



The SETI League, Inc.

2013 Annual Report
Issued 8 April 2014

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Contents:

Vision and Mission Statements	2
A message from our Executive Director	3
The Case for Amateur SETI	4
Program Service Accomplishments – Science	5
Program Service Accomplishments – Technology	6
Program Service Accomplishments – Public Education	7
Program Service Accomplishments – Media and Outreach	8
Trustees and Officers	9
Financial Highlights	10
Financial Results – 2013	11
Annual Budget – 2014	12
2013 Donors	13
Major Donations, Since Inception	14
Additional Information	15

SETI scientists seek to determine, primarily through microwave and optical measurements, whether humankind is alone in the universe. Since Congress terminated NASA's SETI funding in 1993, The SETI League and other scientific groups have been attempting to privatize the research. Experimenters interested in participating in the search for intelligent alien life, or citizens wishing to help support it, should visit us on the Web at <http://www.setileague.org/>, email to join@setileague.org, send a fax to +1 (201) 641-1771, or contact The SETI League, Inc. membership hotline at +1 (800) TAU-SETI. Be sure to provide us with a postal address, to which we will mail further information. The SETI League, Inc. is a membership-supported, non-profit [501(c)(3)], educational and scientific corporation dedicated to the electromagnetic Search for Extra-Terrestrial Intelligence.



SETI League Vision

Recognizing that confirmed evidence of extraterrestrial intelligence will change forever our view of humanity's place in the cosmos, The SETI League, Inc. envisions a worldwide network of amateur and professional scientists working together to hasten our entry into the galactic community.

SETI League Mission

To encourage and support the Search for Extra-Terrestrial Intelligence by:

1. attracting a wide range of amateur and professional scientists into the SETI community;
2. developing technologies to assist the SETI experimenter in assembling a workable radio or optical SETI observatory;
3. disseminating hardware and software designs in support of SETI;
4. coordinating SETI experimenters worldwide in conducting a thorough sky survey;
5. providing a variety of forums and media for wide-ranging communication among SETI experimenters, enthusiasts, and organizations;
6. designing, assembling, and operating advanced optical and radio telescopes;
7. identifying and publicizing potential spin-off applications of SETI technologies; and
8. raising public consciousness as to the importance and significance of a broad-based Search for Extra-Terrestrial Intelligence that encompasses a variety of strategies.

A message from our Executive Director Emeritus:

Contemplating Mortality

by Prof. H. Paul Shuch

As this Annual Report goes to press, I have just received the sad news of the passing of Tom Pierson, my counterpart at the SETI Institute. Tom (seen below with the Flag of Earth) was four years my junior and, although I knew about his long battle with cancer, I somehow always thought he'd outlive me. So, his death forces me to stare my own mortality squarely in the face.

Tom was more than just a professional colleague; in the three decades we knew each other, he became a friend, advisor, and confidant. By the time The SETI League was founded, Tom had already headed up our (admittedly larger and better known) sister organization for a decade. We had met in that organization's early days, at a SETI conference organized by Tom at the California Academy of Sciences. At the time, I was an academic trying to incorporate SETI science into my engineering curriculum. Tom was already a seasoned administrator (a job to which I never particularly aspired).

When founder Richard Factor tapped me as The SETI League's founding Executive Director, one of the first people I contacted was Tom Pierson. His wealth of administrative experience made it possible for him to guide me through the paperwork morass of creating bylaws and operating rules and policies and procedures. If you look closely, you will see his fingerprints all over The SETI League's website. Ever generous with his time, Tom also took the extra step of becoming a SETI League Charter Member. His membership would gladly have been issued gratis, but Tom insisted on paying his dues.

What Tom's passing reminds me is that SETI is most likely a multi-generational pursuit. It is altogether possible that not one of us now involved in SETI science will still be sentient when success is finally achieved. Owing to his long illness, I think Tom knew this, perhaps better than the rest of us. Not that it deterred him.

Or, we could hit pay-dirt tomorrow (Tom would have liked that). We just don't know. Whatever success the SETI Institute achieves, whether long-term or short, is a lasting legacy to Tom Pierson's passion and tenacity. I could ask for no better a role model as I contemplate our place in the cosmos, and the brevity of our individual existence.





The Case for Amateur SETI

When the NASA SETI Program was cancelled in 1993, the US government accomplished three things: they reduced their science expenditures by 5 cents per US citizen per year; they reduced the federal deficit by 0.0006%; and they drew a curtain across the sky, shielding us from possible membership in the cosmic community. The initial reaction most SETI supporters was dismay. That gave way to elation a year later, with the founding of The SETI League and the privatization of SETI science.

The giant radio telescopes once employed to scan the heavens for signs of life have a limitation. They are incredibly sensitive, but can only view a tiny portion (perhaps a millionth) of the sky at a given time. That means that if such an instrument is turned on, at precisely the right frequency, at precisely the instant The Call comes in, there's still a 99.9999% chance it will be pointed the wrong way.

One solution is to build a network of a million such instruments. But, at a cost of a hundred million dollars apiece, we'll quickly exceed the Gross Planetary Product.

Fortunately, there is another way. Amateur radio telescopes are less sensitive than NASA's dishes, but each can see two hundred times more sky. Which means that only five thousand of these smaller instruments (which cost only a few hundred to a few thousand dollars apiece to build) can, if properly coordinated, accomplish something which no government project ever contemplated: See in all directions at once.

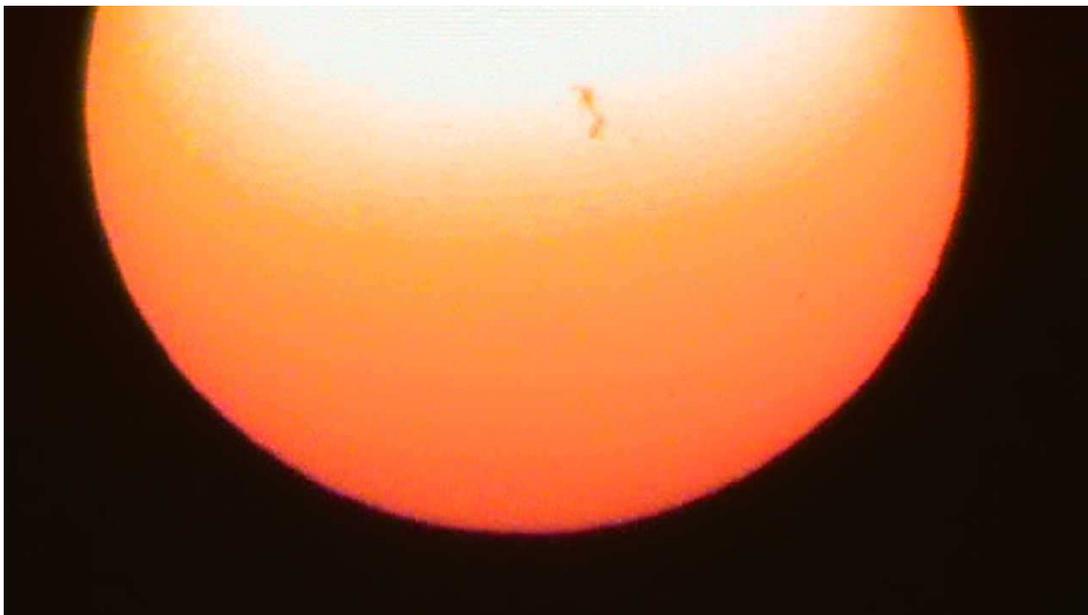
Around the world, around 150 of such amateur radio telescopes have already been built, using discarded satellite television dish antennas, home computers, and readily available signal analysis software. The SETI League envisions a day when thousands of stations will be online, and our great goal achieved: that no direction on the sky shall evade our gaze.

Privatized science makes good sense. When governments get involved in large-scale projects, they often end up taking twice as long, costing twice as much, and working half as well. The SETI League is now doing its modest search on just half a percent of NASA's old SETI budget. But, we do need your support and participation, to keep that search alive. Whether you choose to operate your own radio telescope, to help develop new technology, or merely to share vicariously in the thrill of discovery, you are invited to join The SETI League. Together, there's no limit to what we might yet accomplish.

Program Service Accomplishments – Science

During 2013, The SETI League and its members made the following contributions to radio astronomy and SETI science:

- Supported 147 Project Argus radio telescopes built by members in 27 countries on all seven continents. Coordinated their SETI and astrophysical observations. Argus stations analyzed and cataloged several new candidate signals during 2013.
- Members' stations continued to monitor telemetry signals and science beacons from several NASA and ESA interplanetary space probes.
- Members provided leadership (as chair and vice-chair) to the SETI Permanent Committee of the International Academy of Astronautics.
- SETI League members continue to lend computer support to the SETI@home distributed computing experiment, through the Berkeley Open Infrastructure for Networked Computing (BOINC).



Just before sunset in Vadodara, India, amateur astronomer Divyadarshan Purohit captured this image of massive sunspots ten times the size of Earth, from the terrace of Gurudev Observatory. The picture was taken with a Sony Handycam, proving that you don't need expensive equipment to photograph nearby astronomical events.

DD Purohit photo

Program Service Accomplishments – Technology

During 2013, The SETI League and its members made the following contributions to SETI science and technology:

- Assisted several members in upgrading their Project Argus radio telescopes.
- Responded via email to numerous technical queries from members and the general public.



With his Project Argus antenna in the background, Executive Director Emeritus Dr. H. Paul Shuch shows off the 2013 Orville Green Service Award and Giordano Bruno Memorial Award plaques which he presented last Spring to Drs. Alexander L. Zaitsev and Steven J. Dick, respectively.

SETI League photo

Program Service Accomplishments – Public Education

During 2013, The SETI League and its members made the following contributions to educating the public on SETI science and technology:

- Executive Director Emeritus delivered the Billingham Cutting Edge Lecture at the 2013 International Astronautical Congress, as well as four public SETI lectures in the US and China.
- Members participated in technical conferences of two SETI League affiliates, the Society of Amateur Radio Astronomers (SARA) and the Radio Amateur Satellite Corporation (AMSAT), presenting papers and conducting workshops.
- Executive Director Emeritus published six technical articles in scholarly journals, Conference proceedings, and the popular press, served as a manuscript reviewer for the International Academy of Astronautics, and as a member of the British Interplanetary Society's editorial board.
- The SETI League provided webmastering and website hosting services to the International Academy of Astronautics SETI Permanent Committee.
- Secretary distributed CD copies of "The SETI League Technical Manual".
- Officers and volunteer Regional Coordinators answered email queries from around the world on technical and societal aspects of SETI.
- Distributed print and CD copies of various SETI League Conference Proceedings.

Inside the VSA control room, Prof. H. Paul Shuch tests the Very Small Array radio telescope with a weak signal source ("ET in a tin"), in a demonstration for visiting Lycoming College radio astronomy students.

Prof. Dave Fisher photo



Program Service Accomplishments – Media and Outreach

During 2013, The SETI League and its members engaged in the following media and outreach activities:

- Published four issues of *SearchLites*, the quarterly newsletter of The SETI League, Inc.
- Filed 52 weekly updates to The SETI League's extensive website.
- Posted two Press Releases and twelve Editorials to our website.
- Mailed out dozens of membership brochures to email requesters.
- Several of our 60 volunteer Regional Coordinators in 46 countries conducted print and broadcast media briefings and interviews.
- Awards Committee chairman designated recipients for the eighteenth annual Giordano Bruno Memorial Award, the eleventh Orville Greene Service Award, and twelve SETI SuperStar Awards.



At the 2013 Sport Aviation Expo in Sebring, FL, SETI League executive director emeritus H. Paul Shuch (AKA *Dr. SETI*) performed some of his SETI songs with members of the *Flying Musicians Ass'n*. Seen here backing him up on drums is fellow Flying Musician John Zapp.

FMA photo

Trustees and Officers

In accordance with Article V, Section 2 of the Bylaws of The SETI League, Inc., as amended, “The Board shall consist of all officers along with such other trustee positions as determined by the Board of Trustees at their annual meeting.” At its annual meeting on 21 April 2013, the Board confirmed the following officers and trustees to serve for a term of one year:

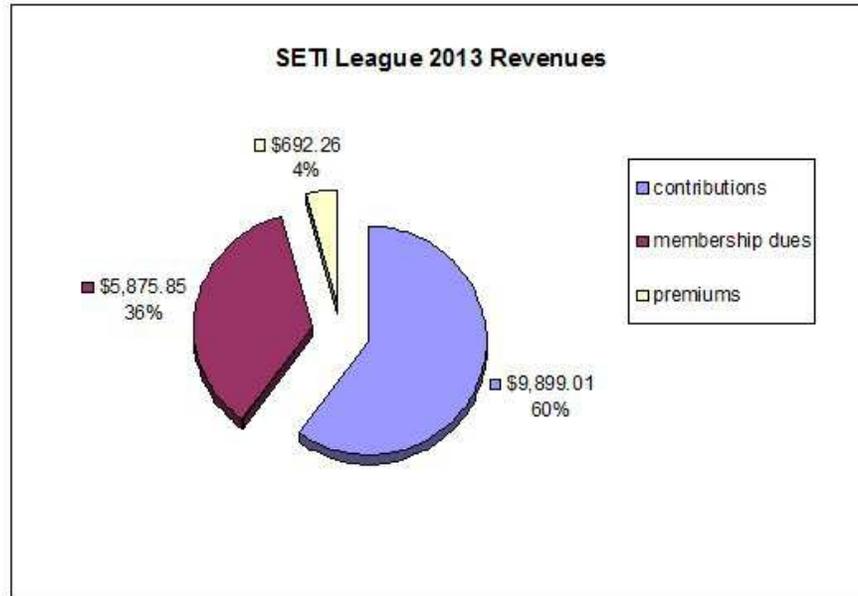
<u>Appointee</u>	<u>Position</u>	<u>Professional Affiliation</u>
Richard Factor	President	Chairman, Eventide Inc.
A. Heather Wood	Secretary/Treasurer	The SETI League, Inc.
Martin Schreiber, CPA	Trustee	Brand Sonnenschine LLP
H. Paul Shuch, Ph.D.	Executive Director Emeritus	AvSport of Lock Haven



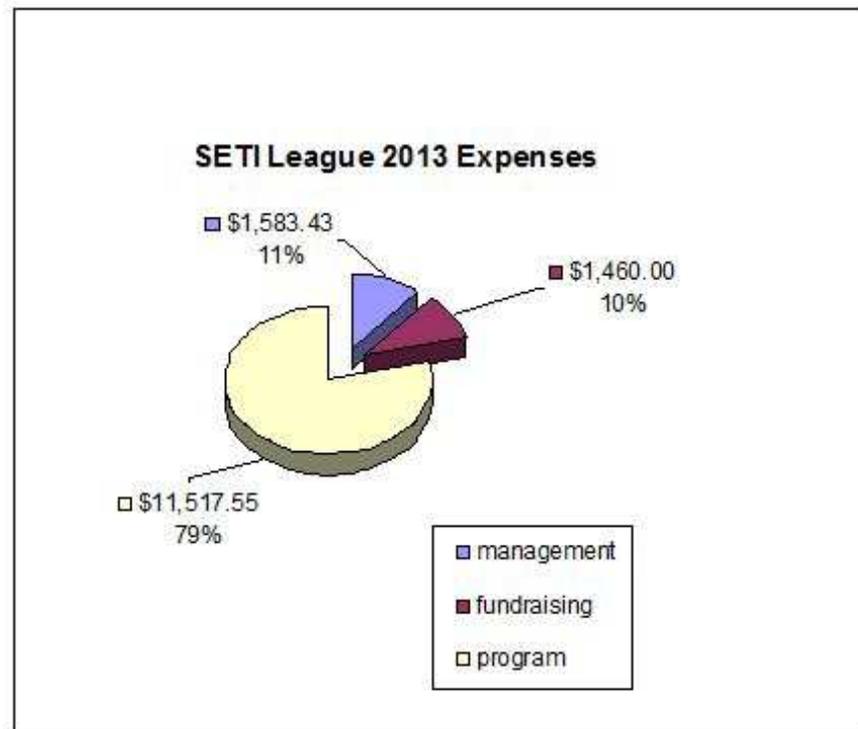
Enroute to the International Academy of Astronautics Planetary Defense Conference in Flagstaff, AZ, USA, International Academy of Astronautics SETI Committee chairman Claudio Maccone (left) pays a visit to SETI League president Richard Factor.

WA2IKL photo

Financial Highlights



2013 Revenues (unaudited)



2013 Expenses (unaudited)



Financial Results – 2013

990 Line	REVENUES:	2013 (prelim)
1d	Dues, Grants & Contributions	16,468
4	Interest & Investments	1
12	Total Revenues:	16,469
	EXPENSES:	
13	Educ. and Scientific Programs	11,518
14	Management & General	1,583
15	Fundraising	1,460
17	Total Expenses:	14,561
18	Excess or (Deficit) for the year	1,908
	BALANCE SHEET:	
19	Beginning Net Assets	2,917
21	Ending Net Assets	4,825



Annual Budget – 2014

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

2013 Donors

The SETI League welcomes the following individuals, who became new members of The SETI League during 2013:

- Carl L. DeVito, Tucson AZ USA
- Michael Guerre, Huntington Beach CA USA
- Robert Hoag, Hoosick Falls NY USA
- United Astronomy Clubs of New Jersey, Hope NJ USA

The SETI League recognizes the extraordinary commitment of our Major Donors, each of whom has provided significant contributions, in cash or in kind, during 2013:

- Mr. Richard Factor (USA)
- Mr. Mark Pankhurst (BWI)
- Second Foundation (USA)
- Prof. H. Paul Shuch (USA)

The SETI League thanks the following members for their additional 2013 contributions above and beyond membership dues:

- J. Thaddius Coin
- Richard D. Pering

The SETI League also acknowledges member Dennis R. Murphy, who upgraded to SETI League Life Membership in 2013.

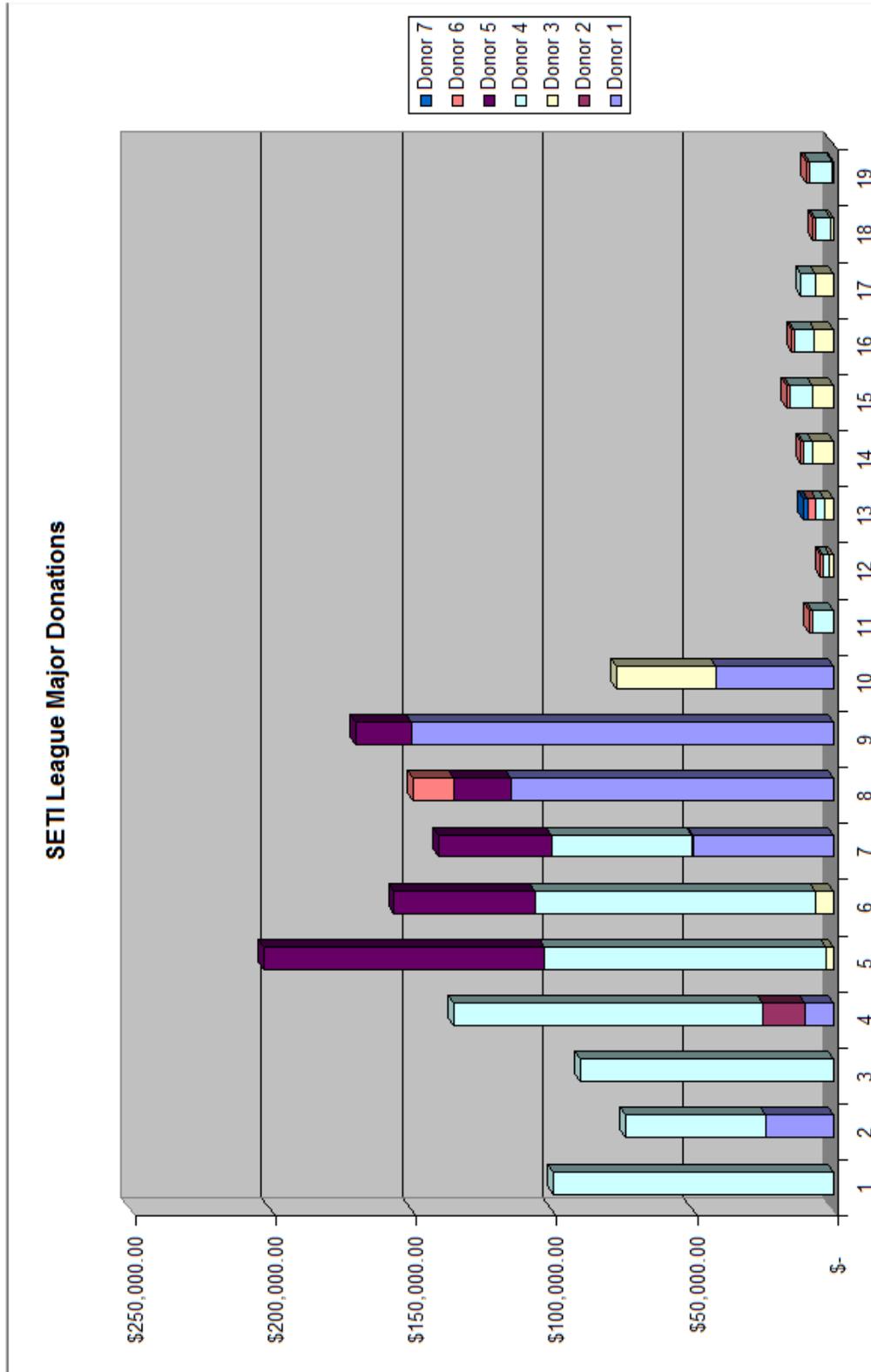
At the 2013 International Astronautical Congress in Beijing, SETI League executive director emeritus Dr. H. Paul Shuch congratulates, Prof. Ed Stone, Voyager Program Manager, on his child (the Voyager 1 spacecraft) finally leaving the Solar System. "Some of us," comments Paul, "are still trying to figure out how to get our children to leave the house!"

Shin-Ya Narusawa photo





Major Donations, Since Inception



Additional Information

For additional information about The SETI League, Inc. and its various educational and scientific programs, please see the following pages on The SETI League website.

Main Page	http://www.setileague.org
Financial Information	http://www.setileague.org/finances
Membership Services Department	http://www.setileague.org/admin
Publications Department	http://www.setileague.org/articles
Press Relations Department	http://www.setileague.org/press
Photo Gallery	http://www.setileague.org/photos
Technical Programs:	
Project Argus	http://www.setileague.org/argus
Very Small Array	http://www.setileague.org/vsa
Array2k	http://www.setileague.org/array2k
Moonbounce Beacon	http://www.setileague.org/eme
Awards Program	http://www.setileague.org/awards
Hardware Support	http://www.setileague.org/hardware
Software Support	http://www.setileague.org/software
Technical Symposium	http://www.setileague.org/seticon
Dr. SETI ® On Tour	http://drseti.org



Four active SETI League members gathered in April, 2013 for an informal meeting at the Allen Telescope Array, the SETI Institute's flagship facility in northern California. Left to right: Claudio Maccone, Stephane Dumas, Gerry Harp (pointing at the Flag of Earth), and Lori Walton.

Stephane Dumas photo