

COMARA Newsletter - May 2009

The quarterly newsletters are mailed only to members without a working email address in our database. If you have an email address, please send it to webmaster@comara.org so we can send you all of the newsletters as they are prepared.

Dues, Dues, Dues

You can check your status at any time by visiting the COMARA web page at <http://www.comara.org>. After you sign in, your dues status is displayed at the top of the page. 2009 dues are \$10. If your dues payment is not current, why not send a \$20 check for 2009 and 2010? Make checks payable to COMARA, put "Dues" on the memo line, and send to COMARA, PO Box 34594, Bethesda, MD 20827

Events

Social and Annual Meeting Sept. 20, 2009 - The 2009 COMARA Reunion and Annual meeting has been scheduled for late afternoon on Sunday, September 20, 2009. Having held the event in Maryland the last two years, this year we shift across the river, to the Courtyard Marriott Hotel at 1960A Chain Bridge Road, on Dolley Madison Blvd. between the Tysons 1 and Tysons Galleria shopping centers. This hotel is less than half a mile off the Beltway and has more than adequate parking, but check out its website for exact directions. Last year's combined annual /reunion meeting was a success that was complimented by all those who attended.

Joe Pelton, with some advice from Denis Curtin has managed to negotiate a great deal for our next social. The menu will include three selections plus free soft drinks. A cash bar will be available. *Please SAVE the date.*

National Philharmonic Orchestra Concert at Strathmore in 2009 - Each season COMSAT organizes a group to attend one of the National Philharmonic Orchestra's outstanding concerts at Strathmore. This year 60 people from the combination of COMARA and the Intelsat Retirees Assn. attended a concert in February featuring world-renowned guitarist Manuel Barrueco.

2010 COMARA Philharmonic Orchestra Plans: With the concurrence of the Intelsat Retirees Assn., and subject to the availability of good orchestra seats once the annual subscription drive is completed, COMARA has requested that the Orchestra "book us" for the All-Brahms concert on Saturday, March 20, 2010. The program includes

- BRAHMS Hungarian Dance No. 5
- BRAHMS Violin Concerto, with Chee-Yun as soloist
- BRAHMS Symphony No. 2

National Philharmonic Orchestra – Background: We want to develop a close relationship with the National Philharmonic Orchestra, in whose development a number of COMSAT stalwarts such as Bill and Ruth Berman, Bob Schwartz, Jerry Breslow, Joel Alper and Bill English, have played major roles over the years. Here's a piece that the Orchestra asked us to insert in our next newsletter:

Led by the dynamic Music Director and Conductor, Piotr Gajewski, the National Philharmonic is known for performances that are "powerful," "impeccable," and "thrilling" (*The Washington Post*). The National Philharmonic has just announced its exciting new 2009–2010 season. It includes such masterpieces as Beethoven's Choral Fantasy, Bizet's Carmen, Tchaikovsky's Symphony Pathetique, and Mahler's Symphony No. 4, and such well-known artists as legendary pianists Leon Fleischer and Misha Dichter and clarinetist Richard Stoltzman.

To join the National Philharmonic for its 2009–2010 season, please visit www.nationalphilharmonic.org for more information or to download a season brochure.

Jeff Binckes Piano Recital - Jeff Binckes will present a lecture-piano recital at the Kreeger Auditorium at the Jewish Community Center, Montrose and Executive Blvd, about two blocks west of Rockville Pike, on Monday afternoon, MAY 18th, 2009, from 1:40 to 2:30 pm .The program is entitled: **Rachmaninoff: Light and Dark**. This program will feature contrasting styles of some of Rachmaninoff's famous and not so famous piano preludes. The Kreeger auditorium will be open at 1:30 pm.

COMARA Board Election

It will soon be time once again to elect three members of the 9-member COMARA Board of Directors, each for a 3-year term. If you know of someone who would make a good candidate for service on the Board, please obtain his or her consent to stand for election; write a very short "background" note on the candidate, focused largely on service while at COMSAT; and send to webmaster@comara.org no later than Friday, August 14. Thanks for considering this.

Permanent Hall of Fame for Satellite Communications

COMARA, the Intelsat Retirement Association (IRA), the Society of Satellite Professionals International (SSPI), the Satellite Users Regulatory Group (SURG), and a number of satellite industries are supporting the effort to create a Permanent Satellite Hall of Fame and Museum, and progress continues to be made. Options under study include the U.S. Space and Rocket Center in Huntsville, Alabama; the National Electronics Museum very near Conference and Hotel facilities at BWI; and a possible new facility at the Goddard Spaceflight Center in Greenbelt, Maryland.

There are a number of avenues to be explored to identify the best option. We are happy to hear your suggestions as to possible sites or contacts with Industry about possible donations of satellites, VSATs, launch vehicle models, or other artifacts or historical documents. We are also seeking a site where student projects, experiments, or scholarship programs might be pursued. Visits to the US Space and Rocket Center have been completed and a visit to the National Electronics Museum was made in late April. If you have specific suggestions please share them with Joseph N. Pelton, Stephen Teller, or Ellen Hoff.

Report on Visit to National Electronics Museum on May 1, 2009 - Joe Pelton, Steve Teller were among the delegation that visited the National Electronics Museum (near BWI airport) to explore the location as a possible site for the planned "Satellite Hall of Fame and Museum." A copy of this report will soon be available on the Comara website (in the Legacy section).

Joe Pelton

Benefits

Nothing to report. (Sometimes this is good news!)

Jack Hannon

SSPI 2009 Hall of Fame Honorees

Sincerest congratulations to the following three honorees of SSPI, all well known to the COMARA membership! Special congratulations to COMARA Board member Dr. Denis Curtin! Here are the SSPI acknowledgments for all three:

Dr. Denis Curtin

Chief Operating Officer, XTAR

In the course of his 4-decade career Dr. Curtin has had a major influence on the industry. He and his team in COMSAT's Spacecraft Laboratory classified and tested all major types of solar cells for possible satellite use.

Early on, his team concluded that only silicon solar cells were viable. This early work on silicon solar cell performance and efficiency fostered the development of new higher efficiency silicon solar cells by the COMSAT Solid State Physics Lab. Known as the COMSAT cell and later the more powerful Black cell, these devices became the industry standard for the next 20 years. Another team under his leadership helped to develop new electrical welding techniques for interconnecting solar cells into solar arrays that substantially extended the life of solar arrays and the satellites equipped with them. In the early 1980's, Dr. Curtin managed a COMSAT consulting contract with the League of Arab States, assisting them in developing the first ARABSAT satellites to the COMSAT/Intelsat standard. This was a unique international program involving a French prime contractor, an American payload subcontractor, a Japanese TT&C contractor, and two launch vehicles including the Shuttle. In 1988, Dr. Curtin joined ORION, a start-up benefiting from the new U.S. law permitting systems to compete with Intelsat. First, as head of engineering and then as senior VP, Engineering & Operations, he led the ground-up technical development of this early commercial satellite system. ORION was acquired by Loral Space & Communications in 1998. In 2001 Loral appointed Dr. Curtin general manager and later chief operating officer of its new start-up program, XTAR, LLC, which now owns and operates one satellite and a payload on a second satellite providing X band satellite capacity to the U.S. Government and allies on a commercial basis. XTAR won a 2006 SSPI Industry Innovator Award.

Dr. Curtin has also been tireless in his efforts to ensure that young engineers and scientists have opportunities for personal and professional development, whether through technical presentations to their peers or face-to-face interactions with management. He has been a mentor across the satellite communications community throughout his career and has combined technical competence with business sense to provide younger professionals with the insights and encouragement they need to grow in their work. Dr. Curtin has authored over thirty publications and is co-author of the article on communications satellites in the 10th edition of the *McGraw Hill Encyclopedia of Science and Technology*. He is an AIAA Fellow and in 2006 was honored with the prestigious AIAA Aerospace Communications Award.

D.K. Sachdev

President, SpaceTel Consultancy

In the first phase of his career, D.K. Sachdev conducted pioneering work in India leading to the establishment of a company that, under his leadership, became one of India's largest telecommunications manufacturers and developed the nation's first indigenous satellite antenna. He was presented with the Sarabhai award, one of the country's top engineering awards, for his work. Moving to Intelsat, from 1975 to 1985, he created and managed its first in-house research & development team, which contributed innovations including multi-beam antennas, nickel-hydrogen batteries, ion thrusters, and digital speech and video codecs. From 1985, he led engineering management for Intelsat spacecraft, including the Intelsat VII and VIII series, and oversaw satellite specification, proposal analysis, and recommendation for purchase of most of the satellite systems Intelsat acquired. It was during this period that he also provided the engineering support for NASA's successful 1994 recovery of the stranded Intelsat 603 satellite by the Space Shuttle. After retiring from Intelsat in 1996, Mr. Sachdev was recruited by Worldspace, where he headed Engineering and Operations and established its two regions of operation in Africa and Asia. While Mr. Sachdev's association with WorldSpace was recognized by a 2003 Innovator's Award from the Arthur Clarke Foundation, the extent of his leadership in the development of the XM Radio system is not well known. He was one of the few executives who persuaded WorldSpace to make the initial investments that made XM Satellite Radio possible. He put together a full engineering team for XM, developed its architecture, and procured the spacecraft through a competition. He also led the development of the terrestrial repeater access basic technology.

In 2000, Mr. Sachdev again switched gears and went on to become a well-regarded teacher at George Mason University, where he instructs some 100 graduate engineers every year on how to develop and manage complex modern satellite-based systems. He is the author of three books including the new *Success Stories in Satellite Systems*, just published by AIAA.

Pradman Kaul*Chairman & CEO, Hughes Network Systems*

Pradman Kaul has demonstrated excellence in technology development, production management, and executive leadership throughout a more than 35-year career in the industry. Following his first technical position at COMSAT Laboratories, in 1973 Mr. Kaul joined the technical staff of the company DCC that was later to become Hughes Network Systems. During the 70's, he worked with colleagues to develop and deploy many seminal communication technologies, including a 1975 patent on the time-division multiple-access (TDMA) satellite communication system and development of the first microprocessor-based packet switch for America's largest public data network.

Rising through technical and production management positions with the company, Mr. Kaul was one of the key developers of the VSAT terminal and prime mover in the development of the digital set-top box products used for direct-to-home satellite television and broadband Internet access. Since entering this business in 1994, Hughes became the industry leader in shipments of set-top boxes to the market-leader, DirecTV. Mr. Kaul also played a significant role in the development of the Internet Protocol over Satellite standard, which is used in over one million broadcast satellite terminals worldwide, and in the creation of advanced satellite communications systems including Thuraya, its dual-mode GSM/satellite handset, and the next-generation Ka-band SPACEWAY satellite.

Mr. Kaul holds, individually or jointly, eight patents on breakthroughs in areas such as pulse-code modulation, high-speed logic interconnect, and satellite TDMA that have contributed significantly to the development of affordable VSATs. In 2000, he was named chief executive officer of Hughes Network Systems, which now provides satellite-based consumer broadband Internet access and managed network services for business and government in over 100 countries. He also serves as the president and chief executive officer of Hughes Communications, the parent company of HNS. In 2004, Mr. Kaul was inducted into the National Academy of Engineering and, in 2009, was named *Via Satellite's* Satellite Executive of the Year.

New Books on Satellite Communications by People We Know

1) *Success Stories in Satellite Systems*, D.K. Sachdev, Ed. [American Institute of Aeronautics and Astronautics (AIAA), \$69.95] - This book presents first-hand histories, case studies, and lessons learned from many of the pioneers who built the satellite industry.

Written to appeal to a broad audience of business leaders, entrepreneurs, and students, the book offers the reader a detailed view of the industry's challenges and technologies, and the experiences of those who helped shape it by featuring the contributions of 21 satellite industry leaders. This book provides readers with valuable information that they can immediately use to pursue their own goals in the industry.

It also reminds readers that several of the conveniences we take for granted in our day-to-day lives—GPS navigation units, cell phones, and broadcast television—were made possible by the efforts of engineers working in the satellite field. The book features many historic photographs to complement its compelling narratives.

Author D. K. Sachdev is president of SpaceTel Consultancy, Vienna, Va., and an adjunct professor at George Mason University, Fairfax, Va. Sachdev began his career in telecommunications in his native India before coming to the United States in 1978. From 1978 to 1996, he led Intelsat's technology development, spacecraft planning, and engineering efforts. Following that, he joined WorldSpace, Washington, D.C., where he was responsible for the engineering, deployment, and operations of both the WorldSpace digital radio system and the early stages of the XM Radio system. For his efforts in the development of the XM Radio system, the Arthur C. Clarke Foundation awarded Sachdev its 2003 Innovator's award. He is also a recipient of India's Vikram Sarabhai Award, and previously authored *Business Strategies for Satellite Systems* in 2004.

Contributors to the book are Ali Saeed Al Mazrooei, chief technology officer, Thurya Telecommunications; Giuliano Berretta, chairman and CEO, Eutelsat Communications; A. Bhaskaranarayana, director, satellite communication programmes, Indian Space Research Organisation (ISRO); Owen Brown, program manager, Defense Advanced Research Projects Administration (DARPA) Tactical Technology Office (TTO); Lloyd

Covens, president, LTen, Com; Mark Dankberg, chairman and CEO, ViaSat; John F. Dealy, president, The Dealy Strategy Group; Leonard R. Dest, president and CEO, RD AMROSS, LLC; Yves Feltes, vice president, media relations, SES; Ahmad F. Ghais, formerly of Inmarsat and COMSAT; Fred Kennedy, Lt. Col., United States Air Force, DARPA TTO; Harry Kowalik, former vice president of space systems, Telesat; Conny Kullman, former chairman and CEO, Intelsat; Keith D. McDonald, chairman and technical director, NavtechGPS; Adrian J. Morris, executive vice president, Hughes Network Systems; Yutaka Nagai, board director and executive vice president, SKYPerfect, JSAT Corp.; Wade Pulliam, program manager, DARPA TTO; U. R. Rao, former chairman of ISRO, and secretary, Department of Space; Harold A. Rosen, former vice president, Hughes Aircraft Company; Jimmy Schaeffler, chairman, The Carmel Group.

2) ***License to Orbit: The Future of Commercial Space Travel***, by Joseph Pelton and Peter Marshall (Apogee Books; \$23.95).

License to Orbit is an up-to-date investigation of the emerging commercial space business. It explores the players, the celebrities, and the technical innovators who are making this important new industry a reality. It is the most comprehensive look at the industry in terms of covering the companies and the role of NASA and other space agencies, as well as the strategic implications of private space systems. It examines the business risks and other potential show-stoppers that might inhibit the growth of commercial spaceflight systems. Space tourism is seen as a crucial next step in the evolution of humankind. The book explores new technologies for the future and the legal and regulatory ramifications of private space now and into the next decade.

Where Did the Pieces of COMSAT Go?

The Battery Lab - The Electrochemistry Department (aka Battery Lab) within COMSAT Labs was a pioneer in the satellite industry, being responsible for such successes as the development of nickel-hydrogen batteries for aerospace use and advanced techniques to evaluate and resolve in-orbit anomalies. The Battery Lab consisted of two separate entities, the cell characterization and life-test lab, and the electrochemistry lab for physical and chemical analysis of the interior battery components for failure analysis, quality control, and life determination

Shortly after Lockheed Martin purchased COMSAT Corp., the Battery Lab was one of the first groups to learn that it did not fit with the vision of the then Global Telecommunications Division (LMGT), and that it would be closing within a year. Nevertheless, the Battery Lab work continued in the crucial areas of evaluation and life testing of Intelsat batteries and cell and component analysis for NASA-GSFC. Many in the industry knew the Battery Lab offered a valuable service unlike that offered by any other lab in the nation and eventually it was acquired by a branch of Lockheed Martin (then LMTO) located in Sunnyvale, CA. Dr. Hari Vaidyanathan (sr. manager), Chuck Arvin, Sharon Sanbower, Rolan Clark, and Kathie Robbins got the old Battery Lab up and running again

In the following years, the Clarksburg building began to look nothing like it did in the old days as much of COMSAT Labs no longer remained; the front lobby, the cafeteria, and shipping and receiving shut down, and by 2006, the building housed only about 100 people. Also at this time the Battery Lab needed to find a new home as Lockheed Martin no longer wished to renew its lease on the Clarksburg property. I'm sure there is much irony to be found in the fact that the Battery Lab, which was the first to be informed of its demise after becoming part of Lockheed Martin, was the last to leave the building... Yes, we remembered to turn the lights off on our way out.

In 2007, we had a new lab constructed just down the street from our old home. We moved into the Gateway 270 center, which now appears as an entrance road to the old COMSAT building. The Battery Lab, now called Comsat Technical Services, still performs the same type of work as the old lab did 30 years ago, but now within our new 8000-ft² life test lab and chemistry lab. Our testing still includes nickel-hydrogen and nickel-cadmium

battery technologies, but we have added lithium-ion technology to our areas of study. The lab has continued its involvement in the Hubble telescope program and has started participating in programs such as NASA Aqua, POES, SES-AMC, Sirius and Astra, and MUOS. We are looking forward to hiring a new set of battery experts and expanding our business.

Some days on my way home from work, I still drive through Comsat Dr. to go out the back entrance at Old Baltimore Rd. The Clarksburg campus remains unoccupied except for the occasional school bus driver taking a mid-day break in the worn-out parking lot, or the track team from Clarksburg High School taking its daily run

Dr. Hari Vaidyanathan
COMSAT Technical Services Battery Laboratory

Editor's Note: We would welcome articles from other parts of the former COMSAT. What is your group doing now?

News From Colleagues - Keeping In Touch

Freddi Hamilton - Freddi has completed 2.5 years of her 4-year Ph.D. program at North Carolina State University in Raleigh, N.C. Her dissertation research is on the use of communication technologies by adult literacy students. Freddi finished her note to the Editor with "Wish me Luck." **GOOD LUCK, Freddi!**

Marty Votaw – Marty moved to retirement housing which is close to one of his daughters in Santa Barbara. Thanks to Dan Swearingen for getting the new phone number and address from Marty. Dan reports that “He's in good spirits and keeping busy (presently on his photo slide collection), but enjoys hearing from old friends.”

Ernest Wallace reports that he is living in Spain.

Roman Ulans - Roman was Director of the COMSAT European Office in Geneva, Switzerland. Roman retired in 1978 after closing the office. “After retirement I moved to Bucks County in Pennsylvania, first to Pipersville and now in Doylestown. I live alone in an apartment in a retirement community in excellent health. Yesterday I celebrated my 95th birthday and just returned from a 5-day celebration of wining and dining with my six children and the many grandchildren and great grandchildren in and around the S.F. Bay area of California.”

Donald Kron - 1984-1997, Finance for Corporate and Comsat Laboratories - Thanks for all you and the rest of the team do regarding COMARA. I miss the social occasions as I'm in Chicago (Schaumburg), now, though I keep in touch with a number of COMSAT colleagues, four of whom, like me, are currently unemployed in our tough economy. A challenge, though not particularly newsletterworthy.

Gopal (Jan) Janardanan - We have been in and out with travel, grandchildren etc. Will try to attend a get-together one of these days.

Dick McClure - I continue to work full time at the Applied Physics Lab of Johns Hopkins University. The group in which I'm working supports the project manager, Defense Communications and Army Transmission Systems, at Ft. Monmouth, NJ. We do development work and perform studies on control systems and control architectures for military communications satellites. The current satellite of interest is the Wideband Global Satellite; -the first was launched in fall 2007 and the second launched this past April 3. WGS is a dual-band satellite, supporting military X and Ka bands. The satellite was built by Boeing, uses X-band phased arrays for both receive and transmit, and carries a digital channelizer that digitally samples received RF signals, performs DSP operations and reconstitutes the analog signal for the downlink. It's a far cry from the early Intelsat birds that were developed and launched while I was at COMSAT! My current project is concept development for a system to manage carrier powers at the ground terminals and ultimately satellite received and transmitted power levels. Thanks for maintaining COMARA.

Neil Helm - Fonya and I are leaving our riverside Cabin John, MD, home on June 1 for a home in Virginia Beach, VA.

Bill Callaway - We have a small group of retired COMSAT people. George and Lucille Skinner, Dave and Jeanne Ours, and Lorraine and I have been gathering in September every year at our condo in Myrtle Beach, SC.

Although we have tried, George and I have never been able to brainwash Dave into golf. We meet other times as well but not regularly. Just for the fun of it, I must say that I enjoyed my 81st birthday yesterday on April 20.

Lynn Siguenza - My husband passed on last April '08. I've been busy.

Ed Martin – moved to Gaithersburg.

Ashok Rao - (Labs from 1989-1999) - I have created a COMSAT alumni group on Linked-In, which is intended for general networking and comments/discussions. Group Page:

<http://www.linkedin.com/e/gis/1679217> - Since it's start yesterday, it already has 10 members (Linked-In automatically alerts people who have listed COMSAT as one of their companies in their profile.)

Brij Agrawal - Brij Agrawal joined the Spacecraft Laboratory at COMSAT Laboratories in 1969 after completing his Ph.D. from Syracuse University. He was on assignment at European Space and Technology Center under the Aerosat Program for about 2 years. In 1979, he joined the Intelsat R&D Department. He published a book titled *Design of Geosynchronous Spacecraft*, for which he did the majority of writing while at COMSAT. In 1989 he joined Naval Postgraduate School (NPS) as professor in the Department of Aeronautics and Astronautics.

At NPS, he has provided leadership for the Astronautics program by starting a new degree program, MS Astronautical Engineering, developing new courses in spacecraft attitude control and spacecraft design, developing new laboratories for instruction and research, and founding the Spacecraft Research and Design Center (SRDC). Currently he is Distinguished Professor and director of SRDC. He has been awarded several research and teaching awards, including the Hamming Award, and was recently elected Fellow of AIAA. The focus of his continuing research is very fine pointing in micro- radians and jitter control in nanoradians for imaging spacecraft, laser communications, and high-energy laser beam control; and adaptive optics for correcting beam aberration due to air turbulence. Further information about his work can be found at www.nps.edu/srdc/. He fondly remembers his formative years at COMSAT Labs, where he learned a lot from his colleagues at Spacecraft Laboratory, resulting in writing a book.

Brent Jacocks - COMSAT introduced me to the joy of innovation. Although I can't say that I'm an expert in anything, I've never forgotten the thrill of exploration. I'm continuing to work in publications production for the American Speech-Language Hearing Association (ASHA) in Rockville, MD. ASHA is an association of about 140,000 members that, by the way, produces a news magazine and four journals relating to audiology and speech-language pathology. My experience at COMSAT was invaluable in many ways. It helped me to understand the mechanism of transmitting and amplifying sound and the impact of noise and other distortions on hearing. It also gave me experience with editing content I didn't always understand and introduced me to the thrill of investigating new technology that would facilitate the art of communication.

Although I'm currently managing the production of ASHA's print journals, all our journals will be going online only in 2010 (at journals.asha.org). The world of publishing is ever changing, which is why I love it so much. Having begun my career in the era of Selectric typewriters, I'm looking forward to the opportunity to explore new opportunities for enhanced online content, the ability to present data, video, and audio in an electronic journal that is easily accessible to audiences throughout the world.

News from Skipper Vasilis Riginos - After opting for early retirement from COMSAT Labs I embarked on my second career. My new profession, although not as technically challenging as my old one, is still very rewarding and exiting. It still presents many technical problems and opportunities for troubleshooting, but it blissfully does not present managerial problems and their stress. However, the pay is not as good; as a matter of fact, I now have a negative salary.

What I now do is try to sail my boat, S/Y Thetis, a 36-foot Jeanneau sloop, to as many new harbors and remote anchorages as I can. I spend several months of the year preparing and about 6–7 months living on the boat and cruising in Greek and Turkish waters. This cruising lifestyle is 98% sheer pleasure and ecstasy and 2% utter terror.

While I have been sailing since I was a kid, up until 1996 I had never sailed any long distances; that is, all my sailing had been near land. I first took a long trip, 4 days and nights, sailing from Greece, where I keep my boat,

first to Malta and then 2 days to Sardinia. With me was my old college roommate, Lewis Unger, from Stevens Tech. In Sardinia, Lewis had to get back to his business in NY and I sailed the boat back to Greece single-handed. This was a novel, a little frightening, and a very rewarding experience. Since then I do a lot of solo and night sailing

In 1999 I sailed for 2 months in the Back Sea. That was also very interesting. During a period of 3 weeks we met only one other sailboat. In 2001 I sailed again to Malta where my wife, Alice, joined me and then we spent the next 6 weeks cruising Tunisia. In September of 2004, I, along with a high-school friend, Manos Castrinakis, sailed Thetis from the island of Samos in the eastern Aegean, to Gibraltar, where we left her for a few months. Then in early January of 2005, when the conditions for crossing the Atlantic were optimum, we resumed our trip. We sailed along the route of Columbus, first to Madeira, and then to the Canary Islands and Cape Verde, ending on the Caribbean island of Martinique. Thus I realized my childhood dream to cross the Atlantic Ocean with my own boat and under sail.

Being still a young man of 66 with a 22-year-old solid boat, I hope to have many more interesting sails. You can follow the details of my travels at <http://www.sy-thetis.org>. By the way, Thetis, the boat's namesake, was the Greek mythological Nereid, mother of Achilles.

In Memoriam

Bradley Durst
Alan LeRoy Verbin
Andy Werth
Catherine Talcott
Ed Wabnitz
May they rest in peace.

We attempt to email death notices and memorial services for all former members of COMSAT and spouses. A list is also maintained on the web site. If you have information to share, please send an email to webmaster@comara.org. (That's the only email address that is monitored daily.)

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Please send us information about **what you're doing** so that we can include it in a future COMARA Newsletter!
Best wishes for a great summer 2009!

The COMARA Board of Directors