, their ups and downs straining our calf muscles, we also took a silent, leisurely, oar-powered boat trip through the narrow canyon of the dammed Kirnitzsch River, a tributary of the Elbe River. Another excursion on one of the old side-paddle steamers brought us to the town of Rathen by the Elbe. Started in 1836, the Saxon Steamship Company is the oldest steamship company in the world with the most paddle wheelers and ships. From Rathen, which features the Karl-May-Festival, we hiked up the Bastei Mountain to view the remnants of its ancient fortification and looked way-down to the Elbe River where a paddle-wheeler was making its way upstream.

Dresden, Saxony's capital,

was only an hour's drive away from our small A-frame vacation home in the village of Lichtenhain. On February 13, 1945, in a night air raid, the British leveled this ancient city, Dresden, with its many historic buildings causing a death toll of 30,000. The American writer, Kurt Vonnegut, experienced this event as an American POW. In 1969 his novel, *Slaughterhouse Five*, was published in which his literary alter ego, Billy Pilgrim, portrays Vonnegut's personal gruesome experience.

Today, much, but by far not all, has been rebuilt and restored – 44 years of communist rule were not conducive to the city's restoration. Today, Dresden, once again, has become a vibrant city featuring, among many other world-renowned historic buildings, the Zwinger, the Semper Opera House, and the Frauenkirche.

Our final day took us to the town of Radebeul where Germany's most successful writer, Karl May, had his residence. Between 1878 and 1910 he penned more than 80 novels and short stories dealing with the American West, the Orient, and other locales around the world, only some of which he visited towards the latter part of his life. Most were travel and adventure stories of his imagination, but usually well researched. His residence and the adjacent Villa Bearfat hold possibly the most extensive collection of Indian artifacts in Germany. A large diorama depicts the details of Custer's battle at the Little Bighorn. His writings did popularize the American West with the German public. Generations of youngsters grew up reading his adventure stories. Since little was translated into English,

although into many other languages, I have made it my task to translate a number of his "Western" novels into English.

Finally, we entered the city of Meissen, where Johann Friedrich Boettger invented in the early seventeen hundreds the process of manufacturing porcelain which, until then, had to be imported from China, where the process had originally been discovered. From Meissen it, eventually, spread across the world.

In the Albrecht's Castle we admired the architecture and huge paintings of the Romantic period of the 18th century, depicting events from German history. It has been the seat of many Saxon kings. Its construction was begun by the first German King, Henry I, former Duke of Saxony, chosen



by his peers in 919 AD.

The cries of large flocks of migrating geese and cranes overhead called on us to journey on. Two hours later we arrived in Berlin. ♦

# The Rocket Boys: Meet the St. Andrew's Rocket Team

## By: Paula Sipiara

Mike Cinquino, Age 17

Mike is a senior at Hoffman Estates High School. His interests include robotics, computers, swimming and building rockets. Being on the rocket team, he has learned a great deal about teamwork and physics. Mike's most memorable experience being involved with the rocket team was when on one of their TARC qualifying flights, their rocket drifted into the middle of a lake during a thunderstorm and they had to manually fish it out! After high school, he would like to go to college and major in aerospace engineering. After college, his goal is to work for the aerospace industry, with his dream job being at NASA.

Mike is involved with Academic Honor Roll, Hoffman Estates Water Polo team and he is an active NAR member.



*Mike Cinquino*



Ken Johnson, Age 17

Ken is a junior at Maine South High School. His hobbies include computers, rocketry and sports. Being on the rocket team, Ken has gained the experience, knowledge and opportunities that would have been impossible otherwise. Ken was the Captain of his team and this really helped build his leadership skills. Ken's most memorable experience was launching their rocket on the Redstone Arsenal. He found it amazing to find missile parts, blow up tanks and 30 caliber machine gun bullets on the field. After high school Ken plans to attend the United States Air Force Academy in Colorado Springs, CO. His ultimate goal is to become an astronaut and travel to Mars or to the Moon.

Ken is involved with Honor Roll, football, volleyball, track and field, cross country, and Science Olympiad.

Michael Williamson, Age 17

Michael is a senior at Maine South High School. His hobbies include computer generated imagery, writing, playing the piano and launching rockets. Being on the rocket team, Michael has gained a lot of experience in general understanding, science information and his friendships with the other teammates. His most memorable experience being involved with the rocket team was watching their giant, 13 foot tall, 45 pound rocket lift off with an earth shattering thunder and a six foot long flame. After high school Michael would like to attend the best school he can possibly attend, particularly the California Institute of Technology. After college, he would like to work for a major aeronautical engineering company, make a large sum of money and use it to buy an incredibly impossible engineered home.

Michael is involved with Science Olympiad, Adventure Club, and is interested in obtaining his private pilot license.



*Michael Williamson*



AJ Witzke, Age 16

AJ is a sophomore at Buffalo Grove High School. His hobbies include cross country running, baseball, snowboarding and solving Rubik's cubes and other puzzles. Being on the rocket team, AJ has gained the knowledge to build his own rockets and some engineering background he would not have acquired otherwise. AJ's most memorable experience being involved with the rocket team was when he saw a scale model of the Saturn V launch, at a high-power rocket launch at Midwest power 4. After high school, AJ plans to work on his engineering degree at the University of Alabama. After college, he hopes to work for an aerospace engineering company and he would like to see the rocket team win the Google X-Prize in the next 10 years.

AJ is involved with his school's engineering program "Project Lead the Way", Honors Advanced Algebra and Honors Chemistry.

For more information or to contact the team, please visit their website [www.orionrocketprojectsli.com](http://www.orionrocketprojectsli.com)

## Karl G. Henize Observatory 2008 Schedule

**Summer Hours 8:30 - 10:00 p.m. Fall Semester Hours 7:30 - 9:30 p.m.**

### SUMMER HOURS IN EFFECT

**Aug 8th - Jupiter, Antares, Vega, Ring Nebula, Lagoon Nebula, Omicron Cygni, Albiero, Dumbbell Nebula, Venus, Saturn, Mars, Regulus**

**Aug 22nd - Jupiter, Vega, Altair, Dephinus, M10, M12, M13, M92, M3, Deneb, Omicron Cygni, Albiero**

### FALL HOURS IN EFFECT

**Sept 6th - Jupiter, Altair, Moon, Vega, Ring Nebula, M15, Deneb, Omicron Cygni**

**Sept 20th - Andromeda Galaxy, Dumbbell Nebula, Omicron Cygni, Deneb, Ring Nebula, Altair, M10, M12, M13, M92**

**October 4th - Andromeda Galaxy, M52, Deneb, Sadr, Omicron Cygni, Albiero, Ring Nebula, M57, Vega, M92, Venus, Jupiter**

**October 18th - Venus, Jupiter, Great Square of Pegasus, M31, M15, M52, Double Cluster, Altair, Albiero, M92**

**November 1st - Moon, Venus, Jupiter, M45, Taurus, Double Cluster, M31, Deneb, Vega, Albiero**

**November 15th - Pleiades, Hyades, Aldebaran, M31, Deneb, Saiph, Deneb, Sadr, Vega**

# FUNNIES & FACTS

## QUOTE OF THE QUARTER

**“Give me a place to stand, and I will move the Earth.”**

**-Archimedes**



- ◆ Lightning is 3 times hotter than the surface of the sun.
- ◆ Earth's rotational speed around the Sun = 67,000 mph.
- ◆ Earth weighs in at around 6.6 Sextillion Tons.
- ◆ Earth is hit by 6 tons of meteorites a day, every day.
- ◆ Scientists estimate that between three to five new stars are born every year within our own the Milky Way galaxy.
- ◆ Venus is the only planet in the entire solar system that is named after a female figure.

### Membership Form

Regular Membership      \_\_\_ \$ 20.00 1 year    or \_\_\_ \$ 35.00 for 2 years  
 Family Membership      \_\_\_ \$ 35.00 1 year    or \_\_\_ \$ 60.00 for 2 years  
 Sponsoring Membership   \_\_\_ \$ 50.00 1 year    or \_\_\_ \$ 90.00 for 2 years  
 Contributing Membership \_\_\_ \$ 100.00 1 year   or \_\_\_ \$180.00 for 2 years  
 Student Membership      \_\_\_ \$ 10.00 1 year  
 Life Membership         \_\_\_ \$ 500.00  
 Please accept this donation \_\_\_ \$ \_\_\_\_\_

Please fill out the form completely and return it to:

Name: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 City: \_\_\_\_\_  
 State: \_\_\_\_\_ Zip Code: \_\_\_\_\_  
 Email: \_\_\_\_\_  
 Phone: \_\_\_\_\_

Please make checks payable to

**Planetary Studies Foundation**

Please mail the membership form along with a check to the address below.

Thank you for your support!

***Our mission is to promote the study of planetary science and astronomy with emphasis on meteorites; and to sponsor, encourage, and assist in the physical, astronomical, earth and environmental sciences so as to broaden our knowledge of all phases of the universe.***

### **Contact Us**

**Planetary Studies Foundation**

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**Galena, IL 61036**

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