



SearchLites

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The Quarterly Newsletter of The SETI League, Inc.

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Entering the Twenty-First Century

by H. Paul Shuch, Executive Director Emeritus, The SETI League, Inc.

One would assume that an organization whose mission is to seek contact with our cosmic companions would be well versed in the very latest in communications technology, wouldn't one? If so, one would be wrong.

It's not as though The SETI League hasn't tried. More than twenty years ago, one of my first tasks as your Executive Director was to establish a significant presence on the newly emerging Internet. A nonprofit with a global reach, I reasoned, must develop a conduit for educating and informing not just its members, but the general public as well. An expansive website seemed the ideal way to accomplish this, so with the assistance and encouragement of Heather Wood (now our secretary/treasurer), I began to teach myself the fine art of webmastering.

HTML the old-school way required me to learn the relevant tags, and then type them directly into a simple text editor, taking great care to leave no tag stranded, abandoned and unpaired. This was before the advent of today's fancy web editing software, that turns any document instantly and automatically into hypertext (albeit replete with an abundance of extraneous tags, the digital equivalent to the volumes of junk DNA that inhabit and expand the human genome).

Website in place, I set about to establish a plethora of email discussion groups, allowing collaboration between our members in a wide variety of interdisciplinary SETI's multiple sub-specialties. For quite a while our membership was very well connected. And it worked.

Then, seemingly overnight, the digital communications landscape changed. Suddenly, websites were becoming passe, as social networking began to dominate. Powerful handheld devices allowed us to tweet, text, post, like, follow, and share anything, with anyone, from anywhere. The SETI League was slow to respond, clinging steadfastly to our email lists and weekly web updates. In doing so, we began to lose our appeal to the younger generation on which we depend for the very future of SETI, which itself was looking more and more like a multi-generational endeavor, offering little to he or she who demands instant gratification.

Last year, The SETI League finally took a bold and belated step into the future, with the establishment of an aggressive Facebook presence. Slowly, our website was relegated to providing an historical archive, province to evergreen content, while fast-breaking news in support of our members' instantaneous communications needs began to migrate to www.Facebook.com/setileague. The transition was traumatic for some, but inevitable.

To those of our members (and there have been more than a few) who say "I don't do Facebook," I say, give it a try. I post pictures and updates just a few times a week, trying to find the sweet spot between isolation and information overload. And, I encourage you to post your SETI-relevant thoughts and photos there from time to time. Working through social media, we can communicate and collaborate more effectively. If you happen to hear from ETI, won't you ask him to post?



www.facebook.com/setileague

Minutes of the Twenty-First Annual Membership Meeting

19 April 2015, Eventide Inc, Little Ferry, NJ

- **Call to Order**

The meeting was convened at 13:00 hours EDT at Eventide Inc. (adjacent to SETI League Headquarters) in Little Ferry NJ, by Executive Director Emeritus Dr. H. Paul Shuch (in attendance via teleconference). Three SETI League members in good standing present. The SETI League currently has 131 members in good standing. Our Bylaws requiring one percent of the current membership to be in attendance for the conduct of SETI League business, the attendees represent a quorum.

- **Minutes of 2014 Membership Meeting**

The Minutes of the 2014 Membership Meeting having been previously posted to The SETI League's World Wide Web site, a motion was passed to accept the minutes as posted.

- **Treasurer's Report**

Developed jointly by Dr. Shuch and Secretary/Treasurer Heather Wood, covering the calendar year 2014 (as e-filed).

- Revenues: Dues and Contributions \$15,998; Interest Income \$1; Total \$15,999.
- Expenses: Educational/Scientific Programs \$11,578; Management/General \$1,547; Fundraising \$1,453; Total \$14,579.
- Revenues minus Expenses: \$1,421.
- End of 2014, SETI League account balances equaled \$6,147. 2014 beginning net assets \$4,725.
- 2015 Budget: Projected Revenues \$15,000; Program Expenses \$11,500; Management/General Expenses \$1,600; Fundraising Expenses \$1,500; Total Expenses \$14,600; Projected excess \$400; Projected Ending Balance \$6,547.
- This report was accepted by those present.

- **Executive Director's Report**

During 2014, the Executive Director:

- published four issues of SearchLites, the quarterly newsletter of The SETI League, Inc.
- gave SETI public presentations in Toronto ON, Green Bank WV, Oak Ridge TN, and Hunt Valley MD
- performed 52 weekly updates of The SETI League website
- posted 57 photos and 50 links and comments to The SETI League Facebook page
- conducted several press interviews
- served as co-chair and webmaster for the IAA SETI Permanent Committee
- responded to several dozen email and telephone inquiries from members and prospective members.

- **Committee Reports**

- **EME Committee**

Report by SETI League president and station trustee Richard Factor. The EME beacon remains off the air following Mr. Factor's relocation to Arizona. He now has an antenna tower installed, and has retained a roofing contractor to confirm the structural integrity of his roof, as a future mounting location

for an EME antenna. Thus, Mr. Factor has "started to begin contemplating whether to think about maybe considering" EME from his new location.

- **Awards Committee**

Awards Committee chairman David Ocame being absent, report provided by Dr. Shuch. There were no Giordano Bruno Awards or Orville N. Greene Awards presented during 2014. Twelve websites have been given the SETI SuperStar award this year. More nominations are requested from the members. Paul will note this in the next issue of *SearchLites*.

- **Old Business**

1. **Very Small Array**

Dr. Shuch reports that the project remains on hold, due to lack of funding, with no progress to report since last year.

2. **Mid-Year Renewal Letter**

Last May, Ms. Wood emailed a mid-year appeal to lapsed members, with hardcopies to be distributed to members for whom we have no current email address. This letter generated three or four reinstatements of lapsed members. The November renewal letter generated six more renewals of lapsed members. Sending of these letters will continue for 2015.

3. **Annual Report**

Publication of The SETI League's 2014 Annual Report was delayed pending receipt by the Executive Director of 2014 financial information, and adoption of the 2015 annual budget. It will be made available to members via the website, in Portable Document Format (PDF), later this month. Ms. Wood will distribute hard-copies of this report to our major donors.

4. **Web Server**

Mr. Factor reports that new servers continue to operate with outstanding reliability, and the website remains online and working properly. Weekly web updates are still being performed manually. Though our email list server remains offline, we continue to use commercial email service for official SETI League communications.

- **New Business**

- **Next Meeting**

The next Annual Meeting will be held on Sunday 17 April 2016. The date has been verified as not in conflict with Easter, Passover, or US tax season. The meeting will be at Eventide, Inc. 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. Arrangements for telepresence will be considered at a later date.

- **Good and Welfare**

- The SETI League's Facebook page www.facebook.com/setileague has now generated 674 "likes", numerous member posts, and considerable discussion among members.
- Ms. Wood has upgraded The SETI League's applications software on her new Windows 8 laptop computer.
- Mr. Factor reported on the planned sales of his New Jersey properties, and Dr. Shuch reported on the successful sale of his late parents' California home.

- **Adjournment**

The Annual Membership Meeting was adjourned by the Executive Director Emeritus at 13:22 hours EDT on 19 April 2015. A Regular Board of Trustees meeting followed.

Business Transacted by Board of Trustees:

1. **Quorum Call**
Trustees and Officers present: A. Heather Wood, Richard Factor, H. Paul Shuch
Trustees and Officers absent: Martin Schreiber
A quorum is present.
2. **Election of Officers**
The following slate of officers was retained for an additional one-year term:
President - Richard Factor, serving without compensation.
Secretary/Treasurer - A. Heather Wood
Executive Director Emeritus - H. Paul Shuch, serving on a volunteer basis.
3. **Personnel matters**
 - No executive session was convened nor Personnel reviews conducted, as all persons involved expressed satisfaction with present performance and arrangements.
 - The Executive Director Emeritus reviewed with the Board of Trustees the previously adopted terms for cost-sharing of his health insurance premiums, as a program expense, which will continue at last year's level, pending availability of funds and subject to periodic review.
4. **Annual Budget**
The draft 2015 Budget presented during the Membership Meeting was adopted.
5. **Advisory Board**
The Executive Director Emeritus will draft an annual letter to our Advisory Board members, thanking them for their continued service to The SETI League.
6. **Bank Fees**
The Secretary/Treasurer has an appointment pending with a business account manager at Bank of America, which will lead to termination of the bank account currently being used to process credit card payments. Arrangements are being made to accept credit cards through Square.
7. **Registered Agent**
The New Jersey Division of Revenue requires that we designate a Registered Agent to execute certain state documents. Mr. Factor was previously appointed to this post, but is no longer a New Jersey resident. The Secretary/Treasurer will request that one of our New Jersey resident members take on this duty.
8. **Press List**
As the press corps has proved resistant to using Facebook as a means of disseminating SETI League information, the President will investigate reestablishing a SETI League press email distribution list.
9. **Adjournment**
The Board of Trustees meeting was adjourned at 13:36 EDT.

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 21 - 24, 2015 *Society of Amateur Radio Astronomers Conference*, National Radio Astronomy Observatory, Green Bank WV.

August 19 - 23, 2015: *Sasquan*, the 73rd World Science Fiction Convention, Spokane, WA.

October 12 - 16, 2015: *66th International Astronautical Congress*, Jerusalem, Israel.

February 11 - 15, 2016: *AAAS Annual Meeting*, Washington, DC.

April 16, 2016, 0000 UTC - 2359 UTC: Sixteenth annual SETI League *Ham Radio QSO Party*: 3.551, 7.0309, 7.2039, 14.084, 14.204, 21.306, and 28.408 MHz.

April 17, 2016, 1300 EDT: Twenty Second SETI League *Annual Membership Meeting*, Little Ferry NJ.

May 27 - 30, 2016: *Balticon 50*, Baltimore, MD.

August 17 - 21, 2016: *MidAmeriCon II*, the 74th World Science Fiction Convention. Kansas City, MO.

October 2016 (dates to be announced) : *67th International Astronautical Congress*, Guadalajara, Mexico.

April 15, 2017, 0000 UTC - 2359 UTC: Seventeenth annual SETI League *Ham Radio QSO Party*: 3.551, 7.0309, 7.2039, 14.084, 14.204, 21.306, and 28.408 MHz.

April 16, 2017, 1300 EDT: Twenty Third SETI League *Annual Membership Meeting*, Little Ferry, NJ.

October 2017 (dates to be announced) : *68th International Astronautical Congress*, Adelaide, Australia. ❖



Want a painless way to support The SETI League? Browse to www.smile.amazon.com. In the "Pick your own charitable organization" box, just type in "SETI League." Now, every time you shop Amazon, they will donate a half percent of your purchase price to SETI research!

Financial Report

Seen below is The SETI League's unaudited financial statement for the calendar year 2014, as filed with the Internal Revenue Service.

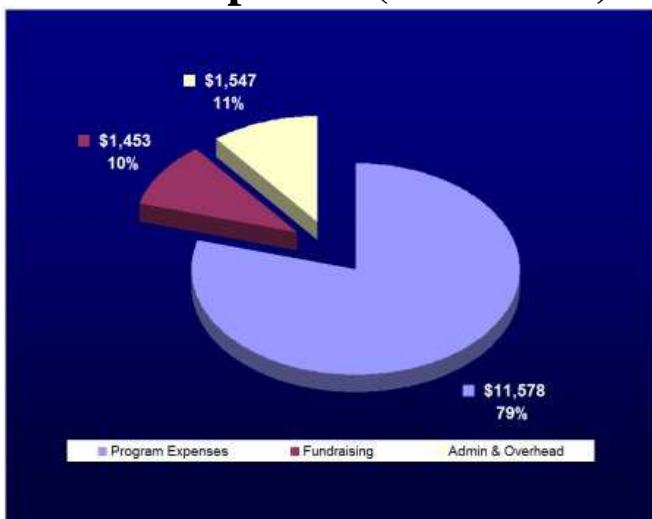
990 Line	REVENUES:	2014 (budget)	2014 (filed)
1d	Dues, Grants & Contributions	15,000	15,998
4	Interest & Investments	1	1
12	Total Revenues:	15,001	15,999
	EXPENSES	2014 (budget)	2014 (filed)
13	Educ. and Scientific Programs	11,520	11,578
14	Management & General	1,600	1,547
15	Fundraising	1,450	1,453
17	Total Expenses:	14,570	14,579
18	Excess or (Deficit) for the year	569	1,420
	BALANCE SHEET:	2014 (budget)	2014 (filed)
19	Beginning Net Assets	4,825	4,726
21	Ending Net Assets	5,394	6,147

Annual Budget

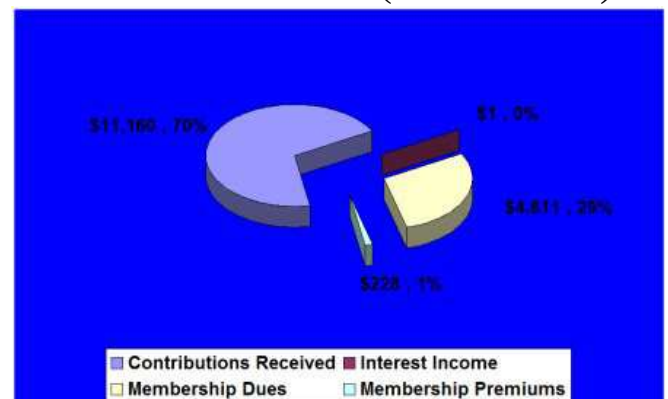
Shown below is The SETI League's proposed operating budget for the calendar year 2015, as adopted by the Board of Trustees.

990 Line	REVENUES:	2015 (budget)	2015 (filed)
1d	Dues, Grants & Contributions	14,999	pending
4	Interest & Investments	1	pending
12	Total Revenues:	15,000	pending
	EXPENSES	2015 (budget)	2015 (filed)
13	Educ. and Scientific Programs	11,500	pending
14	Management & General	1,600	pending
15	Fundraising	1,500	pending
17	Total Expenses:	14,600	pending
18	Excess or (Deficit) for the year	400	pending
	BALANCE SHEET:	2015 (budget)	2015 (filed)
19	Beginning Net Assets	6,147	pending
21	Ending Net Assets	6,547	pending

2014 Expenses (unaudited)



2014 Revenues (unaudited)



Guest Editorials:

An appraisal of METI Rationalizations

by David Brin

Anyone who ever watched the film CONTACT knows about SETI, listening for signs of other civilizations, sifting for that needle in the Cosmic Haystack. For decades, this inexpensive and scientifically valid Search for Extra-Terrestrial Intelligence has risen in public esteem. Consider how quickly we're learning about the cosmos; twenty years ago, humanity knew of no planets, outside our solar system. Now we've catalogued thousands. It only seems sensible to peer about for signs of sapience, out there. No matter whether you're an optimist about First Contact or a pessimist - and whatever you deem to be the odds - it never hurts to improve our situational awareness, right?

So, how's that search for aliens going? I've been involved, both as an astronomer and an author of science fiction novels, for forty years. And so far, our best searches haven't uncovered a peep.

This null result does not prove no one's out there! Space is big! But it does have a lot of us poking at the famous Drake Equation and what has come to be called the "Fermi Paradox," pondering why advanced and detectable civilization does seem to be... well... at least a bit sparse in our local neighborhood. And this may be why some SETI-ists have declared a new ambition - to poke at the experiment by sending out beams, rather than just listening. Shouting into the cosmos.

METI - Messaging to ETI, (also known as Active SETI) - is controversial. Proponents seek to transform one of Earth's basic traits, its radio profile, without submitting their plan for peer criticism or environmental impact study. Many of us want to delay changing a major, observable trait of Earth, long enough to first hold wide-ranging discussions, including our finest sages and the public. Because all of the excuses offered by METI-zealots turn out to be flat-out wrong.

Take their centerpiece - the so-called "barn door" assertion: that it is useless to delay sky-beaming projects, because that would be like trying to close a stable, after the horses already bolted. In other words, military radars and big TV broadcasts, especially during the our planet's noisiest decade - the 1980s - were already loud enough for ET to know there's a technological race fussing around, down here. After so many Hollywood films, any member of the public might assume we're heard everywhere! In fact, even the METI guys admit that 1980s Earthnoise faded into background within half a light year --

-- unless a super advanced race out there aimed truly humungous space-dishes the size of Connecticut our way, pointing at a trillionth of a trillionth of the sky, for dwell times up to a year -- necessary because TV and radar are non-coherent, dopplered by Earth's rotation, and muddled by many overlapping transmitters. Sure, such super-duper alien dishes might be built in vast numbers. (I even portray this, in my novel *Existence*.) Or maybe not. The key point is that there is no "of course" to the Barn Door assertion. It is not a given that aliens automatically already know we're here.

Mind you, there are a few transmitters on Earth that could be detected at interstellar ranges, not from leakage" but delib-

erate, narrow, coherent and concentrated beams. Arecibo is one of these and there are perhaps five more called Planetary Radars. Try signaling to someone on a far-off boat with a match, then with a large laser-pointer. That's roughly the difference between these planetary radars and the ones at your typical airport.

The real answer to the Barn Door Excuse is simple. METI zealots aim to draw attention to our world, by aiming laserlike beams that multiply Earth's at-target visibility many millions-fold. They aim to achieve an effect! Which means that they do not believe that ET already knows about us, after all.

There is another talking point raised by these fellows -- that moratoria and pre-discussions do not work. They dismiss the "Precautionary Principle, that even low probability outcomes should be examined, if their potential for harm might be great. Above all, they assert that it is pointless to worry about potential risks that have no known example.

That assertion is decisively disproved by counterexample. For example, NASA maintains a vigorous Planetary Protection Office, tasked with reducing potential harm in missions to other worlds. Probes that will land on another body, such as Mars, are given extra cleaning and sterilization, to minimize the possibility that Earthly microbes might be released onto the red planet. These efforts are redoubled when samples get returned home to Earth. These measures are not expected to be perfect, nor ever to thwart exploration. And there are many other such endeavors. Our civilization has already decided - in principle and in practice - that moderate expense for reduction of risk is worthwhile, even with regard to a "danger" that has no known example. Especially when precautions do not obstruct (over the long run) mature science.

Nor would any moratorium on transmission be permanent. How could it be? Here on Earth, given rapid advances of technology and a rambunctiously individualistic civilization, the capability to transmit laser-like signals that might be detectable across many light years will be in private hands, within a decade or two. Permanent "muzzling" was never proposed and is quite infeasible. Nevertheless, a world discussion before that day arrives can have only positive effects.

The point here is that it is possible for reasonable people to get past their "of course" assertions in the course of collegial processes that are proved to have addressed "low-probability but high-impact" concerns.

In the 1980s, members of the SETI community developed a Declaration of Principles (better known as the first SETI Protocols) that established procedures for handling the detection of an alien signal or other evidence of an extraterrestrial civilization. The basic principles are three: confirm the detection; announce a confirmed detection to the world; do not send a message to the detected intelligence until an international process of consultation has taken place. The Second Protocol - in its original, widely accepted form - called for such extensive consultation before de novo calls into the cosmos (not responding to a detection.) That was the whole and entire purpose of the Second Protocol.

While the Protocols were never formally adopted by any governments or international bodies, they achieved the only slightly-lower potency of a "declaration of best practices" that was accepted by consensus by almost everyone in the astro-

nomical community who had appreciable involvement in SETI. Unfortunately, a very small group of METI enthusiasts have declared the Second Protocol to be moot.

To be clear, those of us who want pre-discussions, before METI do not object to theoretical studies, for example drafting and critiquing detailed messages could leave us better prepared for certain contact scenarios. Indeed, several of us METI-dissenters openly participate in such activities, such as the endeavor to upload "messages" onto the New Horizons spacecraft, after it races past Pluto. Indeed, the value in attracting interest from the worldwide public - especially world-youth -- is appreciated. Indeed, the "pre-discussions" we seek could be televised, involve the world's most fascinating sages, and draw tens of millions of avid participants from the general public. In fact, we remain confused as to why the zealots wouldn't want that.

These are the sorts of activities we should be pursuing, instead of slinging un-vetted and potentially dangerous screams for attention into space, arrogating a never-earned right to speak for all of humanity.

Is there anything that can be tested, right away, in SETI and in METI? I contend that there is one experiment we can do swiftly and cheaply. Take a few dozen semi-randomly chosen, modern and college educated citizens without previous bias and poll them about METI without much background prep. Just maybe 5 minutes each from proponents and opponents to transmissions from Earth, followed by a simple straw vote on Active SETI. From experience, I deem it almost certain a majority will side - initially - with the METI guys.

But then, in phase two, expose that panel to a few hours of extensive tutorials about SETI, about the 'cosmic haystack' and the Fermi Paradox and the scale factors of the Barn Door Excuse... and I bet this will reverse. A majority will urge extended moratorium with large scale and eclectic-scientific pre-discussions - in front of a world audience - before sky-beamings should commence. Preliminary straw polls at both the Royal society and AAAS went exactly this way.

That is my challenge. A testable hypothesis. A simple test of which direction intelligent citizens sway, in proportion to how much more they learn about this topic - one of the most fascinating ever to land before our educated and science-fascinated public.

The Goldilocks Principle

by Dan Duda

from the March, 2015 issue of Penn Central, used by permission

In 1950, physicist Enrico Fermi observed that Earth and our Solar System seem to be a fairly typical example of what the universe is like, everywhere. And, given the age of the universe, he felt that there should be millions, maybe even billions, of sentient civilization

s, many of whom would likely be more advanced than us, technologically. So he asked the obvious question: "where is everybody? Why haven't we been contacted, or at the very least, why don't we detect evidence of their communications?"

Ah - two important words: "their communications." Now, consider the history of communications technology. In the relatively short history of humans, we've gone from tom tom

drums to smoke signals to Pony Express to telegraph to telephones, etc. on to radio astronomy. Our ability to even begin the search for extraterrestrial signals is very recent. What makes us think that these "more advanced civilizations" would be using the communications technology that we just recently discovered? In fact, in my humble opinion, it is very likely that they will have developed far more efficient methods - methods that might compensate for the incredible time delays we find in the speed of light limitations. Not to mention the dilution factor that occurs with distance.

We set about looking for life elsewhere in the universe by checking for signs that we ourselves would generate. That's a huge assumption. Why wouldn't other sentient life forms leave totally different spoor? And while we wait for our own advanced methods. why don't we brain storm what those signals might be like instead of writing off (as too many do) the work of a group like The SETI League?

So what's the point, and what does this have to do with Goldilocks? Well, there's another answer to the question of life in the universe that many philosophical cosmologists offer. It's called the anthropic principle. This idea deals with the incredible balance of factors required of our universe, our solar system, our planet and the particles that make up everything to allow for the existence of life. If just one factor, like the strength of the strong nuclear force in the atom, or Planck's Constant, was just slightly different, we wouldn't exist. Not surprisingly this idea quickly attracted the nickname "Goldilocks Principle" because it suggested that everything in the universe had to be *just right* for us to be here.

[Caveat lector] But why do we assume the anthropic principle couldn't work in other environments that are inhospitable to life as we know it (LAWKI) - but perfect for some other sentient entities that represent life as we *don't* know it?

Some scientists are now taking seriously the idea that the universe itself is sentient. I feel it's possible that the universe, if sentient, could be experimenting—and that our "perfect balance" of factors is just one possible laboratory of life.

OK, tying this back into the main theme, what spoor might these entities leave for us that would convince us of their existence? Consider the volume of particles in a star—and the dynamics that occur there. Why wouldn't it be possible for the forces and energy to arrange those particles in a way that might result in sentience? When you think about it, doesn't that seem even more likely than life on Earth considering the relative paucity of factor here?

In the immortal words of Vaclav Havel, former president of the Czech Republic, "I think the Anthropic Cosmological Principle brings us to an idea perhaps as old as humanity itself: that we are not at all just an accidental anomaly, the microscopic caprice of a tiny particle whirling in the endless depths of the universe. Instead we are mysteriously connected to the entire universe..." ❖

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.

SARA Western Conference, March 2015, Stanford Univ.



In late March, the Society of Amateur Radio Astronomers (SARA), a SETI League sister society, held a Western Conference on the Stanford University campus. Numerous SETI League members were among the three dozen attendees.



Stanford University kindly provided a lecture hall in the astrophysics building for SARA technical presentations.



Jill Tarter, Jack Welch, and H. Paul Shuch at the SARA Western Conference at Stanford. Years ago at Berkeley, Jack was one of Paul's grad school research advisors.



Paul Shuch reconnected with his old friend (and fellow SETI League member) Walt Miller at the SARA Conference. Walt works at the NASA Ames Research Center.



Prof. Jack Welch explains the new antenna feed design for the Allen Telescope Array.



Paul Shuch presents a tutorial on the electromagnetic spectrum for SARA Western Conference attendees



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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 2014 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

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Pocket protectors	\$ 3	\$ 4
Mouse pads	\$ 5	\$ 7
<i>Tune In The Universe!</i> (CD-ROM)	\$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</i> (Songbook)	\$10	\$13
<i>Sing More Songs of SETI</i> (Songbook)	\$10	\$13
<i>Sing a Song of SETI</i> (music CD)	\$15	\$17
<i>Sing More Songs of SETI</i> (music CD)	\$15	\$17
<i>Demented!</i> (music CD)	\$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

***Includes postage to (u/c) US/Canada, or (o) other locations**
Payments in US Dollars, check payable through a US bank

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:

Pleased to Accept PayPal

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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