



SearchLites

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The Quarterly Newsletter of The SETI League, Inc.

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SETI League Announces Annual Awards

Little Ferry NJ., 20 April 2008 -- At its Annual Meeting this afternoon at its New Jersey headquarters, the nonprofit SETI League, leaders in a global search for extra-terrestrial intelligence, recognized two individuals for major contributions to the art and science of SETI. Honored this year for their efforts and accomplishments were Dr. Ivan Almar of Hungary, and Tom Crowley of the United States.

The SETI League recognized Dr. Ivan Almar of the Konkoly Observatory, Budapest, with its annual Giordano Bruno Memorial Award, for technical excellence in the service of SETI. Almar is the originator of the San Marino Scale, an analytical tool for assessing the impact of transmissions from Earth. This scale was adopted in September, 2007 by the SETI Permanent Study Group of the International Academy of Astronautics (IAA), lending a quantitative basis to discussions of policy regarding Active SETI experiments. Previously, Dr. Almar had co-authored the Rio Scale, another analytical tool adopted by the IAA, used for quantifying the significance of extraterrestrial signals received on Earth. A Full Member of the IAA, Almar has been an active member of its SETI Committee since its inception more than three decades ago.

Tom Crowley, amateur radio callsign KT4XN, was selected to receive The SETI League's annual Orville Greene Service Award, for exemplary volunteer service to the nonprofit organization. A Charter Member of The SETI League, Crowley has long served as a SETI League volunteer Regional Coordinator. He has served as President and Treasurer of the Society of Amateur Radio Astronomers (SARA), a SETI League affiliate society, and participated in many SARA and SETI League meetings over the years. His efforts to bring the two organizations closer together have helped to legitimize SETI science as a respected branch of radio astronomy.

As neither award recipient was able to be present at today's meeting, formal award presentations will occur in the near future. SETI League executive director emeritus Prof. H. Paul Shuch plans to present Crowley with his plaque at the SARA Annual Meeting, to be held at the National Radio Astronomy Observatory, Green Bank WV, in late June. He will similarly honor Almar at the IAA's upcoming International Astronautical Congress in Glasgow, Scotland in September.

The Trustees of The SETI League also acted at the annual meeting to confirm two new appointees to the SETI League Advisory Board. Joining five other distinguished scientists and technologists are science fiction author and longtime SETI League member Greg Bear, whose late father-in-law Poul Anderson previously served on the Advisory Board, and Prof. Paul Davies, a physicist, author, and science popularizer, who fills a vacancy left by the recent passing of senior SETI League advisor Sir Arthur C. Clarke.

Also at the Annual Meeting, a moment of silence was observed, in remembrance of Clarke and Marc Arnold, Esq., a trustee since the organization's inception, who passed away on 11 April. SETI League president Richard Factor was appointed to replace Arnold as Registered Agent.

In other actions at today's meeting, the Board of Trustees accepted the Executive Director's and Secretary/Treasurer's annual reports; adopted a 2008 budget; re-elected its officers (Richard Factor, WA2IKL, President; A. Heather Wood, Secretary/Treasurer; H. Paul Shuch, N6TX, Executive Director Emeritus) to serve on a volunteer basis for an additional one-year term; approved an extension of new SETI League memberships dues for members in good standing of affiliate society SARA, the Society of Amateur Radio Astronomers; and agreed to continue cost sharing of the Executive Director Emeritus' health insurance premiums. Detailed Minutes of the meetings appear elsewhere in this issue of *SearchLites*.



Guest Editorial

Evolution vs. Panspermia

by Prof Alex Antonites

SETI League Regional Coordinator for South Africa

Darwin's hypothesis on the origin of life invokes a primeval or primordial soup in water. This idea, and the very concept of evolution from the sea to more complex life, moving from sea inland, is not that of Darwin, but was originally formulated by the Greek philosopher Anaxagoras. Darwin's original contribution is the causal principle of natural selection. This is the main principle which drives evolution.

The Darwinian primeval soup is a biochemical mix which led to biological primitive life. This is the idea of abiogenesis or geogenesis, which is of both biological and philosophical importance: life evolved from non-life, lifeless matter. So it is an evolution from biochemistry to biology. This occurred independently from the rest of the universe. Darwin did not say much or anything about extraterrestrial life. In the world view of his time, references to it did occur, but very seldom. It just did not come up, and would have been hailed as inappropriate. Jules Verne (1828-1905) a contemporary of Darwin, was possibly the first author to advance the idea of extraterrestrials, but this was meant as science fiction.

A new hypothesis (actually quite old!) arrived on the scene in the 20th Century - panspermia. This literally means that seeds of life exist throughout the universe. It is supposed that the seeds exist mainly in interstellar gas or space - within, and especially outside, our solar system. Life originated because it was seeded on Earth, other planets or moons, and elsewhere in the universe, by comets or meteors in our solar system as well as others in the universe. Just like evolution, the idea of panspermia was first formulated by Greek philosophy, in this case by Anaxagoras in the 5th Century BC. The idea of seed sperma re-occurred in a somewhat different form in Medieval philosophy. Scientists like Hermann von Helmholtz in 1878 even suggested a strong programme of panspermia: because he could not prove spontaneous generation, he suggested that life always existed during eternity and not matter. The

same view uttered by Russian geochemist V I Vernadskii in the early 20th Century. Later, Svante Arrhenius referred to it again in 1903. Panspermia has gained importance during the past decade, and is supported by such well known and respected scientists, like SETI League member and astronomer Chandra Wickramasinghe (1939-). With him another famous astronomer, Fred Hoyle (1915-2001) also supported it. My point is that panspermia is no longer merely speculation or fiction. Evidence seems to be growing in favour of this hypothesis. Eventually, panspermia may change in status from a hypothesis to a full-blown theory.

Are evolution and panspermia mutually exclusive? I would like state the following: evolution and panspermia are talking in different voices. They are not the same. The one sees the origin of life in abiogenesis, biology from biochemistry. Panspermia connects Earth with the rest of the universe. Not abiogenesis, but external seeding of life from elsewhere in the universe - even very far from Earth. Would this then make them mutually exclusive, inconsistent with each other? I do not think so. Even were panspermia to attain the status of a theory, I do not see them as necessary conflicting. Both can safely be maintained together. Panspermia does not try to falsify abiogenesis. Bringing building blocks of life from the outside gives a jumpstart to life. It accelerates the process already going on. It acts as a catalyst, but also enriches the life forming processes with new things. On the other hand, there is nothing in Darwinism which excludes the possibility of panspermia. If one should push the ultimate question at its furthest, and ask: where does panspermia's Common Ancestry for life come from? It logically cannot be another common Ancestry. We would then opt for an infinite progression. This far-off, very first life may then have to be explained by evolution - biochemical and biological. Evolution and panspermia tie in to each other. Panspermia does not annihilate evolution; rather, it enlarges it. They are not such very strange bedfellows after all!

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.



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 20 - 22, 2008: *Contata 5 / NEFilk 18*, Parsippany NJ.

June 29 - July 2, 2008: *Society of Amateur Radio Astronomers Conference*, NRAO Green Bank WV.

July 24 - 26, 2008: *Central States VHF Conference*, Wichita KS.

August 6 - 10, 2008: *Denvention 3*, 66th World Science Fiction Convention, Denver CO.

August 8 - 10, 2008: *EME 2008*, Florence Italy.

September 22 - 26, 2008: *Searching for Life Signatures*, Paris, France, under the sponsorship of the International Academy of Astronautics SETI Permanent Study Group.

September 29 - October 3, 2008: *59th International Astronautical Congress*, Glasgow, Scotland.

October 24 - 26, 2008: *AMSAT Space Symposium*, Buckhead, GA.

February 13 - 15, 2009: Dr. SETI to be Featured Filker at *Boskone 46*, Boston, MA.

April 3 - 5, 2009: *I-Con 28*, New York City area.

April 18, 2009, 0000 UTC - 2359 UTC: Tenth annual SETI League *Ham Radio QSO Party*, 3.551, 7.0309, 7.2039, 14.084, 14.204, 21.306, and 28.408 MHz.

April 19, 2009, 1300 EDT: Fifteenth SETI League Annual Meeting, Little Ferry NJ.

May 15 - 17, 2009: *Hamvention 2009*, Dayton OH.

May 29 - 31, 2009: *Rochester Hamfest*, Rochester NY.

June 2009 (dates TBA): *Society of Amateur Radio Astronomers Conference*, NRAO Green Bank WV.

July 23 - 25, 2009: *Central States VHF Conference*, St. Charles IL.

August 6 - 10, 2009: *Anticipation*, 67th World Science Fiction Convention, Montreal, Quebec Canada.

October 12 - 16, 2009: *60th International Astronautical Congress*, Daejeon, Korea.

April 17, 2010, 0000 UTC - 2359 UTC: Eleventh annual SETI League *Ham Radio QSO Party*, 3.551, 7.0309, 7.2039, 14.084, 14.204, 21.306, and 28.408 MHz.

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

June 2010 (dates TBA): *Society of Amateur Radio Astronomers Conference*, NRAO Green Bank WV.

October 2010 (dates TBA): *61st International Astronautical Congress*, Prague, Czech Republic. ❖

Ask Dr. SETI ®

Do Signals Degrade to Thermal Noise?

Dear Dr. SETI:

I have heard that some folks had done an analysis that showed that all the radio energy that we are currently pumping into space is actually thermalizing to noise within a few light-years. What are your thoughts about this?

Gerry (via email)

The Doctor Responds:

I disagree, Gerry. Over interstellar distances, there is indeed some spectral dispersion in the ISM. Frank Drake and George Helou showed decades ago that free electrons in interstellar space have a Doppler effect on radio signals passing through them, placing a lower limit on the narrowness of the bandwidth of any interstellar signals. This is known as the Drake-Helou Limit. For a coherent (CW) signal at L-band (say, the hydrogen line, 1420 MHz), it calculates to about 30 mHz of dispersion. (That's milliHertz, **not** MegaHertz). So, the signal is still clearly artificial and coherent. I know of no recent theory that credibly refutes these calculations.

There have been some good studies that show that our UHF TV broadcasts spread sufficiently that the video cannot be decoded over interstellar distances. But, since most of the energy is in the video carrier, and it's essentially CW, and the Drake-Helou limit still applies, I conclude that the hallmark of artificiality is still evident, even if the programming content (which I argue is **not** a manifestation of intelligence in any case) is lost in the journey. ❖

990 Line	REVENUES:	2008 (projected)
1d	Dues, Grants & Contributions	18,000
4	Interest & Investments	200
12	Total Revenues:	18,200
	EXPENSES:	
13	Educ. and Scientific Programs	12,000
14	Management & General	3,000
15	Fundraising	3,000
17	Total Expenses:	18,000
18	Excess or (Deficit) for the year	200
	BALANCE SHEET:	
19	Beginning Net Assets	11,332
21	Ending Net Assets	11,532

2008 SETI League budget (as adopted by the Board of Trustees on 20 April 2008)

Remembering:

Sir Arthur C. Clarke

by H. Paul Shuch, Executive Director Emeritus

The official obituaries have already been written, most eloquently, and I'm sure you've read them. This is a personal remembrance of Arthur Charles Clarke, science fiction author extraordinaire, advisor to The SETI League, life member of AMSAT, and the world's second greatest communications engineer, who passed away on 18 March 2008, at the age of 90, of complications arising from post-polio syndrome.

Although Clarke has had a direct influence on my whole career (whose hasn't he influenced?), and we had corresponded from time to time, I did not actually meet him in the flesh until January of 2000. It was a memorable meeting (more about which later). Certainly the first Clarke SF I read (in high school) included Childhood's End and Prelude to Space. But it was his brief article 'Extraterrestrial Relays,' in the monthly radio journal *Wireless World*, that had its most profound early impact on me.

In 1961, I was a high school student, and a radio ham, and the youngster sitting in the back of the room at Project OSCAR meetings, watching my mentors design and build the world's first non-government communications satellite. I remember thinking 'this is what I want to be when I grow up.' We had all read Clarke's seminal article, and (although OSCAR 1 was a low-orbiter) were already thinking about the geosynchronous orbit that he 'invented' back in 1945.

Fast forward to the early 1970s. I had become an aerospace engineer, and was running a small Silicon Valley microwave company, developing receivers for the first geosynchronous earth imaging and communications satellites. I had a small (16 foot - gigantic by today's standards) satellite TV dish in my back yard, and read in *Coop's Satellite Digest* that Clarke himself had a similar dish perched on the balcony of his Colombo residence.

That Clarke lived in Sri Lanka bore a certain technological irony. Because the Earth's center of mass is not at its geographical center (ours is a lumpy planet), even perfectly circular satellite orbits tend to decay over time. From the Clarke Belt, if active station-keeping is disabled (or if the satellites run out of the hydrazine fuel burned by their thrusters), the birds tend to drift to the 'low' point in their orbit, a stable resting point over the Indian ocean. This satellite graveyard was well in view of Arthur's five meter dish, so I like to think that the dormant geosats were all going home to papa.

In 1979 (by now an engineering professor), I chanced to be in Hawaii, touring the Comsat telemetry, tracking and control (TT&C) station on the North end of Oahu. My host showed me a brief PR film called "Pathways to the World," narrated by none other than ACC. There was a scene showing him standing under his dish, and I thought this would be a great thing to show my students. I asked the Comsat people how I might obtain a print of the film. "Do you have access to an Intelsat terminal?" I was asked. I did indeed (my old homebrew 16 foot dish and C-band receiver). I was given a satellite name, and a transponder number, and a time about a week hence. When I arrived home on the Mainland I aimed my dish

and tuned my receiver appropriately, and videotaped "Pathways to the World." How's that for appropriate use of Clarke's technology?

I've since shown that tape to a couple of thousand students, and still cherish it in my video collection. Following the US Congress canceling the NASA SETI program in 1993, several organizations (included the nonprofit, membership-supported SETI League) emerged to fill the void. I was tapped as The SETI League's Executive Director, and one of my first tasks was to recruit luminaries to serve on our advisory board. Arthur accepted graciously, without hesitation. I enjoyed our rich email correspondence these past several years, touching sometimes on SETI matters, sometimes on communications technology and science, and sometimes on science fiction. When I went on lecture tour to India in 2000, Sir Arthur kindly invited me to take a side-trip to Colombo, and pay him a visit.

Arriving at the Galle Face Hotel in Colombo, I saw a familiar face in the lobby -- Arthur's brother Fred, whom I had met in the UK a few years prior. Not only did I not know we were staying in the same hotel; I had no idea Fred was in Sri Lanka! That's how small a world we inhabit, and Arthur helped to make it so. Fred's wife Babs had just died two months prior, and he came to visit his brother, and to mourn. Fred and I stayed up most of the night together, sharing songs and poetry, and reminiscing about this elegant woman who dazzled me the one time I had met her.

Next day, it was off to Arthur's home (Fred and I together.) When questioned by the hotel concierge earlier as to my business in Colombo (there was a war on, so they asked such questions), I had simply said I was there to visit a friend. Now, as I hired a car and gave that same concierge the address, his eyes widened in a mixture of recognition, surprise and respect. It seems Arthur's house is well known in Colombo!

You may recall that when Isaac Asimov died a few years back, Clarke eulogized him as 'the world's second-greatest science fiction writer.' That gave me an idea.

Visiting Arthur in his home, I brought the customary gift. Not the traditional bottle of wine, since I no longer live in California; instead, I wrote the song 'Extraterrestrial Relays', brought along my guitar, and had a chance to sing it to Arthur, his brother, and his staff. Arthur was delighted, and asked for a copy. I was prepared, and made him a formal presentation of the original. The sheet music is inscribed "to Sir Arthur C. Clarke, the world's second greatest communications engineer." I heard later that Arthur had framed that page, and placed it on the wall in the room of his house which he wryly called his "ego chamber."

Arthur once told me that he would gladly lend his name and support to our SETI League efforts, and that I could feel free to ask him for anything -- *except* money. I respected that request, figuring that his name on the masthead was worth far more than millions in the bank. But, on my one visit to Colombo, he gave me a cheque anyway. And that's a story in itself:

When Clarke invented the geostationary communications satellite (OK, so some will say that Tsiolkovskii *really* invented it; Clarke merely refined and published it), he coined

the contraction ComSat, for Communications Satellite. He contributed the name into the public domain, never expecting such technology to emerge within his lifetime. Years later, when the Communications Satellite Corporation was formed, they adopted the trademark Comsat. But their leaders knew where the term really came from, and, though under no legal obligation to do so, wanted to make a token payment to Clarke, in gratitude. So, they gave him one share of Comsat common stock.

Over the years, what with stock splits and dividend reinvestments, that one share had multiplied to several, and Clarke began to receive small cheques in the mail from Comsat from time to time. I was in his house when one of those cheques arrived, and just happened to be talking to Arthur while he was going through the mail. He promptly handed over to me a dividend cheque from Comsat, saying "here -- for The SETI League."

Only, I never cashed that cheque. It's framed now, and hanging on my wall, and some poor Comsat accountant is probably wondering to this day why their accounts show a discrepancy of \$4.75.

Now, whenever I look at that cheque, I will fondly remember Sir Arthur Charles Clarke, the world's second greatest communications engineer. Next time I see Fred Clarke, it will, sad to say, again be to mourn. ❖

Remembering:

Marc Arnold, Esq.

by A. Heather Wood, Secretary/Treasurer

It is with regret that we report the passing on 11 April 2008 of Marc Arnold, a member of The SETI League's Board of Trustees since its inception, after a year-long battle with cancer.

Marc was an attorney. He was a Charter Member of The SETI League. He was also a smart guy with a great sense of humor. Marc was among the very first young people to become involved in non-violent demonstrations for civil rights and peace during the Viet Nam era, being one of a handful of students who participated in the historic 1968 "sit-in" within the president's office at Columbia University. He was one of the leaders of the Columbia University sit-in protesting the building of a gymnasium that would in essence have been segregated. Always on the forefront of important social movements, Marc spearheaded nuclear-free zone efforts in New Jersey, and mobilized grassroots political efforts lobbying for areas of the State, near New York City, to become an entirely "no-nukes" region. He remained open to, and interested in, the world's spiritual traditions. In the final days of his life, Marc was reading works by His Holiness the 14th Dalai Lama of Tibet.

I met Marc around 1980 -- there was a band called Cries that played each Wednesday at Court Street, a bar in Hoboken. A bunch of us were regulars -- we'd hang out and dance. Later, Marc became involved with The SETI League as one of our trustees and as our Registered Agent with the state of NJ. He regularly came to our annual membership meetings and other

events. Marc was a science fiction reader, and believed, as we do, that we are not alone in the universe. We shall miss Marc's wise counsel and his readiness to help. Even as a busy attorney, he would travel and spend his time pro bono on our behalf.

President Richard Factor and I learned of Marc's condition on Wednesday 9 April, and we each spoke to him in the hospice. He seemed quite cheerful. We visited him on Thursday evening, the night before he died, by which time he was very tired. He was being given oxygen to assist his breathing, but it did not seem to be enough. Although he was in no great pain, he did say that his back was bothering him. He mentioned how proud he was of his position at the SETI League and how he wished us all the best. ❖

Book Review:

Ham Radio's Technical Culture

by Kristen Haring

published by MIT Press, 2007

reviewed by Frank Etzler, N8WXQ

Ham Radio's Technical Culture is written in the style of a scholarly work. The scholarship of the author, Kristen Haring, is, however, extremely poor, and her ignorance of radio and radio amateurs is great. The book will be offensive to some. The book is based on reading back issues of *QST* from the 1950s and 1960s, and not speaking directly with radio amateurs or attending the larger hamfests in order to see the full scope of amateur radio. Because of *QST*'s understandable focus on American amateur radio, the author has failed to see amateur radio as a worldwide phenomenon. Our fellow hams in Japan, for instance, are largely Japanese, and not Americans.

Radio amateurs come from society in general, and amateurs reflect the full political and social spectrum. On average, radio amateurs are a little smarter, have a bit more income, and are better educated than the general population, but they do reflect society in general - even sometimes the less attractive aspects. The author might lead some to think that radio amateurs are a bunch of racist, sexist, xenophobic, and drunken fellows. Some of the references to homosexuality are outright bizarre. On average - and this should be the point of such a book - radio amateurs have educated themselves on emerging communications technology, learned a bit of technical history, and learned a bit of geography. Radio amateurs have simultaneously given service back to society in a variety of ways, including (but not limited to) public assistance in times of emergency, and scientific advances, such as SETI. All people of reasonably good character are welcomed into the amateur radio community.

Ham Radio's Technical Culture could have been a great book; unfortunately, it is not. In some instances it seems to reflect the neuroses of the author and not the amateur radio community. There is a plethora of other books concerning radio, radio history, and amateur radio. Money would be better spent on these. I am sorry that I wasted mine. ❖

Minutes of the Fourteenth Annual Membership Meeting

20 April 2008, SETI League Headquarters

- **Call to Order**

The meeting was convened at 13:03 hours EDT, in the Library at SETI League Headquarters, Little Ferry NJ, by Executive Director Emeritus Dr. H. Paul Shuch. Three SETI League members in good standing present. 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 2007 Membership Meeting**

The Minutes of the 2007 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 2007 (as filed).

- Revenues: Dues and Contributions \$21,552, Interest Income \$167, Total \$21,719.
- Expenses: Educational/Scientific Programs \$10,828, Management/General \$2,621, Fundraising \$1,392, Total \$14,841.
- Revenues minus Expenses: \$6,878 [surplus].
- End of 2007, SETI League account balances equalled \$11,332. 2007 beginning net assets \$4,453.
- Current balance (cash on hand and owed) is approximately \$6,000.
- 2008 Budget: Projected Revenues \$18,200, Program Expenses \$12,000, Management/General Expenses \$3,000, Fundraising Expenses \$3,000, Projected surplus \$200, Projected Ending Balance \$11,532.
- 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. Moonbounce system was reconfigured last year, and new antennas installed. Richard reports he has further control software to write. Before the station could be reactivated, the new antennas suffered wind damage. Repairs are pending.

- **Old Business**

1. **Mid-Year Renewal Letter**

Secretary/Treasurer Heather Wood reports that a mid-year letter to approximately 350 lapsed members worldwide. As 174 members remain lapsed, we estimate that the mid-year reminder yielded a 50% return. It was recommended that The SETI League continue issuing such mid-year appeals.

2. **Annual Report**

The SETI League's 2007 Annual Report is available to members via the website, in Portable Document Format (PDF).

3. **Volunteer Appreciation**

Gratis renewal for a period of one year was offered to our lapsed Committee Chairs and Regional Coordinators, conditioned upon their continued volunteer service. Nine volunteers accepted this offer, and six responded to the offer by voluntarily remitting membership dues.

- **New Business**

1. **SARA Proceedings**

For the past two 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 Editor of the Proceedings of those two conferences. Based upon past success, The SETI League will be assisting with this year's SARA Conference, and editing SARA's 2008 Proceedings as well.

2. Awards

Awards Committee chairman David Ocame being absent, executive director H. Paul Shuch announced the 2008 Giordano Bruno Memorial Award winner as Dr. Ivan Almar, developer of the Rio and San Marino Scales for quantifying reception and transmission of interstellar messages, respectively. The winner of the 2008 Orville Greene Service Award is SETI League regional coordinator and past SARA president (and present SARA treasurer) Tom Crowley, in recognition of his exemplary volunteer service to The SETI League and SARA, its sister society.

3. Next Meeting

The next Annual Meeting will be held at the same venue. The date of Sunday 19 April 2009 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**

A moment of silence was observed in memory of SETI League Trustee Marc Arnold, and Advisory Board member Sir Arthur C. Clarke, both of whom passed away recently.

- **Adjournment**

The Annual Membership Meeting was adjourned by the Executive Director at 13:25 hours EDT on 20 April 2008. A Regular Board of Trustees meeting followed.

Business Transacted by Board of Trustees:

- **Quorum Call**

Trustees and Officers present: Richard Factor, A. Heather Wood, H. Paul Shuch. 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. Due to the untimely death of Registered Agent Marc Arnold, Richard Factor is appointed to this post. The SETI League states that the address of its new registered office and the address of its new registered agent are identical. Further, the change was authorized by resolution duly adopted by the Board of Trustees of The SETI League, Inc.

- **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.

- **Affiliate Society recognition**

A motion was adopted to offer to members in good standing of the Society of Amateur Radio Astronomers (SARA), a SETI League affiliated society, an extension through the end of 2009 on all new SETI League memberships secured during calendar year 2008. In addition, SARA members joining The SETI League at the 2008 SARA Technical Conference will receive a free copy of Project Cyclops, while supplies last.

- **Advisory Board**

The Trustees appointed two new members to the SETI League Advisory Board. Joining five other distinguished scientists and technologists are science fiction author and longtime SETI League member Greg Bear, whose late father-in-law Poul Anderson previously served on the Advisory Board, and Prof. Paul Davies, a physicist, author, and science popularizer, who fills a vacancy left by the recent passing of senior SETI League advisor Sir Arthur C. Clarke.

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 2007 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.

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