



SearchLites

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The Quarterly Newsletter of The SETI League, Inc.

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Where Is Everybody?

by H. Paul Shuch, Executive Director Emeritus

No, I'm not reiterating the well-known Fermi Paradox, articulated six decades ago in the context of the assumed extraterrestrials, whose lack of visibility was, and remains, a mystery. Rather, I'm referring to the thousands of SETI League members who have somehow failed to materialize over the past fifteen years. Were we overly optimistic? Or, perhaps, do such supporters not actually exist?

The question became evident during the April, 2010 SETI League Annual Meeting in Little Ferry, NJ. Through the magic of telecommunications, the three participating members constituted a quorum. And that in itself is disturbing.

Our bylaws require that no fewer than one percent of our Members in Good Standing be present, either physically or virtually, for the conduct of SETI League business. The fact that three members satisfied this rigorous requirement correctly suggests that our current, dues-paid membership stands at or below 300 individuals. This is in marked contrast to our heyday of a decade back, when we boasted a membership of 1500 and growing. So, where is everybody?

I'm willing to allow that at least a few former members inadvertently let their memberships lapse. I myself sometimes simply forget to send in the occasional timely dues payment, to various organizations that I normally support. But this possibility hardly accounts for the hundreds of former supporters who, for whatever reason, no longer see fit to count themselves as SETI League members. Did we do something wrong? Frighten them away? Ask too much of them? Or did they simply fade into the aether, like weak signals traversing the interstellar medium?

Like the Fermi Paradox, this question probably has as many possible answers as The SETI League once had members. Here's my favorite, speculative one: we humans are an impatient lot. After years of searching and coming up dry, we've begun to lose interest in the quest for contact.

I hope I'm wrong about this. After all, when SETI science was born a half-century ago, most of its pioneers (though optimistically hoping for immediate success) realistically recognized that this was likely to be a long-term endeavor. Human society, after all, spans tens of thousands of years -- and yet, it is only within the past century that we have begun to develop the kinds of technology likely to yield SETI success. How could we possibly have succeeded so soon?

And yet, like the ADHD schoolchild, we tend to have very short attention spans. We bore easily, become readily distracted, and quickly move on to new challenges. I include myself in this generalization: a decade ago, I was devoting twelve hours a day, seven days a week to The SETI League and its various activities. Today, I've taken on other responsibilities (tried to retire, started a business, accepted a Visiting Professorship, and most recently opened a flight school). True, I still help out as I'm able, but there's only so much energy to devote to what sometimes seems a fruitless endeavor. If I still count myself among those few hundred SETIzens whose membership is still in good standing, it's only because my Life Membership has (thankfully) yet to expire.

And, when it does, who will be left out there to carry the torch? I'd like to believe that the next generation will embrace SETI with the same verve that we graybeards once exhibited. I can imagine that the thousands of students with whom I have come in contact, while giving hundreds of SETI lectures at dozens of campuses on five continents, will graduate to become an enthusiastic and active cadre of SETI practitioners. Maybe some of them will even join The SETI League.

I certainly hope so. Otherwise, it will be even easier to achieve a lonely quorum for next year's Annual Meeting.



Facing the Galaxy: The Faces from Earth Project

by Larry Klaes

For the vast majority of human existence, most members of our species rarely ventured beyond the borders of the places they were born and raised in their entire lives. For them, the whole world consisted of their family and their village. As for the other people in distant lands far away, they often had only a limited awareness of them, based mostly on stories told by visitors who had either been to these exotic realms themselves or knew someone who said they had journeyed there.

Then in the last several hundred years, our knowledge and technologies expanded tremendously. These events allowed us to both explore and understand not only the entire surface of our planet Earth and encounter the many human societies that live nearly everywhere upon it, but also to obtain a true grasp of the much vaster Universe beyond our globe.

Our species came to see that our world is neither at the center nor the bottom of existence, but just one of several planets circling an average star in a galaxy of 400 billion suns with worlds and possibly life of their own. In turn our galaxy, which we call the Milky Way, was realized to be one of perhaps 100 billion other stellar islands in the Universe, and some scientists theorize even that immense cosmic arena may have many companions or perhaps even an infinity of them.

When humanity began to venture in the direction of those numerous points of light in the night sky once we had grasped their true natures, first with telescopes and later with rockets and spaceships, we also pondered who or what might dwell in those faraway alien places and what their reactions might be towards us.

As is often the case when people are confronted with the unknown, wishful thinking, concerns, and fears take over their thinking processes. Alien have become everything in our culture from deities saving humanity from ourselves to monsters hell-bent on enslaving or destroying our species and our planet.

The truth is, in this fiftieth anniversary year of SETI, the Search for Extraterrestrial Intelligence, when astronomer Frank Drake began the modern SETI era by scanning two nearby stars in April of 1960 with a large radio telescope among the rural hills of West Virginia, we have yet to find any serious evidence for other intelligences or even life itself beyond Earth, despite a number of milestones which include the discovery of over 400 exoplanets since the last decade. Nevertheless, certain astronomers and others contend that the chances remain very good for the existence of other culturally and technologically sophisticated species throughout the galaxy.

While various SETI projects run by both amateur and professional people continue to listen and look for other living minds in the Cosmos, a few have decided that with so many stellar systems to investigate, discovering who else is out there might be helped along if we deliberately made humanity's presence known to the galaxy, thus METI, or Messaging to Extraterrestrial Intelligences.

The first deliberate METI efforts began in the 1970s. Among those initial projects were the golden plaques and records carried respectively aboard the space probes Pioneer 10 and 11 and Voyager 1 and 2. Realizing that these robotic vessels would become among the first human artifacts to leave the Sol system after their missions to the outer gas giant planets, Drake and his colleague Carl Sagan and others designed messages and information packages for the beings who might one day find them drifting through the galaxy. For though their original missions would be long over and their mechanical systems shut down and frozen from the deep cold of interstellar space, the probes themselves and the METI artifacts bolted on to them would stay intact for many millions and even billions of years if left undisturbed in the preserving celestial vacuum.

This collection of far-sighted people assumed and hoped that the recipients, no matter how alien they might otherwise be to humanity, would at least have the languages of science and mathematics in common, since it would require a species with a sophisticated technological ability to travel among the stars to find them. Thus the information content of these packages were prefaced and suffused with these presumed universal keys to ease the task of decipherment.

Sagan and his colleagues also noted that a good deal of humanity had a strong interest and various reactions to the Pioneer Plaques and Voyager Records. While some of it remained parochial, from fear of hostile aliens discovering our presence to prudery over sending nude human figures to the stars, many others were captivated and enlightened by the makers' efforts to include a fair sampling of the various human cultures across our world, especially in the case of the Voyager Records, which had music, images, and languages representing a large swath of our species.

These plaques and discs, remarkable as they were, were physically limited in just how much they could tell another species about us or our own descendants who might one day venture into the galaxy and find these artifacts of their ancestors. In addition, not every opportunity to introduce ourselves to the wider Cosmos has been taken up by those who have built later vessels aimed at the stars, stating a lack of time, resources, and interest.

It is so important that a young and developing species such as humanity does not blindly toss its artifacts and eventually members of our own kind into a vast realm full of so many unknowns. Even if we are unaffected by our actions due to our current limitations, our descendants may pay an unfortunate price for our short-sightedness, or we may even cause problems for beings we do not even know exist yet.

Addressing these long-term and far-reaching issues, physicist Tibor Pacher of Hungary has begun a collection of programs aimed at ensuring that all future deep space missions contain information packages that properly represent our species and our world. These programs are also designed to raise awareness and education among the beings of this planet.

The program, known as Faces from Earth, is a part of Dr. Pacher's Peregrinus Interstellar (<http://www.peregrinus-interstellar.net/>), which is devoted to promoting interstellar exploration.

The primary goal of Faces from Earth is to make sure that every space mission leaving our Sol system has some kind of proper representation of its makers' species and their home aboard. Even if the mission team has neither the time nor the interest in adding an information package to their spacecraft, Faces from Earth can provide one for them so that future recipients of vessels from our planet are not left in a state of confusion over who made and sent this craft and why.

One way Dr. Pacher envisions this plan is with Mosaic Earth. This project uses an image of Earth built up from the faces of many people from all over the globe in a holographic form to simultaneously represent our planet and our species. Every human being with access to the Internet can participate in Mosaic Earth and add their face to this representation of our species into the galaxy.

Mosaic Earth and other plans for future information packages on deep space missions will be placed aboard the using the One Kilo Message plan, a container weighing just one kilogram that will carry our messages and information to the stars. The design of these projects is meant to allow the widest capacity and variety of information about humanity that can be placed aboard a spaceship using as little volume as possible to ensure that the main mission of the vessel is not compromised. The Faces from Earth projects will also be designed for flexibility in terms of future improvements in the technology of storing and relaying information.

The other plan for Faces from Earth is bring about a global awareness of the many peoples on our planet and to educate them about astronomy and the Universe in the process. Having many people of all ages and backgrounds involved in this process will naturally lead to these goals.

In summation, the importance of being in essence respectful citizens of the galaxy and giving some kind of valuable legacy to our children is a driving force in the creation of Faces from Earth. It is designed to bring together people from multiple fields and disciplines across human culture to more fully represent the beings and items of our world to the Universe on all future deep space missions. We invite you and those who you think may be interested in such a project to join Faces from Earth to participate in our historic emergence into the Cosmos.

To learn more about Faces from Earth and how you may participate in this global effort to reach the stars, visit here: <http://faces-from-earth.net/>.

Disclaimer: The opinions expressed in editorials are those of the individual authors, and do not necessarily reflect the position of The SETI League, Inc., its Trustees, officers, Advisory Board, members, donors, or commercial sponsors.

Editor's Note: The Faces From Earth website is a recipient of The SETI League's prestigious SETI SuperStar Award.



Event Horizon

SearchLites readers are apprised of the following conferences and meetings at which SETI-related information will be presented. League members are invited to check our World Wide Web site (www.setileague.org) under *Event Horizon*, or email to us at info@setileague.org, to obtain further details. Members are also encouraged to send in information about upcoming events of which we may be unaware.

June 4 - 6, 2010: Rochester Hamfest, Rochester NY.

June 23 - 26, 2010: 17th Annual Conference, Natural Philosophy Alliance, Long Beach, CA.

July 4 - 7, 2010: Society of Amateur Radio Astronomers Conference, NRAO Green Bank WV.

July 22 - 24, 2010: Central States VHF Conference, St. Louis MO.

August 13 - 15, 2010: SETI Institute SETIcon, Santa Clara, CA.

September 2 - 6, 2010: Aussiecon 4, 68th World Science Fiction Convention, Melbourne Australia.

September 27 - October 1, 2010: 61st International Astronautical Congress, Prague, Czech Republic.

October 4 - 8, 2010: Second IAA Symposium on Searching for Life Signatures, Milton Keynes, UK.

November 17 - 18, 2010: IAA 50th Anniversary Celebration, Washington, DC.

November 19 - 21, 2010: Philcon 2010, Cherry Hill, NJ.

April 16, 2011, 0000 UTC - 2359 UTC: Twelfth annual SETI League Ham Radio QSO Party: 3.551, 7.0309, 7.2039, 14.084, 14.204, 21.306, and 28.408 MHz.

April 24, 2011: Seventeenth SETI League Annual Membership Meeting, Little Ferry NJ.

August 17 - 21, 2011: Renovation 69th World Science Fiction Convention, Reno NV.

October 3 - 7, 2011: 62nd International Astronautical Congress, Cape Town, South Africa.

April 21, 2012, 0000 UTC - 2359 UTC: Thirteenth annual SETI League Ham Radio QSO Party: 3.551, 7.0309, 7.2039, 14.084, 14.204, 21.306, and 28.408 MHz.

April 22, 2012: Eighteenth SETI League Annual Membership Meeting, Little Ferry NJ.

September 2012 (dates TBA): Sixth International Congress for Radio Astronomy, Medicina, Italy.

October, 2012 (dates TBA): 63rd International Astronautical Congress, Naples, Italy.

April 20, 2013, 0000 UTC - 2359 UTC: Fourteenth annual SETI League Ham Radio QSO Party: 3.551, 7.0309, 7.2039, 14.084, 14.204, 21.306, and 28.408 MHz.

April 21, 2013: Nineteenth SETI League Annual Membership Meeting, Little Ferry NJ.

April 19, 2014, 0000 UTC - 2359 UTC: Fourteenth annual SETI League Ham Radio QSO Party: 3.551, 7.0309, 7.2039, 14.084, 14.204, 21.306, and 28.408 MHz.

April 20, 2014: Twentieth SETI League Annual Membership Meeting, Little Ferry NJ. ❖

SARA Regional Conference Photos



SETI League member Marcus Leech spoke about the GNURadio project and Software Defined Radios at the March 2010 regional meeting of the Society of Amateur Radio Astronomers (SARA) in California.



Following the SARA regional meeting at Stanford University in March 2010, participants had an opportunity to tour the Stanford Research Institute 150 foot dish facility.



Also at the SARA regional conference, Bob Lash discusses his BAMBI (Bob and Mike's Big Investment) SETI radio telescope.



Executive director emeritus H. Paul Shuch, who had conducted amateur radio moonbounce experiments from the facility 34 years prior, had a chance to sit again at the SRI 150 foot dish's control panel, and observe the significant technological changes. When he operated the dish, it was steered by programming a rack-mounted PDP-8 minicomputer via punched paper tape.

2010 AAAS Photos



SETI patriarch Frank Drake reminisced about fifty years of SETI science at the American Association for the Advancement of Science (AAAS) meeting in San Diego, in February 2010.



Also speaking at the AAAS meeting was Peter Backus, who managed both the NASA High Resolution Microwave Survey (HRMS) and its successor, Project Phoenix.



Sharing the podium at the AAAS SETI panel are (left to right) radio astronomers Frank Drake, Jill Tarter, and Seth Shostak, all of the SETI Institute in Mountain View CA.



A sampling of the modest crowd attended a half-day SETI symposium at the 2010 AAAS meeting in San Diego, in February 2010.

Minutes of the Sixteenth Annual Membership Meeting

18 April 2010, Little Ferry, NJ

- **Call to Order**

The meeting was convened at 13:02 hours EDT, in the Library at SETI League Headquarters, Little Ferry NJ, by Executive Director Emeritus Dr. H. Paul Shuch (attending via telepresence). Three SETI League members in good standing present, either in person or electronically. Our Bylaws requiring one percent of the current membership to be in attendance for the conduct of SETI League business, the above represents a quorum.

- **Minutes of 2009 Membership Meeting**

The Minutes of the 2009 Membership Meeting having been previously posted to The SETI League's World Wide Web site, a motion was passed to accept the minutes as published.

- **Treasurer's Report**

Presented jointly by the Executive Director and the Secretary/Treasurer, covering the calendar year 2009 (as e-filed).

1. Revenues: Dues and Contributions \$26,269, Interest Income \$4, Total \$26,273.
2. Expenses: Educational/Scientific Programs \$17,196, Management/General \$4,441, Fundraising \$1,400, Total \$23,038.
3. Revenues minus Expenses: \$3,235.
4. End of 2009, SETI League account balances equalled \$8,178. 2008 beginning net assets \$4,943.
5. 2010 Budget: Projected Revenues \$20,025, Program Expenses \$17,000, Management/General Expenses \$4,600, Fundraising Expenses \$1,400, Projected deficit (\$1,975), Projected Ending Balance \$6,203.
6. This report was accepted by those present.

- **Executive Director's Report**

The Executive Director's annual report of Program Service Accomplishments having been previously posted to The SETI League's World Wide Web site, a motion was passed to accept the report as published.

- **Committee Reports**

EME Committee

Report by station trustee Richard Factor. A contractor was finally located to assess damage to the moonbounce antennas, which were destroyed by high winds last year. They are scheduled to do a site survey next week to determine whether any of the antenna hardware is salvageable, and to recommend possible replacement. Beacon remains off the air indefinitely.

Awards Committee

Awards Committee chairman David Ocame being absent, executive director H. Paul Shuch announced that the 2010 Giordano Bruno Memorial Award was presented in February, 2010 to SETI@home chief scientist Dan Werthimer. The presentation was made by Dr. Shuch at the American Association for the Advancement of Science (AAAS) meetings in San Diego. There was no Orville Greene Service Award made for 2010. Nominations of worthy candidates are solicited for next year.

- **Old Business**

1. **Very Small Array**

Executive Director Emeritus H. Paul Shuch reports that no further work was accomplished on this technical initiative in the past year, due to lack of funding.

2. **Ostrich Farm Facility**

President Richard Factor reports that this initiative too is on hold due to the current financial situation.

3. **Mid-Year Renewal Letter**

Secretary/Treasurer Heather Wood reported that a mid-year letter was sent in 2009 to expired members dating back to 2003. Several long-expired members re-joined. It was decided that The SETI League will issue such mid-year appeals annually.

4. **Annual Report**

The SETI League's 2009 Annual Report is available to members via the website, in Portable Document Format (PDF).

5. **Volunteer Appreciation**

Gratis renewal for a period of one year was offered again last year to our lapsed Committee Chairs and Regional

Coordinators, conditioned upon their continued volunteer service. Very few members availed themselves of this opportunity. The Volunteer Appreciation program is hereby suspended for 2010. It will be reconsidered at the 2011 Annual Membership Meeting.

6. SARA Proceedings

For the past four years, in lieu of sponsoring a SETICon technical meeting, The SETI League assisted the Society of Amateur Radio Astronomers (SARA), a SETI League affiliated society, in conducting its annual technical conference at NRAO Green Bank WV. The Executive Director Emeritus served as SARA Vice President, SARA Conference Chairman, and Proceedings Editor during those four years. His SARA term of office being concluded, The SETI League will no longer be publishing SARA Proceedings or co-chairing the SARA Conference, though SETI League members are encouraged to participate.

• New Business

1. Web Server

President Richard Factor reports that a new web server has been secured. Interconnect will be by a DSL line which is faster, and less costly, than the T1 connection presently in use. Files have been duplicated on the new server, and a changeover will occur in the near future. Security issues regarding the Members-Only section of the website are still being addressed.

2. Next Meeting

The next Annual Meeting will be held at the same venue. The date of Sunday 24 April 2011 has been approved. The meeting will be at 1300 hours EDT, to be followed immediately by the Board of Trustees meeting. The date and time will be announced to the membership via the website and newsletter.

• Good and Welfare

SETI League officers brought each other up to date on their various medical challenges. All report now being in good health.

• Adjournment

The Annual Membership Meeting was adjourned by the Executive Director Emeritus at 13:26 hours EDT on 18 April 2010. A Regular Board of Trustees meeting followed.

Business Transacted by Board of Trustees:

Quorum Call

Trustees and Officers present: A. Heather Wood, Richard Factor, H. Paul Shuch (the latter two attending via telepresence)

Trustees and Officers absent: Martin Schreiber
A quorum is present.

Election of Officers

The following slate of officers was retained for a one-year term:

President - Richard Factor

Secretary/Treasurer - A. Heather Wood

Executive Director Emeritus - H. Paul Shuch, serving on a volunteer basis.

Registered Agent

The New Jersey Division of Revenue requires that we designate a Registered Agent to execute certain state documents. Richard Factor was previously appointed to this post, and has agreed to continue serving in this capacity for an additional year.

Personnel matters

In executive session, the Board of Trustees voted to continue cost-sharing of Executive Director Emeritus' health insurance premiums, as an administrative expense, pending availability of funds and subject to periodic review. Dr. Shuch abstaining.

Advisory Board

Establishment of a secure email alias, to permit the Executive Director Emeritus to communicate with Advisory Board members on an occasional basis, was authorized last year. This action is on hold, pending activation of the new Web server.

Bank Fees

Fees charged for our various bank accounts were discussed. The Secretary/Treasurer will contact our financial institutions, in a further effort to have those fees reduced.

Respectfully submitted, A. Heather Wood, Secretary

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Annual Renewal: Is This Your Last SearchLites?

SETI League memberships are issued for the *Calendar Year*. Please check the expiration date indicated on your mailing label. If it reads December 2009 or earlier, you have already expired, and *must* renew your SETI League membership **now!** Please fill out and return this page along with your payment.

Please renew my membership in this category:

Full Member	\$50 / yr
Supporting Member (elderly, retired, or disabled)	\$35 / yr
Scholarship Member (full-time students only)	\$25 / yr
Household Member (same address as a Full Member)	\$15 / yr
Household Life Member (same address as a Life Member)	\$300
Life Member (until we make contact)	\$1,000
Sustaining Life Member – a generous <i>annual</i> pledge of:	\$1,000 / yr
Patron (priority use of The SETI League's radio telescope)	\$10,000
Director (Patron membership plus seat on advisory board)	\$100,000
Benefactor (a major radio telescope named for you)	\$1,000,000

Annual memberships are issued for the calendar year. Those processed in January through April expire on 31 December of that year. Those processed in September through December expire on 31 December of the *following* year. Those members joining in May through August should remit half the annual dues indicated, and will expire on 31 December of the same year.

Order Your Membership Premiums:

	(u/c)*	(o)*
Pocket protectors	\$ 3	\$ 4
Mouse pads	\$ 5	\$ 7
<i>Tune In The Universe! (CD-ROM)</i>	\$25	\$30
<i>Proceedings of SETICon01</i>	\$20	\$27
<i>Proceedings of SETICon02</i>	\$20	\$27
<i>Proceedings of SETICon03 (CD)</i>	\$15	\$17
<i>Proceedings of EuroSETI04 (CD)</i>	\$15	\$17
<i>Proceedings of SETICon04(CD)</i>	\$15	\$17
<i>SARA Conference Proceedings:</i>		
2006, 2007, 2008, 2009 (specify)	\$20	\$27
<i>SETI League Technical Manual (CD)</i>	\$10	\$13
<i>Project Cyclops 2nd Edition</i>	\$20	\$30
<i>The Listeners</i> by James Gunn	\$15	\$21
<i>Sing a Song of SETI (Songbook)</i>	\$10	\$13
<i>Sing More Songs of SETI (Songbook)</i>	\$10	\$13
<i>Sing a Song of SETI (music CD)</i>	\$15	\$17
<i>Demented! (music CD)</i>	\$15	\$17
T-shirts, specify M, L, or XL	\$15	\$22
SETI Nerd Gift Set (one each Mouse Pad, Pocket Protector, <i>Project Cyclops</i> and <i>Tech Manual</i>) at 20% Savings to <u>Members Only</u> :	\$30	\$43

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The SETI League invites you to pay your membership dues and additional contributions via credit card, using the PayPal online payment system. Simply log on to www.paypal.com and specify that your payment be directed to paypal@setileague.org.

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