

Emeritus Member News is a twice-yearly newsletter for Sigma Xi's honored Emeritus members, intended to keep you up-to-date on news about Sigma Xi and its members.

We also e-mail monthly updates and member news. If you have not been receiving these e-mail updates and would like to receive them, please e-mail kgreenaway@sigmaxi.org.

Also, in the interest of saving trees, if you would prefer to receive this newsletter by e-mail as a PDF, please e-mail that request.

The Mission of Sigma Xi:
To enhance the health of the research enterprise, foster integrity in science and engineering, and promote the public's understanding of science for the purpose of improving the human condition.

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Career Focus: G. David Thayer (1959)

When I worked for what was then the Central Radio Propagation Laboratory of the National Bureau of Standards (now part of the Environmental Research Laboratories of NOAA) in Boulder, Colorado, 1957-1971, I researched the propagation of radio waves in the troposphere (lower atmosphere) and authored or co-authored numerous papers and publications. A senior member of the staff, Kenneth A. Norton (a Fellow of the IRE, now the IEEE), once wrote of me, "I consider Mr. Thayer to be the ultimate authority, at least in this laboratory, and perhaps throughout the world, on the subject of ray tracing through the troposphere." Because of this work, I was asked to write a section of the Condon Report on unidentified flying objects. This write-up subsequently appeared as Chapter 5, Section III, of the final report, *Scientific Study of Unidentified Flying Objects* (New

York: Bantam Books, 1968), titled "Optical and Radar Analyses of Field Cases," pp. 115-176. (A hard-bound version of this book was published by E. P. Dutton in 1969, but I've never seen a copy of it.)



This work is doubtless my most significant contribution to scientific research. My work on the UFO Project even earned me a citation in *Who's Who in the West* (1976-77) and an article in the *National Enquirer* dated April 19, 1977, complete with my photograph. (Perhaps I should not admit to the latter reference!)

An Emeritus member, David Thayer was inducted into Sigma Xi in 1959. He now resides in Sarasota, Florida.

Sigma Xi Report: Scientific Workforce Must Develop Global Competence

If the U.S. is to remain a leader in science and technology, our scientists and engineers must be able to work with researchers around the world, so that they can tap into and actively participate in the creation of new knowledge and innovation wherever and whenever it is occurring. That is among the conclusions of a 67-page report called *Embracing Globalization: Meeting the Challenges to U.S. Scientists and Engineers* published online by Sigma Xi and funded by the National Science Foundation. Highlights of the report appear as a special insert in the September-October issue of *American Scientist* magazine. You can access both the highlights and the full report at www.sigmaxi.org/global.



Pension Protection Act

A reminder about the Pension Protection Act of 2006, which gives new tax incentives for charitable gifts to donors who will be 70½ or older on December 31, 2007. This new law allows you to use funds from your IRA to make a lifetime charitable gift, *tax free, but only up to December 31, 2007*. Currently, this age group is required by law to take at least the minimum distributions from their IRAs and to pay income taxes on those distributions. Under the 2006 Pension Protection Act, if you transfer those distributions to your favorite charity, you will avoid paying income tax on them. Should you be interested in this option, we have drafted a sample letter that you may send to your IRA custodian, entitled Request for Direct Charitable Distribution from an Individual Retirement Account. If you would like a copy of that letter, or further information on the Pension Protection Act and its benefits, please e-mail Kristen Greenaway: kgreenaway@sigmaxi.org, or call her on 800-243-6534, ext 210.

Career Focus: Daniel F. Merriam (1952)

Daniel F. Merriam, Ph.D., D.Sc., Senior Scientist (emeritus) with the Kansas Geological Survey at the University of Kansas has a long and distinguished career working mainly on various aspects of geology in the midlands of the U.S. Educated in the U.S. and England, he's published more than 300 articles and books, and his *Geologic History of Kansas* has been a standard reference for over 40 years. He taught at KU, Syracuse, Wichita State and Emporia State (Kansas) universities.



He was one of the pioneers in the development of computer applications in geology, especially spatial analysis. He founded several publications including the Kansas Survey's *Computer Applications* and the International Association of Mathematical Geology's (IAMG) *Mathematical Geology* and *Computers & Geosciences*.

His research has been involved with the analysis of the origin and form of sediments that blanket the ancient crystalline basement (craton) that underlies the American mid-continent. Attention has been paid particularly to the origin and development of the sedimentary basins on the craton and their geothermal overprint. The formation of the small and important oil-producing structures has been the subject of detailed investigations, and he has been interested especially in the method(s) by which repetitive rock types (cyclothems) are formed and in their analysis and interpretation.

Quantitative techniques to compare and integrate thematic maps were explored and used to define new concepts and refine old ones. He developed a simple technique to determine the amount of rock overburden removed for an area at any particular time in the past to understand how deep the sediments had been buried and ways in which to evaluate paleo-earthquakes. He was involved with testing a new optic-fibre logging technique to determine pathways of fluid migration in the sediments, which is important in the migration and entrapment of petroleum.

Merriam is a member or fellow of numerous geological organizations has been honored with honorary membership in many. He has served on many committees and held office in several organizations including president of the University of Kansas Chapter of Sigma Xi. His alma mater, KU, recognized him with Distinguished Alumni Honors in Geology (1995); Hornická P íbram (Czechoslovakia) presented him with a Gold Medal in 1970; the IAMG awarded him their highest honor, the William C. Krumbein Medal (1981); and the Geological Society of London bestowed on him the William Smith Medal (1992).

After almost 60 years as a professional geologist, he is still active in analyzing geological data from Kansas and is currently working on statistical analysis of geological trend data. He is archivist for the IAMG and historian for the Department of Geology at KU.

An Emeritus Member, Dan Merriam was elected into the Kansas Chapter of Sigma Xi in 1952. He currently resides in Lawrence, Kansas.

Emeritus, But Not 'Retired'

In our first issue of the printed *Emeritus Member News* we asked for what you believed to be your critical contribution to research science or engineering. Your responses are not only confirming the true value of contributions Sigma Xi members have made to the health of the research enterprise, but many of you also pointed out to us two key factors: first, that many of you are still working, even in your seventies and eighties (and nineties!); and second, that a number of you believe that Sigma Xi Emeritus Members still have much to offer.

Abram B. Stavitsky (inducted 1944) was the first to contact us with his views. "I'd like to know whether and, if so, how, Sigma Xi is involved in emeritus affairs in general? I have been emeritus for almost 18 years, yet am still active on at least one medical school committee, in research and in mentoring of graduate students, postdoctoral fellows and junior faculty. However, at least at [Case Western Reserve], I think the talents and experience of most of the emeritus professors are hardly being used!"

Richard Jacob (1959), Professor Emeritus of Physics at Arizona State University (ASU), recently 'retired' as founding dean of the Emeritus College at ASU. He wondered if the Emeritus College may be a concept Sigma Xi could utilize...

The Emeritus College at ASU was founded to provide emeritus faculty opportunities for continued academic engagement with the university and their own professional disciplines. Established in November 2004, the college also fosters personal intellectual and creative growth for members and their spouses. The college is an official unit under the university provost and receives support for permanent staff, facilities and operating expenses. It raises funds from its membership, which now stands at more than 300, to finance its various programs, a few of which are research and creativity grants, an Emeritus Press and public lecture series. Professor Emeritus of Sociology Leonard Gordon assumed the college's deanship on July 1, succeeding founding dean, Professor Emeritus of Physics Richard Jacob. More information can be found at the College's Web site, www.asu.edu/provost/emergituscollege/.

What are your views? Do you believe Sigma Xi would be well advised to create an emeritus-type program whereby our Emeritus Members could be more fully engaged? Would *you* like to get more involved in Sigma Xi Emeritus affairs? Please let us know your thoughts, by e-mailing Kristen Greenaway at kgreenaway@sigmaxi.org, or write to her at Sigma Xi. And many thanks to those Emeritus Members who have already responded via August's eBlast.

Emeritus Members in the News

In May the White House announced the winners of the 2005 National Medals of Science, the nation's highest scientific honor. The prizes recognize achievement in the physical, biological, mathematical, social, behavioral and engineering sciences. Four of the eight academics honored are Sigma Xi members, including Emeritus member **Ralph A. Alpher** (member 1945-2007). Sadly, Alpher passed away on August 12, just a few weeks after his son accepted the medal on his behalf. The "forgotten father of the Big Bang", Alpher was finally receiving the recognition he deserved, albeit 50 years after the fact.

Richard E. Bradley (1960), D.D.S., M.S., Professor Emeritus UNMC College of Dentistry and former dean will be awarded the American College of Dentists' highest award, the Gies Award on September 27, 2007, and the Pierre Fauchard Academy's highest award, the Gold Medal on September 29, 2007, in San Francisco, California.

Felix Bronner (1950) was the first chair of the Bones and Teeth Gordon Research Conference in 1954, and remains active in the organization of the conference. He recently attended July's conference at the University of New England in Biddeford, Maine, having attended all of the Bones and Teeth conferences, except one, since 1954.

Dr. Charles Lytle (1958), a professor of zoology, coordinator of biology outreach programs, and director of the Howard Hughes Medical Institute Undergraduate Research Program at

NC State in Raleigh, has been elected president of the North Carolina Academy of Science.

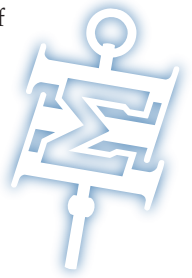
Karl Maramorosch (1949) emeritus professor in the Department of Entomology at Rutgers-The State University of New Jersey, was an invited seminar speaker at Cairo University, Egypt, where he received an award honoring his seven decades of work on vectors of plant pathogens.

You may remember that **Benjamin Mosier** (1958) was our featured 'Career Focus' in the inaugural issue of *Emeritus Member News*. Mosier wrote back to us that since the newsletter was mailed out he has received messages from all over the world congratulating him. And that he's heard from old friends with whom he'd lost contact more than 35 years ago!

Maxine F. Singer (1951) has received the National Academy of Sciences' most prestigious award, the 2007 Public Welfare Medal. Singer is president emeritus of the Carnegie Institution of Washington.

We are honored that **Marion Wolen** is commemorating the memory of her late husband Emeritus member **Robert Wolen** (member 1961-2006) with a paver, to be sited in Sigma Xi's plaza.

Internationally renowned aeronautical engineer Naval Post-graduate School Professor Emeritus **Robert "Bob" E. Wood** (1966) has been named an honorary fellow of the American Helicopter Society (AHS) International.



Marketing Your Research

by Lloyd Patterson

With my background and experience, and at my age, I now prefer to provide guidance to those interested in marketing their research efforts. Initially, during my professional career I practiced in the health-care field (prosthetics and bone regeneration), which then directed me into the R&D field. I soon appreciated the need for funding, and established a company to evaluate the research of others, and then introduce that research to major organizations for potential commercialization.

Within a 30-year period we were able to introduce over 500 technologies and products, with many becoming leaders in their fields. We performed as intermediaries, negotiators, mediators and researchers – we developed marketing skills. We needed to develop a marketing approach which scientists and business people would understand and accept.

One of the elements within the program was to establish exchange conferences to introduce scientists and key corporate executives. Our activities created an environment enabling research to thrive. And being a member of Sigma Xi for over 40 years enabled me to be in contact with thousands of quality people, worldwide.



There are numerous key factors which researchers should be aware of, in order to obtain funding and determine market potential:

- Move from the theoretical to the tangible
- Tangibility generates interest and funding
- Many technologies are applicable to a range of end uses
- Patent applications have dollar value—to obtain information requires an executed confidentiality agreement with option payment
- Option agreements have become well received. Following the evaluation period, organizations will determine if a license or package buy-out is the most practical
- Simple abstracts need to be produced to explain the available opportunity – don't include confidential information
- Consider participating in exchange conferences or establish one – researchers need to present to corporate people
- The industrial world has changed considerably over the past decade – you must know what's hot and needed

Research can generate new technologies or products. However, organizations need to know what you have and that it's available. Communications have much improved and thus delays don't need to take place. This isn't the same world when in 1910 the cotton picker was invented but wasn't commercially used until 1942!

Lloyd Patterson (inducted 1966) is the founder of Lloyd Patterson International and lives in Ormond Beach, Florida.

Daily Science News

Every weekday, we round up science-related news stories from the mainstream media. *Science in the News Daily* goes out by e-mail to more than 10,000 scientists, decision-makers, journalists, educators, students and science aficionados. It's your electronic science section, a professionally edited news portal. If you would like to subscribe to the *Daily*, please visit: www.sigmaxi.org.

AMEX's GivingExpressSM

You may have recently received an e-mail from American Express promoting its GivingExpressSM program. The program allows you to make tax-deductible donations to your favorite charities – which we hope includes Sigma Xi – and earn one Membership Rewards point for each dollar you donate when you use a card that's enrolled in the Membership Rewards program. To find out more about the program, go to www.americanexpress.com and do a search for "GivingExpress."



Sigma Xi Seeks New Executive Director

The Society is seeking applications for the position of executive director at the Society's headquarters here in Research Triangle Park, NC. For additional details please contact Ms. Yolanda Thorpe-Harris, director, human resources at the Society's address, or by e-mail at hrdept@sigmaxi.org.

If you would prefer to receive Emeritus Member News by e-mail as a PDF, please e-mail Kristen Greenaway, editor, at kgreenaway@sigmaxi.org

Gifts of Appreciated Securities

After cash, appreciated stocks and bonds are the easiest assets available to donors to support the mission of Sigma Xi. Making a gift of securities is simple and offers a number of important tax benefits.

When you sell an appreciated stock, the sale triggers a tax (*capital gains tax*) on the realized gain, i.e. the difference between what you paid to purchase the stock (*cost basis*) and the stock's value at the time of the sale. If you give the stock directly to Sigma Xi, Sigma Xi is not liable for the payment of any capital gains tax because Sigma Xi is tax-exempt as a qualified 501(c)(3) charitable organization. Moreover, you can take a charitable deduction on your tax return. It's a win-win opportunity for everyone – except the taxman.

How Gifts of Appreciated Securities Benefit the Donor

When you make a gift of appreciated securities, you receive an income tax charitable deduction for their full fair market value. You pay no capital gains tax on the appreciated portion of the gift. The example in the table below illustrates the value of a gift of appreciated securities.

	DONOR SELLS STOCK, THEN DONATES PROCEEDS TO SIGMA XI	DONOR GIVES STOCK DIRECTLY TO SIGMA XI
Appreciated value of stock	\$50,000	\$50,000
Cost basis	\$5,000	NA
Taxable capital gain	\$45,000	\$0
Tax payable on capital gains (20%)	\$9,000	\$0
Donor's Net Charitable Deduction for Gift to Sigma Xi	\$41,000	\$50,000

Alternatively, for securities that have declined in value, it is generally more advantageous to the donor to sell the securities and then donate the cash proceeds to Sigma Xi. In this way, you can establish a tax loss to offset any taxable capital gains that you might have *and* you can still claim a charitable deduction for the cash gift to Sigma Xi.

If you would like to include any news of your own in the next issue of *Sigma Xi Emeritus Member News*, please e-mail Kristen Greenaway, editor, at kgreenaway@sigmaxi.org. The deadline for any material for the next issue is February 27, 2008.

What's
your
news?

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