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alumni association

APRIL 2004 NEWSLETTER

MESSAGE FROM PRESIDENT BOYD FAIR

My, how time flies when you are having fun. I thought retirement was supposed to be a time to sit back, put your legs up, listen to some good music, and sip a glass of fine wine. Well, maybe that will come with time....

Anyway 2004 is here (already?), the first quarter of the year is gone (Wow!), and the first newsletter of the year is here (Yea!!), thanks to the hard work of Bob and his committee members. In this issue you will find several articles about the members of the association, including an article about what our UK counterparts did on one of their recent get-togethers; and lists of those who have recently retired, moved, or passed on.

On the technical front, there is an excerpt from Don Nielson's book on one of the many interesting projects that SRI has had over the years. Those of you with great curiosity and particularly those of you who worked in Engineering should find the article on Active Radar Jamming very interesting as the technology has saved many of our troops lives during recent years.
There are also two articles describing current projects within SRI. The night vision article describes technologies that are important to the military and that may someday be added to commercial vehicles to improve nighttime visibility for drivers. The other article describes some work of how social studies can be used to make mathematics more relevant to students.

You will also find several some short notices about activities that the Steering Committee is considering to provide better service to its membership. These ideas are in the preliminary stages of investigation and may or may not come to fruition. We are soliciting your feedback and welcome any other suggestions you might have to make the newsletter and/or association of more interest to you.

The "spring fling" is coming up shortly. We are going to try something slightly different this year, but you must read the enclosed flyer to find out the details . . .

I hope you enjoy this issue of the Newsletter. Read it in good health! . . . . Boyd

Annual Picnic – May 14, 2004

See the Flyer for Details

CENTER FOR GEOSPACE STUDIES WINS THE PRESIDENTIAL ACHIEVEMENT AWARD FOR 2004

At as recent gathering, the Center for GeoSpace Studies was awarded the Presidential Achievement Award for 2004. Over two decades, the Center for GeoSpace Studies has created a world-leading research activity in atmospheric space weather using radar diagnostics, made fundamental discoveries in an area of environmental research that is of primary importance to humanity, and fostered international collaboration and the training of students and colleagues in the field.

The Center conceived and led the creation of the world's first relocatable, real-time tracking atmospheric radar measurement system, the Advanced Modular Incoherent Scatter Radar (AMISR).

The Presidential Achievement Award, established in 2003, honors SRI staff members whose extraordinary contributions have made a positive and lasting impact on the world, SRI's clients, and SRI. Recipients of the award are role models – SRI Champions – who exemplify SRI's values: client focus, vision, perseverance, integrity, excellence, passion, and teamwork.

Achievements of the GeoSpace Center have brought recognition and honor to all of SRI while exemplifying the values that SRI fosters and admires.

Members of the Center are Sandie Avlakeotes, Geoffrey Bainbridge, Russell Cosgrove, Richard Doe, Shelly Easterday, Eggert Gudmundsson, Craig Heinselman, John Jorgensen, Tommy Jorgensen, John Kelly (Center Director), Carol Leger, Angela Li, John Livingston, Mary McCready, Weilin Pan, Gary Price, Nathan Rausch, Ennio Sanchez, Joshua Semeter, Roy Stehle, Jeff Thayer, Roland Tsunoda, and Todd Valentic.

Photo by Shari Fisher.

SRI's CHEMICAL CONSULTING GROUP SOLD

In January 2004, the Chemical Business Services of SRI Consulting was sold to PBI Media, LLC (since renamed *Access Intelligence*), a leader in high-value information products and consulting services for the telecom, aerospace, and media markets.

The sale involved some 100 staff in Menlo Park, Houston, Beijing, Tokyo, and Zürich. The multiclient products of the group, well-known to the global chemicals industry, are the Chemical Economics Handbook (CEH), Specialty Chemicals Update Program (SCUP), Process Economics Program (PEP), Directory of Chemical Producers (DCP), and World Petrochemicals (WP). The group also does single-client consulting work.

PBI Media, LLC began in 1977 as a division of Phillips Publishing International, Inc. After growing by several mergers and acquisitions, PBI Media was acquired in 2001 by Veronis Suhler & Associates (VS&A) Communications Partners III, LP, the private equity affiliate of New York-based media merchant bank Veronis Suhler. Also in VS&A's portfolio is Chemical Week Associates, publisher of *Chemical Week* and *Chemical Engineering*, which will be merged into PBI Media, forming with the group acquired form SRI a new Chemical Division of PBI.

PBI Media's publications include newsletters with strengths in telecommunications, aviation, and defense. PBI is also a leader in conferences and tradeshows. Headquartered in Potomac, MD, PBI has offices in New York, New Jersey, and London. In 2001 PBI Media had revenues of approximately $50 million.

This sale by SRI International represents the last of the groups that once comprised SRI Consulting (SRIC). When it was formed in 1996 as a wholly-owned for-profit subsidiary, SRIC numbered some 450 staff in groups that also included Telecommunications and Information Technology (IT); Health Industries; Chemical and Energy Practice; and the Business Intelligence Center (BIC). Later, BIC was sold to a leveraged buyout and is still active and located at SRI. The IT groups were later sold as Adario, then renamed Atomic Tangerine, which was sold to Red Leaf. The computer security group was split off and combined with Red Leaf's Red Siren, which is still active and located at SRI. All the other groups were disbanded.

AN ALUMNUS BEQUEST FOR OPEN SPACE

The Peninsula Open Space Trust (POST) recently announced a gift of $3 million from the estate of retired SRI alumnus Fred Kamphoefner, who died last March (see August 2003 Newsletter.) After retirement, Fred continued to enjoy the outdoors, spending many hours hiking local trails, gardening, bee-keeping, and taming wild jays.

The bequest will benefit POST's $200 million campaign to save 20,000 acres on the San Mateo Coast — the last remaining rural coast next to a major metropolitan area in the entire world. "The target area has a rich diversity of species and habitat. These resources face extreme threats from urban development. POST is deeply grateful to Fred for his generous bequest," said POST President Audrey Rust. "His contribution will leave an important legacy of natural beauty for future generations to enjoy."

A month later, POST announced its $1.3 million purchase of a prominent 151-acre property with some of the most spectacular views on the San Mateo Coast. Known as Seaside School Ridge, the property is located less than a mile from the junction of Highways 1 and 84 in San Gregorio. It features picturesque rolling hills, pasture and farmland, and offers signature views of the San Gregorio Valley and nearby Pacific Ocean. Its name comes from the adjacent Seaside School, an abandoned 129-year old, one-room schoolhouse located on private property at the corner of Stage Road and Seaside School Road.

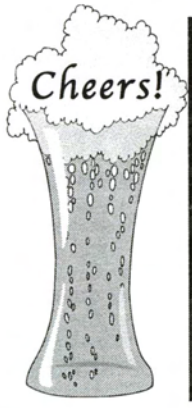
UK ALUMNI GATHERING

Member David Gibby reports: On Sunday 7th December, we met for a highly informative (and free!) guided tour of "Tate Britain". In 1987 Sir Henry Tate presented to the nation his collection of 65 paintings and two pieces of sculpture (most of it from the Victorian period), and he also funded the building to house them and financed the first extensions in 1899. He wanted London "to have the best lighted gallery in Europe".

His wealth came from his family's sugar refining business, and from the invention of the sugar cube.

From left to right : Bob Morgen, Rina & Lewis Stansfield, Jacques Pezier, Peter Miles, Gia Campari (who organized the reunion), Jeanette Gibby and Nick Collin. David Gibby was behind the camera, while Ian Benson and Anne & Chris Saunders had temporarily disappeared !

Later, we enjoyed lunch in the warmth of the "White Swan", a nearby Victorian pub.



David Gibby, Rina Stansfield, and Jacques Pezier *(at the left, from l. to r.)* enjoying the company of *(from right to left)*: Anne Saunders, Chris Saunders, Jeanette Gibby, and Nick Collin.

More photos (in colour) by David Gibby can be seen on their website: http://members.aol.com/srialumniuk , then click the "Tate Britain" navigation button.

SRI RESEARCH NEWS

Math Meets Social Studies in New NSF-Funded Initiative to Boost Student Literacy

"Thinking with Data" Project to Help Students Improve Math Skills by Studying Real-World Issues

Understanding important social issues like the federal budget, the spread of disease, and the risks associated with personal choices often involve understanding numerical data and statistics that rely on mathematical assumptions. This can be daunting for most adults, and incomprehensible to most K-12 students. It's no wonder that most Americans view social problems as matters of irreconcilable opinions, and math problems as isolated exercises with little use outside the classroom. Consequently, many people are ill-prepared to make informed decisions, and almost two-thirds of high school students do not take advanced math courses. One result may be a workforce unprepared for the technological jobs of the future.

To help address this growing concern, the "Thinking with Data" initiative has been launched by researchers at SRI, in collaboration with Kent State University and Green Middle School in Uniontown, Ohio. The 18-month effort is supported by $325,000 from the National Science Foundation.

The project aims to help students learn mathematics of data analysis. The approach combines the cultures of social studies and mathematics.

SRI's Center for Technology in Learning and Kent State University's Research Center for Educational Technology will form an interdisciplinary team to develop Web-based learning tools for middle school math and social studies students.

The team includes Green Middle School, where teachers have a history of collaborating with researchers at SRI and Kent State, and see the Thinking with Data project as having potential to lead to a significant increase in student learning.
The project could have broad impacts, including:

• More literate use of data by teachers and students, by helping them use data meaningfully in a wide range of topics

• Widening the range of students capable of analyzing data as a basis for thinking about societal issues

SRI Researches Night Vision and Electronic Sensors for U.S. Army

As Member of Alion-Led Team, SRI Contributes Capabilities in Mine Detection and Neutralization, Optical Sensors, Imaging, and Perception

SRI has been selected by the U.S. Army Communications-Electronics Command (CECOM) as part of a high-technology team to provide research and development support for night vision and other electronic sensor technologies. SRI is on the team led by Alion Science and Technology of McLean, VA.

"We're combining our efforts to deliver truly cutting-edge night-vision and other sensor solutions to the U.S. Army," said Rob Goff, senior vice president and manager of Alion's Strategic Operations Group.
The contract has a total estimated value of more than $120 million over three years with possible extensions.

SRI will rely on its experience in the following areas:

• **Mine detection:** SRI has 30-plus years of ground-penetrating radar capabilities. SRI's airborne radar system detects hard-to-find objects beneath the soil or obscured by trees.

• **Mine neutralization:** SRI can safely neutralize unexploded ordnance through low-order burning of the main explosive charge. The technology can be used to disable buried mines when the exact location is unknown.

• **Electro-optic measurement and signature intelligence:** SRI's optical sensing capabilities are based on its remote vibration imaging technology, which uses a portable device to detect low-frequency vibrations from any visible object, including machines, buildings, pipelines, vehicles, and buried objects such as landmines.

• **Unmanned air and ground sensors:** SRI has helped to develop flying robotics, such as micro-air vehicles (MAVs).

In addition, SRI has more than three decades of work in Combat ID radio frequency sensing and imaging.

HISTORY CORNER

BOOK EXCERPT

This story of SRI's contributions that made possible stealth aircraft appears in Don Nielson's forthcoming book on the history of SRI, and has been reprinted with his permission.

Active Electromagnetic Stealth
SRI's Contribution to Radar Signature Control

In the electromagnetic realm there are three ways to diminish the returned signal that a radar uses for detection. One is to absorb the incoming and outgoing (reflected) wave so that it falls below the threshold of the radar receiver. The second is to deflect or scatter the signal in directions other than toward the receiving radar. The third is to actively radiate a signal in the direction of the radar that adequately represents the composite reflection from the target in the radar's direction but is of opposite phase to the normal reflection. This results in sufficient cancellation the total radar return to draw it below the radar's threshold. As mentioned above, this last technique is called active cross-section control and one of its earliest realizations took place at SRI in the early 1970s. In fact, at the time of the SRI investigations, the term "stealth" was not yet coined for this technique. These first experiments were truly "proof of principle" and treated like all of the work Mike Villard and his team did: do fundamental work, keep good records, and publish the results or take them to research sponsors to get the resources to develop them further.[1]

Active stealth was associated mainly with low frequency radars where the wavelength was of the order of the plane's largest dimensions. In the mid-to-late 1960s these radars were being developed for the long-range detection of airplanes, often beyond the horizon. These two facts dictated the use of frequencies in the order of 10 Mhz so Villard began his investigations at about 8 MHz. The question was simply put: Could an airplane that was being illuminated by a low frequency radar transmit a signal back in the direction from which the radar signal came that would cancel the one being reflected by the skin of the airplane? Being able to do this required some knowledge of the how the airplane appeared as a reflective source from all the angles from which it might be illuminated. That could be complex. As it turned out it was manageable, but let's turn to the experiments that confirmed the utility of the concept.

The setting was the Palo Alto airport, a small community airport serving the civil aviation needs of the local communities. As just mentioned, to test the concept of active radar signal cancellation required a radar, a way to detect the radar and its direction of arrival in the target plane, and a means to generate there a canceling signal in the exact reverse direction. Figure 1 shows the makeshift set up at the Palo Alto airport on May 23, 1972.

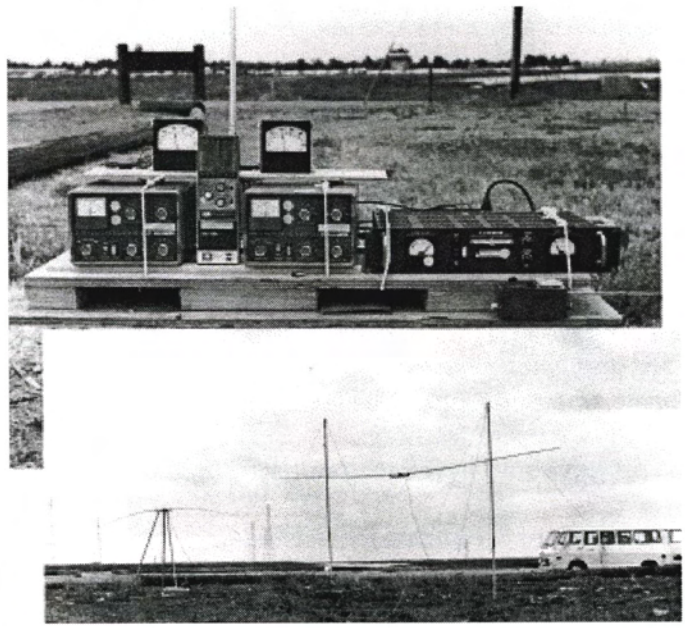


Figure 1. At the Palo Alto Airport, site of the first active stealth experiments. Shown are laboratory radar equipment (top) and dipole antennas (bottom). (May 23, 1972)

[1] The SRI radar cross-section reduction team consisted of Villard, Jim Lomasney, Clair Powell, Ken Johansen, Robert Lloyd, and the person from whom came much of this account, Ralph Wanner. Ernest Aho would help in the acoustic wave analog to follow.

HISTORY CORNER (Concluded)

On the table is a laboratory "radar" with its corresponding antenna some distance away. First, the airplane's polar radiation pattern, that directional scattering of signal when the plane is illuminated from various directions, was examined while the plane was on the ground. Over the range of frequencies of interest, the pattern was well behaved, at least as compared to microwave frequencies. Its pattern was not unlike that of a simple half-wave dipole. If so, then, the placement at the center of this dipole a signal of equal and opposite phase would reduce the reradiated signal, including in the direction from whence illumination came.

This concept was tried first in the laboratory and then repeated in the air aboard a rented AeroCommander 500. Flying in the distance, then, the plane was equipped with a dipole stretched along its wings and inside, the secret weapon: a well-informed, highly dexterous SRI team member, Jim Lomasney. His job, amid no small amount of turbulence, was to gauge the characteristics of the incoming radar signal and then adjust the characteristics of the one to be radiated so as to just cancel the current at the center of the dipole. This meant he was simultaneously juggling both the amplitude and phase of the outgoing signal. Switching this practice on and off gave clear evidence at the radar receiver that the returned signal could be made to disappear. Mike Villard, Ralph Wanner, Jim Lomasney, and the others had clearly shown that active cancellation worked...at least at these low frequencies!

All of this exploration was done on SRI's own internal research money. With these results they were able to get DARPA funding and, with the additional involvement of SRI's Drs. Phil Fialer and Larry Sweeney, SRI perfected the approach even more and applied it to other, larger airplanes. The time was 1973-4.

Within a year or so, and after the technique was refined, they took their system to Florida where an HF (3-30 MHz) surface wave (low angle) radar was being developed and tested. The SRI technique worked so well that the first look the radar operators got of the airplane was when it was directly overhead. Ralph Wanner remembers that it eventually caused the cancellation of the development program for that radar!

While in retrospect this may all seem straightforward, this test, or proof of concept, was the culmination of months and months of preparatory work that began as early as the mid-1960s. It was first necessary to learn about the basic nature of the reflected signal. What were the magnitude and variations of its amplitude and phase? Was the rate of variation too fast to usably assess or compensate for? Would the incident radar signal arrive via multiple paths that would produce untraceable fading? First, uncooperative airplanes were used to gather such data, then a single target, the above SRI AeroCommander, was moved to varying distances on the ground, then it was flown with no electronics onboard. After the successful 1972 demonstration mentioned above, it was necessary to introduce the means to automatically perform the tasks that the well-coordinated Lomasney did manually. The team was expanded to include those SRI staff familiar with digital algorithms and microprocessors.

Between Mike and others on the SRI radar cross-section reduction team, over a hundred memoranda were created and this library of knowledge formed the basis to seek long-term research sponsorship. SRI was able to get a considerable number of research contracts over the approximately two decades that this important technology evolved. While there were several sponsors for the work, the foremost was DARPA and their Military Service affiliate, the Office of Naval Research. An anechoic chamber was built at SRI, complex models of military aircraft were introduced, finite-element modeling of their complex structures occurred to learn just how reradiation had to be tailored. The capabilities became so useful that very early on they were drawn under the cloak of secrecy. Thus, stemming from the freedom to explore a relatively simple but powerful concept, Mike Villard and his SRI program team made truly significant contributions that became a very important part of our military capability.

RECENT RETIREES

November 2003 – **Joann Geren**, Administrative Assistant in the Center for Education and Human Services, after 17.3 years of service.

December 2003 – **Rosie McCormick**, Senior Administrative Assistant in Human Resources Services, after 27.2 years of service.

January 2004
- **Lee Anderson**, Program Manager of Education Policy Studies in the Policy Division, after 13.9 years of service.
- **Virginia K. Brown**, Small Business Administrator in Procurement, after 29.4 years of service.
- **Andrew P. Cheung**, Program Director in the Analytical Chemistry Department, after 37.0 years of service.
- **John H. Peters**, Senior Staff Scientist in Pharmaceutical Discovery, Biosciences Division, after 30.4 years of service.
- **John Rollin**, Senior Programmer Analyst in the Center for Education and Human Services, after 26.5 years of service.
- **Masato Tanabe**, Senior Staff Scientist in Pharmaceutical Discovery, Biosciences Division, after 46.5 years of service.

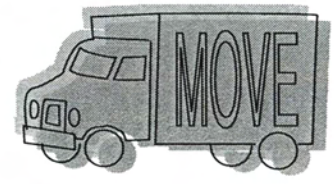
February 2004
- **Kimberly A. Lacabanne**, Legal Coordinator in the Office of the General Counsel, after 13.8 years of service.
- **Leonard D. Perez**, Senior Subcontract Administrator in Procurement, after 9.0 years of service.
- **Richard H. Peters**, Associate Program Director of the Medicinal Chemistry Program, Bio-Sciences Division, after 37.5 years of service.
- **Richard D. Toliver**, Business Development Manager for the Radio Science and Engineering Division, after 18.4 years of service.

March 2004 – **Ivor Brodie**, Senior Scientific Advisor Emeritus in the Applied Physical Sciences Division, after 30.3 years of service.

NOTE: Job titles may not be the most recent before retirement. Orgs may not reflect recent changes in org names.

MOVING ON . . .

Don Alves	from La Honda	to Boulder Creek, CA
Bob Bendit	from Templeton, CA	to Georgetown, TX
John Golden	from Chincoteague, VA	to Salisbury, MD
Jerry Homan	from Walnut Creek	to Santa Barbara, CA
Bob Hill	from Palo Alto	to Medford, OR
Pam McAlpine	from Menlo Park	to Bainbridge Island, WA
Douglas Mc Connell	from Palo Alto	to Noosa Heads, Queensland, Australia
Joe Rudzinski	from Andoque, France	to Gryon, Switzerland
Lee Ruggles	from Palo Alto	to Lindsborg, KS
Oliver Whitby	from Sebastapol	to Santa Rosa, CA



See details in the 2004 Directory, and in the addendum pages, enclosed with this mailing.

IN MEMORIAM

David Bloom

David Soren Bloom, 85, died on March 21. A graduate of Stanford, David served 5 years in the Navy during WW II, leaving as a Lt. Commander. His duty including radar school in London and assignment as an officer aboard the USS Portland.

After receiving an Sc.D. from MIT, he worked at the Naval Ordnance Test Station at China Lake, and he also worked for the DOD. He joined SRI in Nov. 1960 as a Senior Metallurgist in the Chemical Physics Division.

After leaving SRI in 1964, David spent 23 years with Lockheed in Sunnyvale.

He is survived by his wife Ethelyn, three step-children, and seven step-grandchildren.

Jane Gallagher

Deloris Jane Sellar Gallagher died on Jan. 17 after a brief illness. The retired graphic designer was 73.

Born in Palo Alto and raised on a small farm in Napa, she spent most of her adult life on the peninsula, residing in Portola Valley since 1958.

After attending San José State University, where she met and married John Gallagher, Jane worked as a graphic designer/publications specialist at GE and at Vidya Corporation before coming to SRI in 1972. She worked briefly as a Senior Report Coordinator in Central Staff and then transferred to Publications Services as a Commercial Artist. She was a Graphics Designer when she retired from SRI in 1988 to pursue a lifelong interest in art.

She became noted for her paintings—especially her watercolors—of the Peninsula. She illustrated several books and was active in a number of local art societies, including the Portola Valley Art Gallery. She founded the Cultural Art Committee of Portola Valley, and the Town honored her as Volunteer of the Year in 1999.

Surviving Jane are her daughter Michelle Gallagher of Sacramento and her sister Sally Sellar Reed of Ross, CA, along with many nieces and nephews. John Gallagher died in 1965.

John George

Joffre John George was only 56 when he died on Feb. 27 in Columbus, OH. He was a Sr. Consultant in the Health Industries Dept. at SRI in the 1980s.

Joffre was born in Beverly Hills, CA in 1947. Fluent in French, German, and Italian, he was a 1967 graduate of the University of Lausanne (Switzerland), majoring in Commerce and Finance. He later took courses at Dartmouth's Tuck School of Business.

He began his career in the pharmaceutical business at Novartis, then moved to Rhone Poulenc, before coming to SRI in 1983 as a Sr. Consultant in the Health Industries Dept.

After leaving SRI in 1991 as a Principal Consultant, Joffre held executive positions at Torre Lazur and at McCann-Erickson Health Care Worldwide (both in New Jersey); Grey Health Care Group in London (1997-1999),and (since 2003) at Inchord Communications in Westerville, OH.

Survivors include his wife Angela Stine George; brother Daniel of Monterey, CA; daughters Diana of Yardley, PA and Rebecca Sisto of Peapack, NJ; a step-son and two granddaughters.

Savel Kliachko

Savel Kliachko died on Aug. 6, 2003 after spending the last 1.5 years with Alzheimer's. He was 80. A specialist technical writer/editor/translator inComputer and Information Sciences, Savel had worked at SRI for 10 years, retiring in 1988.

Savel was born in 1923, in New York City, of musical Russian parents.He served in the U.S. Army (1942-1945) as a Soviet liaison specialist and military government interpreter in occupied Germany; after discharge he served eight months in UNRRA DP camps in Germany.

After earning degrees in international affairs at the University of Chicago and at Columbia, he had a variety of day jobs while teaching languages in the evenings. His mother, Sarra, taught Russian at Stanford from 1946-1966, and Savel earned a Ph.D. in Slavic Languages and Literatures from Stanford (1968), specializing in Slavic Linguistics. While at Stanford, he worked part-time as translator-editor on the research staff of Hoover Institution.

Fluent in English, Russian, German and French, he also knew 5 other languages.

Savel's primary profession was teaching. He taught languages and linguistics on a part-time basis at several Universities, including Stanford, San Francisco State, Monterey Institute of Foreign Studies, Rutgers, and Union Junior College. He was a Professor of Russian at the University of Arizona (1964-69), a Professor of Russian jointly at four St. Paul, MN Universities (1969-1972). On exchange programs, he taught in Moscow, Prague, and Paris. He also taught at the College of Notre Dame (Belmont) from 1974 to 1978, just before arriving at SRI.

After his retirement from SRI in 1988, he became an avid Apple Macintosh computer user and did occasional consulting. He never lost his love of learning and teaching, and always said that his years at SRI were the happiest in his career. Over 600 volumes of Russian and linguistics books from the Kliachko collection were donated to the Slavic Department of Stanford's Green Library.

His wife of 53 years, Patricia, died on April 20, 2003. Savel is survived by two daughters, Alison Kliachko Trafas of Long Beach, CA and Valerie K. Taglio of Los Altos (Valerie worked in the Chemical Information Center from 1979 to 1987); a son-in-law Steven Taglio (who also worked at SRI in the 1980s); and a grandson and four granddaughters—including twins—ranging in age from 4 to 14.

Edgar Post

Edgar Post died Nov. 6, 2003 in Boca Raton, FL. He was 89.

He was born May 20, 1914 in Spokane, WA, and became an aeronautical engineer. He was a Lieutenant Colonel in the U.S. Army Air Corps during WW II.

After 20 years at United Airlines, he came to SRI in 1956 as a manager in the Radio Systems Lab. By 1966 he had become a Sr. Operations Analyst in the Operations Research Div.

In 1966, he moved on to Granger Associates, one of SRI's earliest spinoffs. He later worked at Bendix Avionics and the Federal Aviation Agency.

He is survived by two daughters, Penelope Lewis of Seattle, WA and Pamela Hatch of Portland, OR; four grandchildren; and one great-granddaughter.

Lawrence Prehn

Walter Lawrence "Larry" Prehn, Jr., age 83, died on Jan. 4. He had worked at SRI from 1954 to 1962.

Larry was born on April 15, 1920, in St. Louis, MO. He grew up in Dallas, Texas, and always considered himself a loyal Texan.

Larry served in the Navy in the Pacific during WW II, and at the Philadelphia Navy Yard during the Korean conflict. He retired with the rank of Commander.

After earning chemical engineering degrees at Rice and Cornell, he worked for Esso (now Exxon) in Baton Rouge, LA, and for Arco in Dallas before joining SRI.

He started as a Research Engineer in the Economics Research Dept. in 1954, and was the Asst. Manager of Economics and Management Research in the Economics Division when he left in 1962.

He later worked for Southwest Research Institute in Texas and did consulting on his own, living the last 21 years in Austin, TX. Larry loved to travel; he also enjoyed woodworking and the culinary arts.

Larry's first wife, Rebecca McWilliams Prehn, predeceased him. In 1967, he married Helen Grace Burkhart, who survives him. Other survivors include daughters Katherine P. Minter of Austin, Laurel Lee P. Pfeiffer of Elkmont, AL, and Elizabeth Anne P. Hackett of Silver City, NM; son Rev. Walter L. Prehn III of Charlottesville, VA; three step-children; five grandchildren; and five step-grandchildren.

IN MEMORIAM (Continued)

Zev Pressman

Zev Pressman, a technical research photographer at SRI, died after a short illness at the Abramson Center for Jewish Life in North Wales, a suburb of Philadelphia, on Dec. 11, 2003, two days short of his 90th birthday.

Born Dec.13, 1913, Pressman studied photography at the Pennsylvania Academy of Fine Arts. During his early years as a photo-journalist, he worked for Life magazine and covered such events as the inauguration of Franklin Delano Roosevelt and the coronation of King George V! in 1936.

After WW II, Zev's career shifted from popular journalism to research. He worked as a scientific photographer at George Washington University in Washington, DC, until he moved to Palo Alto in March 1959 and took a position at SRI, encouraged by scientists with whom he had worked in the East.

Zev had a rich and varied career in the world of photography, and was especially known for his dedication to the scientific community and his technical virtuosity and erudite interests. He was an invaluable resource to the engineering divisions at SRI, especially in the Poulter Lab.

His work at SRI included the design of photo-optical devices to measure shock waves and machines for use in cataract surgery. During the Watergate scandal in 1974, he used photo-microscopic techniques to identify voices on the tapes of President Nixon. He also co-authored a book, "The Handbook of Better Photography."

Pressman achieved national recognition for his filming at SRI of the controversial Israeli Uri Geller, who claimed psychic powers, including bending metal objects without touching them. (Pressman remained ambivalent about Geller's powers to his death.)

After his retirement from SRI in March 1981, Pressman remained active as a photographic consultant, teaching photography and writing a photography column for the Palo Alto daily, the Times Tribune. He was also an avid tennis enthusiast.

In 2002, Zev returned to his native Philadelphia with his wife of 63 years, Ruth Shils. In addition to his wife, Pressman is survived by a daughter, Teri Wenz of Boulder, CO.

Roy William Price

Roy "Woody" Price died Feb 4 in his Cupertino home. He was born in Akron, Ohio February 10, 1932, the eldest of three sons. The Price family relocated to Trenton, Michigan in 1940.

The initial phases of Woody's career in information systems were spent installing some of the earliest computer systems at General Motors, Hyster Company and Western Airlines. After stints in Detroit and Portland, he joined SRI in 1978 as a management systems consultant in the Consumer Industries & Information Management Center. That position took him on projects to many corners of the world.

In 1990, he was the Manager of the Advanced Manufacturing Program in IBCG. He retired in 1999 as a Sr. Research Engineer in ITAD Research Operations.

Roy married his high school sweetheart, Shirley June Underwood, in 1950. Shirley died in 1988 of injuries suffered in an auto accident. She was 56.

Survivors include son Marty Price of Santa Cruz; three daughters: Ruth Price of Saratoga, Deborah Kay Price of Cupertino, and Hope Ann Attenhofer of Visalia; six grandchildren and one great-grandaughter.

Lucille Steelman*

Lucy Steelman died Dec. 2, 2003, just days short of her 72nd birthday. She worked in the SRI Main Library from 1961 until 1997, retiring as Director. She died less than six months after being diagnosed with leukemia.

Lucy was born in 1931 in Lakehurst, NJ. She grew up in Seattle and received her BA from the University of Washington. After receiving an MA in Anthropology from UC Berkeley, she joined the State Department in Washington, D.C. She was later posted to India, where she served in the U.S. consulate in Madras.

She returned to the U.S. to live with her sister in Menlo Park, and joined SRI in the spring of 1961 as a librarian. Although she originally planned to stay at SRI for only a year or two, the exciting work that was going on throughout the Institute, as well as the diverse library jobs she took on, held her interest until her final position as Director.

A strong advocate of electronic technologies for delivery of information, Lucy was an early adopter of electronic databases (internal and external), CD-ROMs, and the Web. She was also respected by her colleagues for her wise judgment, wit and commitment to excellent service to library users.

Lucy earned a Masters degree in Library Science at San José State. Lucy was active in the Special Libraries Association, including a term as the local chapter president. She also served as the Secretary of the Alumni Association Steering Committee for many years.

Always active, Lucy loved to travel, to visit art museums, and to attend the San Francisco Symphony, where she was a season ticket holder.

But most of all, she was a loving mother to her son Brent, his wife Katryn, and their daughter, Xanna, all of Redwood City. Other survivors include a brother George of Seattle; a sister Dianne of Anderson (CA); and numerous nieces and nephews, grandnieces and grandnephews.

Bob Tobey*

Arthur Robert "Bob" Tobey died on Dec. 19, 2003 in Santa Cruz at age 83.

Born in Portland, OR, Aug. 4, 1920, he earned a B.S. in physics from Yale in 1942. During WWII He served with the M.I.T. Radiation Laboratory Radar group in Europe and the Caribbean. Returning to Yale, he earned his Ph.D. in physics in 1948. He married Marta Harper in 1947. He taught at Washington State College for two years, then led a research team at Armour Research Institute in Chicago for three years before joining SRI in 1953 as an Engineering Supervisor.

Bob was a key member of the Television Lab during the early '50s when it was doing pioneering work in color TV for RCA and Technicolor. His special interest was in redundancy reduction techniques, which are just now being implemented. In later years as a staff scientist, he became one of the Institute's most respected general-purpose systems analysts, bringing his strong background in physics and mathematics to bear on problems as diverse as GPS, radar, national defense and weather satellites.

Bob was a Staff Scientist in the Engineering Research Group, which he also served as Senior VP, before retiring in 1988.

Bob and Marta raised three children primarily in Los Altos, where he served on the planning commission and the city council. Marta died in 1971. He married Beverly Lemen Taskett in 1977 and retired in 1988. They enjoyed bicycling, hiking, and RV camping. Long before he needed such help himself, Bob spent many hours recording books for the blind and teaching others to use computer aids to access information.

In addition to his wife, Bob is survived by two daughters, Marta Tobey of Albany, CA and Caroline Zaworski of Corvallis, OR; son Peter of Boring, OR; stepson Jeffrey Paxson of Esslingen, Germany; sister Elizabeth Fey of Madison, WI; six grandchildren and three step-grandchildren.

Ron Todd

Ronald H. Todd died at Hospice House in Monterey on Feb. 9 after a long illness, at the age of 66, Ron was born in San Francisco and raised in San Jose. Upon graduation from Stanford University in 1959 with BS degree, he came to SRI as a Research Engineer in the Communication and Propagation Lab. He obtained a master's degree in 1960 and his Electrical Engineers degree in 1968, and left SRI in 1970.

He was married for 44 years to Monterey native Ann (Goldsworthy) Todd.

In addition to his wife, he is survived two sons: Dr. Peter Todd of Berlin, Germany and Dr. Matthew Todd of San Jose; and two grandchildren, Imogene and Graham Todd, also of Berlin, Germany.

Ron will be remembered for his love of music and British sports cars.

Mike Villard

Oswald Garrison (Mike) Villard, Jr., died Jan. 7 at Channing House in Palo Alto, aged 87, as the result of an extended illness. A member of the SRI Alumni Hall of Fame since 1999, Mike is remembered for his pioneering achievements in HF radio, especially over-the-horizon (OTH) radar and single-sideband (SSB) radio.

IN MEMORIAM (Continued)

Mike Villard (Concluded)

Villard was born Sept. 17, 1916, in Dobbs Ferry, N.Y., to a distinguished family with a long tradition of activism. His great-grandfather, William Lloyd Garrison, was a renowned abolitionist. His grandfather, Henry Villard, gained a controlling interest in *The Nation*, which Mike's father, Oswald Garrison Villard Sr., later took over.

Mike received a bachelor's degree in English literature from Yale in 1938. Influenced by Stanford electrical engineering Professor Frederick E. Terman, he came to study at Stanford in 1939, where Varian brothers Russell and Sigurd, David Packard, William Hewlett, and other luminaries took Villard under their wings. During the war, Terman hired him to join the Radio Research Laboratory at Harvard, where they engineered countermeasures to protect Allied forces against enemy radio and radar devices. Villard participated in pioneering studies of radar jamming.

In 1946 Mike returned to Stanford. He designed a simplified radio voice transmitter permitting simultaneous two-way communication on a single channel, as in a telephone conversation. His introduction of single-sideband modulation increased the number of stations that can operate without interference and allowed military users, and later police, pilots and radio amateurs, to have their own means of communication. W6YX, the station of Stanford's radio club, became the first amateur band to use single-sideband transmission.

Villard received his doctorate from Stanford in 1949, joined the faculty, rose through the ranks to full professor in 1955, and became Radioscience Department Director. Mike was instrumental in promoting the use of large shortwave antennas for the purpose of OTH radar clutter mitigation, for which Stanford built the Wide-Aperture Research Facility (WARF) for DARPA in 1967. The over-the-horizon radar he pioneered could peer around the Earth's curvature to detect aircraft and missiles launched from thousands of miles away. It didn't take long for this research to become classified.

In September 1970, during the student revolts at Stanford over the Viet Nam war, Mike moved his whole Stanford Ionospheric Dynamics Group (about 30 people, with a $1M DARPA contract) over to SRI, and became Director of the new Ionospheric Dynamics Laboratory (IDL), later renamed the Remote Measurements Laboratory. Mike later became Senior Scientific Advisor at SRI and "retired" around age 70; he continued to work part time, helping to generate new ideas and providing an intelligent sounding board for ongoing research issues.

Mike was named an SRI Fellow in 1988.

Some of his early work at Stanford had involved Japanese jamming of American forces shortwave communications during WW-II. During his final years at SRI, Mike again returned to the shortwave jamming problem, In the 1980s, Mike designed an inconspicuous antenna that could wipe out signals that jammed communications, allowing people in many countries toreceive Voice of America radio programs. The devices, which were small enough to be concealed in new spapers, were requested by many Chinese after the student uprising at Tiananmen Square in 1989.

Villard was a member or fellow of numerous technical societies and national academies. Overall, Mike contributed to a very broad range of scientific discoveries and publications, largely in the fields of ionospheric propagation phenomena, HF radio and radar, and low observable (LO) technology. WARF has undergone continued refurbishment and improvement, and is still being used for various U.S. Defense R&D applications. Many of Mike's original LO ideas were developed and perfected, and remain viable.

His biggest hobby was ham radio. His call letters were W6QYT. He frequently published in *QST*, the journal of the American Radio Relay League, the official ham radio society in the United States.

Mike's wife, Barbara "Bobbie" Slater Letts, died in 1996. He is survived by sons Thomas Houghton Villard of Menlo Park, CA, and John Sandford Villard of Martha's Vineyard, MA; daughter Barbara Suzanne Villard of Tucson, AZ; and three grandchildren.

(Parts of this article on Mike have been adapted from pieces published by Douglas Martin in the NY Times and by Dawn Levy in the Seattle Times.)

Carolyn Williams

Carolyn Calk Williams died suddenly on Nov. 30, 2003, while recuperating from a broken leg, after being hit by a car. She was 61.

Born in Ballinger, TX in 1942, Carolyn Calk earned a degree in Business Administration from the University of Texas. She joined SRI in 1966 as a Research Assistant to the Executive Vice President. When she left SRI in Jan 1984, she was a Consultant in the International Associates Program of the World Business Division. She travelled widely.

After leaving SRI, she started her own word-processing business, Proof Perfect. She also edited several English and French publications.

Carolyn enjoyed cooking, gardening, and reading, and was a lover of music and the arts.

Survivors include her husband, Ernest Williams, of Menlo Park, along with her mother, a sister and a brother, five nieces, a great-niece, and three great-nephews.

Estelle Wolfish*

Estelle Berg Wolfish, 75, died of cancer on Feb. 11. She had been an Executive Secretary in the International Secretariat for 25 years.

Estelle Berg was born in December 1928 in New York City. She worked as a teenager in clerking and light manufacturing jobs to help support her widowed mother. In 1951 she married Hy Wolfish and they settled in New Jersey to start a family. In 1963, when Estelle was 34, Hy died, leaving her to raise three young sons alone.

After 10 years of secretarial work, Estelle moved with the boys to California, pursuing her goal of sending all three of them to college. A devoted mother, she was able to fulfill that dream.

She joined SRI in 1973 in the Management Systems Division and worked for several departments over the next 25 years, often filling in where an experienced secretary was needed temporarily. Her friendly adaptability and her professionalism were reliable assets. She moved to SRI Consulting with the Petrochemicals, Polymers, and Energy Center when SRIC was formed in 1996. Her last assignment, before retiring in 1998, was with Dave Keaton's Commercial Sales Group.

In retirement Estelle was able to enjoy travel, bridge, plays, the symphony, and dining with friends and family.

She is survived by sons Jeff of Dublin (CA), Rick of Williston, VT, and Doug of Marin county (CA), and three granddaughters.

Y.C. Yen

Yen-Chen Yen, a senior chemical engineer in the Process Economics Program (PEP) at SRI from 1966 until 1987, died of a stroke on Jan. 6 in a Fremont assisted- living home. He was 91. The 21 years at SRI were but a part of the 60+-year career of this remarkable Chinese immigrant who devoted his life to education and economic development in Asia.

Mr. Yen, widely known as Y.C., was born in 1912 in Suzhou, China. He was raised in China by his uncle after his mother died. He placed first in the entrance exams for the National Tsinghua University in Beijing, China's top science and technology school. He couldn't afford the train fare to Beijing, so he accepted a full scholarship to the National Military Engineering Institute.

After graduating with a degree in chemical engineering, he was awarded a government fellowship to study at Berlin's leading technical institute. In 1938, he returned to China and, during World War II, taught at the National Military Engineering Institute and other universities in the interior of China.

In 1945, Yen was sent by the Nationalist Chinese government to help repatriate Taiwan from a defeated Japan. He reorganized Taiwan's wartime industries into public and private sectors and set policies for industrial and economic growth.

In 1947, he began teaching chemical engineering at the National Taiwan University, where he modernized the curricula and wrote a key textbook.

In 1953, he was invited to head the Chemical Industry Division of the Taiwan Industrial Development Commission. During five years

IN MEMORIAM (Concluded)

Y.C. Yen (Concluded)

that comprised the peak of his early career, Yen oversaw the expansion of existing industries and the development of the plastics industry in Taiwan.

He founded his own consulting company in 1953, which led him to move with his family to Malaysia, and later to Singapore. They then came to the US, and Yen joined the Process Engineering Program at SRI. Rising to Process Economics Consultant over the next 21 years, he wrote over 100 research reports, developed economic evaluation methods, and trained dozens of young engineers and International Fellows—many from Taiwan

After 1979 he was frequently invited by the Chinese government to consult and lecture. He also traveled to Taiwan, helping initiate investments by Taiwanese petrochemical industrialists in China.

Starting in 1995, Parkinson's disease started to affect his mobility, and it became difficult for him to write. Despite his age, he learned how to use a computer, writing in English and Chinese and consulting by fax and e-mail.

A strong supporter of education, he helped to fund students and purchased airplane tickets for some to come to the United States for advanced studies. He helped many find jobs and guided their careers. In 1997, Yen joined the Chinese Hope Project, which builds and maintains schools in poor and remote areas. He led friends and relatives to raise about $100,000 for three elementary schools in the rural areas of Shaanxi and Sichuan provinces of China, where he had taught during WWII.

Yen is survived by his wife, Er-Ying Yen of Palo Alto; son Benedict Yen of San Francisco; daughters Martha Y. Meng of Columbia, Md., Madeline Y. Chu of Houston, Rosa Y. Chin of Palo Alto and Margaret Y. Chu of Arlington, Va. He is also survived by 12 grandchildren and 4 great-grandchildren.

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*SRI Alumni Association member

Scene at SRI – Special Offer!

Remember the biweekly newsletter, Scene at SRI, distributed to all Staff at SRI in Menlo Park? It's four to six pages, full of staff news of staff events, goods and services for sale or swap, service anniversaries, and more.

Now we are exploring an arrangement by which SRI alumni can receive it too— by e-mail!

If you are interested, respond by e-mail to Joyce Berry at **berrydj@sbcglobal.net**

SHORT NOTES

Note from the Membership Committee:

All members are reminded that:

- Membership is for the calendar year.
- Renewal notices for the coming year will be mailed with the Fall Reunion invitation, due at the same time as the Reunion reservation deadline.
- Renewal reminders will be sent (as needed) one month following the reunion, with a final deadline of January 15.
- Late renewing members may not be included in the annual directory.

—Joyce Berry, Membership chair

Visiting the Credit Union?

Increased security has changed SRI badging policies. You do not need a retiree's badge to visit the credit union. Just sign in at the Building A lobby and get a temporary credit union badge. Return it to the receptionist when you sign out.

What would you like to read here?

Suggestions for the types of pieces that you would like to see in the Newsletter are always welcome. [Perhaps you would like to write a piece of your own to share with fellow alumni(ae).] Contact the Editor, Bob Schwaar, at SRI, Room AC-108 or by e-mail to schwaar@pacbell.net.

What are they doing now?

Would you be interested in inserting a business card-sized ad in the Alumni Newsletter to advertise your personal service or product? Let us know what you think of this idea as a way to widen your network and let others know what you are up to!

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