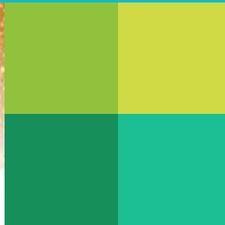


Alumni Association



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MESSAGE FROM CHAIRMAN PETE VALENTI



Pete Valenti

Hi Folks,

It's hard to believe that we will shortly close out another year. During this year we have tried to provide things that enhance your enjoyment and value in belonging to the SRI Alumni Association. Although we are proud of our success in meeting our goals, we still want to do better. The members of your Steering

Committee are committed to enhancing even more what we do and provide over the next year. To do this, we need your help.

As I mentioned at the Annual Reunion, we are formulating a format for questionnaires that will be sent to you a couple of times a year. We will ask you to respond to a few questions each time by checking boxes and returning your answers. We are committed to making this gathering of information simple and quick for you. The first of these questionnaires, which will be sent out early next year, will ask Bay Area alumni about preferences with respect to the Spring Fling event.

The SRI Alumni Association is your organization and exists solely to serve your enjoyment and interest. We want to make the features, activities, and events what you want them to be. It's in your interest that you do your best to respond to these questionnaires.

In this issue of the newsletter, you'll find articles and items about a wide range of topics. First up is a description of the activities and presentations at the Annual Reunion event in September, with plenty of photos. About 100 alumni and guests enjoyed socializing and having refreshments before a program that featured reports on the status of the Alumni

Association and of SRI, as well as a fascinating presentation about an artificial-muscle material developed at SRI.

There's lots of news from SRI, including an account of the first all-hands meeting held by new President and CEO Bill Jeffrey, followed by informative items on the 2014 Mimi Award winner, the new Vice President of Information Technology Services and Chief Information Officer, and descriptions of significant SRI work in biological databases, professional development for math teachers, an advanced radar system for studying the dynamics of the upper atmosphere to help understand the mechanisms of climate change, and a new SRI facility for conducting clinical trials of medicines and medical devices.

SRI's history is always of interest, and this time we have an update on the legacy of ERMA and a tidbit on SRI's contribution to the 9-1-1 emergency phone system. A different take on history comes from one of our international correspondents, Peter Weissuhm, who writes about a historic expedition of Arctic exploration in the 19th century. We also have another entertaining taxi tale, this one by John Lomax.

I hope you enjoy this issue of our newsletter. On behalf of the Steering Committee, I wish you and your families the very best and happiest of holidays.

Stay connected!



SRI Alumni Annual Reunion

About 100 alumni and their guests attended the 2014 Annual Reunion on Thursday, September 18, in Menlo Park to enjoy refreshments, each other's company, and news from SRI.

State of the Alumni Association



Alumni Association Chairman Pete Valenti welcomed everyone to the program portion of the evening and described the status of the Alumni Association. Pete explained that membership is dwindling, with the count currently at 319 members. He encouraged each member to bring in one additional alumnus this year, noting that the first year of membership is free.

Pete said that the Spring Fling had to be canceled for the last two years because so few people signed up. The reasons for the lack of interest are not clear but could include that the destinations were too far away or that members were already well familiar with them. This year, the Steering Committee will survey local members to determine what types of excursions would be appealing.



Pete invited Tom Anyos to the podium to describe changes being considered to the Hall of Fame nomination process. The Steering Committee believes the Hall of Fame should be open to all former staff members—both research and administrative staff. Accordingly, Tom is revising the nomination

criteria to make them more inclusive.

Status of the Institute



Alice Resnick, SRI Vice President of Corporate & Marketing Communications, stood in for Bill Jeffrey, SRI's new President and CEO. Although Bill had hoped to meet and address the alumni, he was called to a client meeting, an engagement that understandably took priority.

Alice said that 2014 has been a year of transition. Tom Little retired as Director of Support Operations, after a 44-year career at SRI. Tom Furst also retired, after 18 years as CFO. Finally, Curt Carlson retired after 16 years as SRI President and CEO. A highlight of Curt's tenure was the emphasis on SRI's integrated business model, which commercialized our intellectual property through licensing and spin-offs, such as Siri (the iPhone virtual assistant) and more recently Kasisto (a virtual personal assistant for financial services).

Bill Jeffrey has a very relevant background for leading SRI, with 25 years of experience in R&D and science and technology policy. He came to SRI from HRL Laboratories, and he served in the George W. Bush administration as Director of the National Institute of Standards and Technology (NIST). Also new to SRI in 2014 is pharmaceutical industry executive Wendell Wierenga, who joined SRI's Board of Directors.

Alice described a few SRI project-related achievements during the year. SRI was awarded a seven-year contract from the National Institutes of Health to conduct research on HIV/AIDS therapeutics, a YouTube video of SRI's magnetically activated micro-robots in action has had 800,000 views, and spin-off Desti (a personal assistant for travel planning) was sold to Nokia. The Night Eagle Program Team was honored with the Presidential Achievement Award, and Greg Faris and Jon Mirsalis were named SRI Fellows.

Alice ended by saying that SRI is 68 years old and still going strong and that she is "cognizant of whose shoulders we stand on."

Rubber to Rigid: How SRI's New Electroactive Materials May Change Robotics



Roy Kornbluh, Principal Research Engineer in the Engineering & Systems Group, gave a fascinating presentation on the potential applications of artificial muscle, a rubbery material that changes shape with electricity. This polymer is as strong as steel but very lightweight. The range of

applications Roy described was amazing—prosthetic limbs that adjust to a person's body shape, dentless cars, exosuits for military personnel to help them carry heavy loads and take the pressure off their joints, and robot hands, to name a few.

A Lovely Time

Quite a few lucky alumni took home excellent door prizes donated by Staff Activities, the SRI Federal Credit Union, and Jane Cano. Delicious desserts and more conversation ended a very pleasant evening.

Thanks to the following for their contributions to this most enjoyable time: Martha Agreda, Tom Anyos, Augustina Biosic, Scott Bramwell, Jane Cano, Kerri Carder-McCoy, Arturo Franco, Dave Harvey, Sandy Hinzmann, Marlyn Johnson, Katie Kaattari, SRI Federal Credit Union, SRI Security, Carolyn Terrill, and Pete Valenti.







New President and CEO William Jeffrey Holds First All-Hands Meeting



Photo by Scott Bramwell, used courtesy of SRI.

On October 7, after a month at SRI, new President and CEO Bill Jeffrey held his first all-hands meeting. He began by saying that SRI groups had been eager to get on his calendar, but the Menlo Park Facilities team was most creative in getting his attention, telling him on his third day with SRI that a tree limb had fallen on his car!

Bill introduced Michael Page, SRI's new Chief Information Officer and Vice President of Information Technology Services. Mike has more than 20 years of experience developing IT strategy and implementing business applications in all major business process areas. Bill thanked Walter Moos, Vice President of Biosciences; Acting CIOs Paul Fingerman and Jeff Klaben; and the entire ITS team for "their ongoing commitment and efforts to transform SRI's IT infrastructure."

The Board of Directors had met in September, and Bill said they had productive discussions about recruiting and retaining employees and about business development. He said this is one of the most accomplished boards he has ever seen and looks forward to working with its members.

Bill then described a sampling of SRI achievements. He highlighted the success of SRI Biosciences: hundreds of novel drugs synthesized, millions of lives saved, tens of millions of dollars in royalties, and hundreds of millions of dollars in contract R&D. He described an alliance Biosciences has formed with the UK biotech company Sareum to develop a therapy for psoriasis, an autoimmune disease of the skin. Working with Sareum, SRI identified a small molecule that essentially jams communications between cells, keeping immune cells from becoming overly activated. The approach might be applicable to other autoimmune diseases such as sepsis, rheumatoid arthritis, and multiple sclerosis.

The Corporate Strategic Programs team is on a roll, accelerating progress on commercial and international business development, which is producing a diversified revenue stream for SRI. The International Business Development group has doubled sales in Japan, the Center for Excellence in Energy Programs is making inroads into the commercial arena and establishing closer ties with ARPA-E,*

and the Center for Innovation Leadership continues to provide workshops to service/government agencies.

SRI Education is making contributions across the education spectrum, from theory to analytics to the classroom. Bill cited a digital mathematics curriculum that is delivering proven learning results. Education researchers are also analyzing educational techniques to see which are successful in improving children's outcomes, and are doing innovative work to strengthen assessments of students' learning to support better teaching and student achievement.

In Engineering R&D, Bill highlighted the precision and clarity of imaging from AMISR (Advanced Modular Incoherent Scatter Radar) in an image of an electron current flowing through the ionosphere over Lima, Peru. Information & Computing Sciences conducted the first ever demonstration of augmented reality-based training on moving vehicles. ICS researchers are also using artificial intelligence to find connections in unstructured data, such as abstracts from technical papers, to build causal models of connections between them that could lead to discoveries.

On the Physical Sciences front, Bill showcased a collaboration to better design offshore platforms. Large fuel gas vapor clouds are sometimes accidentally released from offshore oil drilling platforms and refineries. When burned, these clouds can explode if construction features block airflow. The Deepwater Horizon was destroyed by a vapor cloud explosion. Physical scientists are working with a fire and explosion prevention company to represent how gas flows in a confined structure so as to optimize platform design.

Turning to the funding environment, Bill acknowledged that the U.S. government is SRI's primary customer. He noted the amazing fact that government R&D spending as a percentage of the discretionary federal budget has been flat over the *last 40 years*. He believes we cannot assume this will remain the case, however, with the deficit likely to put substantial downward pressure on the discretionary budget and federal R&D budget. Industry R&D funding, on the other hand, is a very attractive opportunity, with annual increases expected.

Bill was enthusiastic about SRI's work on big, important problems and encouraged the staff to leverage expertise across the divisions to tackle them. He proposed the following strategic goal: To change the world—repeatedly!

*The Advanced Research Projects Agency-Energy, modeled after DARPA, was established in 2009.

Jerry Lucha Named 2014 Mimi Award Winner



Photo by Scott Bramwell, used courtesy of SRI.

In recognition of his inspiration of coworkers and his contributions to their professional development and success, Jerry Lucha, a Principal Engineer in SRI's Instrumentation and Simulation Program, has been selected to receive the 2014 Mimi Award.

More than 30 staff members and other colleagues, organized by Nick Davila, nominated Jerry for the award. Calling themselves "Team Jerry," the group described him as "a mentor, inspiration, sage, and guru to SRI staff members for more than 40 years, resulting in an impressive tenure that perfectly aligns with the spirit of the prestigious award."

Nominators described Jerry as "the best mentor one could ever hope for" and pointed out his "ability to see the good in every member of the staff." They also noted, "As he teaches, he speaks with humility and patience, regardless of his company," and that Jerry is "always the voice of reason and sanity without being pessimistic or a naysayer."

SRI's Mimi Award is the highest recognition offered to staff members who have fostered the personal and professional growth of their coworkers. The award is given annually to an SRI staff member who has inspired others to realize their goals and vision. The Mimi Award, established in 1994, is named in memory of Marian (Mimi) S. Stearns, who was Vice President of SRI's Health and Social Policy Division. Annually, former Mimi Award winners review nominations to select a winner.

Michael Page Takes the Helm of Information Technology Services



Photo by Scott Bramwell, used courtesy of SRI.

On October 6, Michael Page joined SRI as Vice President of Information Technology Services (ITS) and Chief Information Officer (CIO). Mike has more than 20 years of experience developing and executing IT strategy to deliver leading systems and drive innovation. He has implemented business applications in all major business process areas.

He joined SRI from Silicon Valley-based LSI (which was recently acquired by Avago), where he had been since 1997. At LSI/Avago, Mike was Senior Director of Business Applications, responsible for numerous large-scale business transformations and integration initiatives.

Mike has a degree in business finance from Liverpool John Moores University and a certificate in accounting from the Association of Chartered Certified Accountants.

SRI's BioCyc Database Collection Expanded for Easy Access to Information about Microbes and Metabolic Pathways

An update to SRI's BioCyc Database Collection offers mobile access and an expanded number of databases to researchers studying genomes and metabolic pathways. Researchers now have access to 5,500 genomes from all domains of life and information about connections between genome sequences and biological function.



BioCyc version 18.5 links the sequences of microbial genomes to metabolic pathways that have been rigorously curated by SRI scientists. It combines SRI's highly curated EcoCyc (*E. coli* encyclopedia) and MetaCyc (metabolic encyclopedia) databases, the contents of which are derived from 53,000 publications. BioCyc provides user-friendly tools for navigating, visualizing, and analyzing these genome databases to yield insights for a wide range of scientific pursuits, including microbiology, biofuels research, and infectious diseases.

The BioCyc mobile app provides access to all 5,500 databases remotely, as well as access to other websites that are powered by the Pathway Tools software behind BioCyc, giving researchers access to data regardless of location.

The results from BioCyc research can lead to drug discovery, disease prevention, or metabolic engineering projects

in which cells are manipulated to produce a specific substance, such as an antibiotic or source of energy. BioCyc is particularly useful for helping researchers make sense of the vast amounts of data generated by “omics” (genomics, proteomics, and metabolomics) studies.

BioCyc 18.5 also has added functionality that enables researchers to locate genomes of interest faster. Scientists can now search for genomes in BioCyc based on organism properties without knowing the organism’s name, such as “bacteria on skin wound” or “bottom of ocean.” Researchers studying metabolomics—all the chemical compounds found in an organism—will benefit from improved capabilities for visualizing their data and how it relates to biological function.

To help speed identification of genomes that are relevant to a researcher’s interests, BioCyc 18.5 contains extensive data on phenotypic properties of organisms, such as whether they are pathogenic, the range of temperatures in which they can grow, and the location of where the sample was collected. The addition of extensive genome sequencing data and computationally inferred metabolic pathways in BioCyc 18.5 combines to give researchers a comprehensive understanding of any sequenced genome they are studying.

SRI’s Professional Development Program Helps Math Teachers Improvise and Learn Argumentation Skills

By Jennifer Knudsen, Senior Mathematics Educator

As the Common Core State Standards are being rolled out nationwide, mathematical argumentation—the line of reasoning that shows or explains why a mathematical result is true—has become an important skill for math teachers and students alike. To teach argumentation skills to teachers and bridge the gap between professional development and classroom practice, SRI Education’s Center for Technology in Learning developed the Bridging Professional Development program. Funded by the National Science Foundation, the program has helped middle school math teachers learn improvisational techniques for teaching mathematics argumentation to their students.

We are now starting the next phase of the program, which will take place in the District of Columbia Public Schools (DCPS) as part of a districtwide initiative on argumentation. Over two years, researchers and teachers will co-design new online tools to enhance teachers’ learning and ability to weave mathematics argumentation into their curriculum.

The new tools will help teachers in the planning and enactment stages of teaching, both of which are essential for argumentation. Our prior research found that learning about and practicing improvisation can improve teachers’ skill in teaching argumentation. As disciplined improvisers, teachers need to be able to respond in the moment, especially in argumentation where students are thinking for themselves and coming up with novel ways of expressing ideas. This is a new demand on teachers: not only to react to what students are saying, but also to move students toward being generative in mathematics rather than merely being receivers of knowledge.



One area in our workshops is visualization planning, where a teacher will describe aloud what a student might say about a mathematical subject and then describe what she would say in response. While the teacher is talking through this argumentation process, another teacher will write down everything the first teacher is visualizing and then turn it into a lesson. As part of the new project, we will design an online tool to support this process, enabling the teacher to do this independently. Using a computer or mobile phone or tablet, the teacher can describe her lesson just as she would to a partner, and the online tool will turn it into text, which will then be formatted into a lesson.

Teachers also need a bank of examples to draw from when they are developing this new practice. The online tools will include a searchable bank of mathematical arguments, specific to the middle school math topics in the teachers’ curriculum.

Additionally, we plan to include teaching games that are adapted from improv games. In each game, teachers are given the rules and character for role-playing, as well as the setting and problem. The teacher plays the game by improvising a scene and deciding what to do in the moment. Responding to these complexities is challenging. Of course, teaching in general can be challenging, but this is a different kind of

work from giving a traditional lesson, with definitions first, examples second, and practice problems third. Teaching for argumentation requires significant improvisation.

Although our current work with Bridging is mathematical, we believe the Bridging approach could work with other content areas where teachers are aiming for complex student outcomes and have to acquire challenging new practices. In particular, the challenge of learning to teach 21st century skills—with high cognitive, creative, and communicative demands—could be addressed through Bridging.

Advanced Modular Incoherent Scatter Radar (AMISR)

Under a grant from the National Science Foundation, SRI leads a collaborative effort in developing AMISR, a modular, mobile radar facility used by research scientists and students from around the world. AMISR is the first system to provide scientists with the technology necessary to collect critical data and study global climate trends from year to year. Scientists can now investigate the energy and momentum transfer among all layers of Earth's upper atmosphere, accessing critical data on the complex physical processes of the sun, magnetosphere, and ionosphere.

Data collected from the high-altitude atmosphere and ionosphere provide an opportunity for early detection of climate-change phenomena. AMISR monitors space weather events, which can potentially damage and interrupt power grids and satellite and electronic communication.



The novel modular configuration of AMISR allows relative ease of relocation for studying upper atmospheric activity around the globe. Remote operation and electronic beam steering allow researchers to operate and position the

radar beam instantaneously to accurately measure rapidly changing space weather events.

AMISR consists of three separate radar faces, with each face composed of 128 building-block-like panels over a 30- by 30-meter roughly square surface. Because each face functions independently, AMISR can be deployed in up to three separate locations at the same time.

AMISR is made up of 4,096 antennas, giving a combined power of up to 2 megawatts. By phasing the signal coming from the individual antennas, the radar beam can be steered almost instantaneously from one position in the sky to another. This feature of AMISR is especially important for studying rapidly moving features of the atmosphere.

SRI Opens Clinical Trial Facility in Michigan

The SRI Biosciences Division has completed construction of an early-phase clinical trial facility in Plymouth, Michigan. The 9,400-square-foot unit, located in the Michigan Life Science and Innovation Center, is now open and fully equipped for early-stage human research studies of new medicines and medical devices.

The new facility includes 13 beds, three chairs for administering infusion therapy, a state-of-the-art investigational pharmacy, a laboratory for sample processing, amenities to accommodate extended overnight stays for research participants, and equipment to monitor and protect the safety of these volunteers.



The mission of the drug development and clinical research experts in the new unit is to provide efficient, flawless clinical study capabilities that meet U.S. Food and Drug Administration (FDA) requirements. The staff also offers strategic development support to biotech and device companies, academic investigators, and other collaborators. SRI Biosciences will help innovators with limited development infrastructure refine target product profiles that address specific unmet medical needs and optimize development strategy to maximize efficiency and minimize risk.

“Our core focus will be translational medicine research — that important stage when scientific breakthroughs move from the lab to the clinic and where their potential

to improve human health can be initially evaluated,” said David Sahner, M.D., senior director of clinical translation, SRI Biosciences. “When done well, early-phase clinical trials can provide critical insights — into safety, tolerability, absorption, distribution, and elimination of drugs and biologics, as well as early assessment of mechanistic and therapeutic effects — that help reduce drug development risk, pave the way for future regulatory and commercial success, and get new medicines to patients who need them more quickly.”

The SRI unit is equipped to perform studies involving healthy volunteers and patients with a variety of underlying diseases. SRI will leverage its extensive organizational capabilities in biomedical research, including core competencies in biomarker assay development and validation and clinical-trial product manufacturing, to facilitate the design and completion of clinical projects. SRI Biosciences will also develop its own compounds at the new facility.



Bringing the Legacy of ERMA to the Computer History Museum

By Don Nielson

The Back Story

In 1950, the Bank of America, rapidly becoming the largest bank in the United States, was desperately trying to cope with processing 23,000 new accounts every month—all by hand. Dealing with this onslaught forced an early bank branch closure each day, and projections showed no letup. The Bank simply had to act, and it contracted with Stanford Research Institute (SRI) to critically analyze the Bank's check-handling methods and then to determine the feasibility of automating them. The next logical step was to build a proof-of-principle prototype. After all nascent computer companies demurred, SRI reluctantly agreed to build the prototype check-processing system itself.

Hence were born four innovations that revolutionized banking: (1) the introduction of account numbers, (2) the standardization of checks that could be read and handled automatically, (3) the adoption of a magnetic character recognition convention that enabled checks to be read even under a variety of physical abuses, and (4) a system to process checks in an accurate and timely way. The Bank called the SRI system ERMA, for Electronic Recording Machine, Accounting.

In September 1955, SRI successfully demonstrated ERMA to the Bank and the press. The event showed the feasibility of computer-based accounting, and the prototype was later temporarily deployed to San Jose. The Bank then contracted with General Electric to build machines of greater capacity and using transistor technology. Starting in 1959, the Bank placed 30 of the new ERMAs across California. In conjunction with the deployment of the GE production version, the Bank paid SRI to destroy the original ERMA prototype.

During the building of the prototype, a concurrent project was to help the Bank in the automatic processing of traveler's checks. That was a simpler task than automatically processing personal checks, but still certain things were in common. Prominent among them was the creation of machine-readable characters imprinted on each check in magnetic ink. (We still have at SRI a set of numeric characters in large relief in brass that, when scaled down,

was the actual typeface used to imprint those characters on the Bank's traveler's checks.) SRI built and delivered to the Bank a machine that reconciled the traveler's checks that had been cashed. It went into service in June 1957 in San Francisco, and it processed 6 million checks over its first year of operation!

So, in ERMA, SRI created the world's first banking computer and SRI's magnetic character convention went on to become an international standard, unchanged to this day. But, having complied with the Bank's request to destroy the prototype, we had no artifacts to represent this achievement.

A Nice Surprise

Bruce Clark, a longtime member of the Engineering Group, passed away earlier this year, and part of his legacy was a delightful surprise. Bruce had been a principal contributor to the ERMA project. What Bruce left, beyond ERMA-specific papers, was an artifact that was believed not to exist. Resourceful Bruce had squirreled away two logic units from the hundreds used in ERMA. One is now missing, but Bruce's son, David, brought the other unit to SRI along with his father's papers. This only remaining piece of ERMA is shown in the accompanying photo below. Based on vacuum tubes, it performed some small logic task, the exact nature of which is unknown. The second and nearly identical module is shown in the photo on the next page. Bruce took it to the 2001 Gibson Award ceremony where the ERMA team was being recognized. The module is held by Jerre Noe, project leader for ERMA, with Bruce Clark on the left and Jack Goldberg on the right.



Logic unit from ERMA



L to R: Bruce Clark, Jerre Noe, & Jack Goldberg

A Second Surprise

With this artifact in hand, David Clark, Jack Goldberg, and I gained the interest of the Computer History Museum in Mountain View to tell the ERMA story. When we enlisted the Bank of America to help in this process, we made another remarkable discovery that opened an opportunity to give SRI’s ERMA innovations more prominence at the museum.

The curator at the Bank in San Francisco told us that there was an old machine in the basement archive, and he didn’t know what to do with it. When David, a Computer History Museum curator, and I visited the Bank this September, we recognized it as the very machine SRI had built and delivered to process traveler’s checks! At the right, you see two pictures. On the top is a well-known SRI image from those days, and below is a picture of the machine we found. Needless to say, the museum curator was very interested in obtaining the machine, and the process of transferring it from the Bank of America to the Computer History Museum has begun.

Assuming things progress as they are now expected to, some evidence of ERMA will appear in the lobby of the Computer History Museum next spring. It won’t include the traveler’s check machine, however. That will take a lot longer.

An Unsuspected Outcome

I’ll end with another unsuspected outcome of ERMA. During the 2001 SRI Gibson Award ceremony, we learned something else from the Bank of America’s retired Vice President Duncan Knowles. This same successful introduction of computing evidenced in ERMA affirmed to the Bank that personal credit cards were possible. The world’s first credit card, the BankAmericard, would soon follow in 1958.



The traveler’s check processor: an SRI photo from the 1950s



The machine in the Bank of America basement archive

A History Tidbit in Honor of SRI’s 68th Anniversary: 9-1-1

SRI celebrated its 68th anniversary this fall. Take a look at the timeline on the SRI website displaying SRI’s history of innovation: <http://www.sri.com/work/timeline-innovation>.

Here’s a tidbit from the timeline—SRI’s contribution to the U.S. 9-1-1 emergency system.

After AT&T made 9-1-1 available in 1968 as the emergency telephone number for the North American Numbering Plan, local governments across the U.S. began its implementation. SRI was a nationally recognized leader in the design, engineering, and analysis of several early implementations. In their reports, SRI engineers predicted correctly that

response time by emergency personnel would be reduced with the public’s use of 9-1-1 services.

SRI was also first to propose that a tax on telephone lines be used by governments to pay for 9-1-1 systems—today, the accepted means of covering system costs.

By 1979, approximately 800 emergency call systems were in place across the country. Today, virtually every municipality across the United States has a 9-1-1 system in operation. An estimated 240 million 9-1-1 calls are made each year.



INTERNATIONAL JOURNAL

We have a new author of Taxi Tales in this issue, John Lomax. Peter Weissuhm’s tales will return in the next issue, but they are close to ending. Do you have taxi stories to share? Peter has introduced an entertaining feature to the newsletter, and it would be fun to keep it going. Please send us your tales. Thanks to John for sending this one.

More Taxi Stories

By John Lomax

In 1963 the Defense Communications Agency (DCA) asked SRI to send a team to its main high-frequency communication facilities to determine the causes of frequent outages that often lasted a number of hours to a number of days. Jack Chown and I were selected to accomplish that task. (Neither of us refused a free trip around the world.) We met with DCA staff in Washington, D.C., on 11 March and proceeded to Germany, then Morocco, Ethiopia, and Turkey on the 27th.

We had been directed to check in with the American Embassy when we arrived in Istanbul, where we were briefed on how to comport ourselves as American businessmen. We were also advised that the local law held that the passengers in a taxi that was involved in an accident were responsible for the accident, since it obviously would not have been at the scene but for their direction. Having heard some wild tales about Turkish jails (e.g., prisoners were not fed), Jack and I laughingly decided to split and run for it if that happened to us.

After lunch at our hotel, we took a taxi to the Grand Bazaar to start our sightseeing. Wouldn’t you know, we had gone no more than three blocks when our taxi and another collided. Our driver was immediately out of the car yelling at the other driver. Simultaneously, Jack, without a word said, peeled out of his door and I out of mine and we ran in opposite directions. We hadn’t talked about what to do next, so, when I felt far enough away to be safe from pursuit, I erratically made my way back to the hotel, entering through a side entrance, away from the taxi stand. My memory is that we used a tour bus for our further sightseeing in Istanbul.

We went on to Pakistan, Thailand, Vietnam, Philippines, Okinawa, and Hawaii with only one more taxi problem. While in a Jeep taxi near Clark AFB in the Philippines, a motorcycle came alongside, a passenger grabbed Jack’s arm and yanked off his watch, and they then sped away. We arrived home safely on 25 April.



Editors' Note: In this issue, Peter Weissshuhn informs us about British explorer Sir John Franklin, whose sunken ship, HMS Erebus, was found in September 2013. Peter's source is Tales of Endurance by Fergus Fleming, Phoenix Paperbacks, 2004. This text is a condensation of Fleming's longer account, with direct quotes in italics.

Franklin of the Arctic

A Condensation by Peter Weissshuhn

The story of the famous British explorer Sir John Franklin was in the news recently as the remains of the ship he commanded on his last expedition were found, after years of searching, on the bottom of the Arctic Ocean among the islands north of the Canadian mainland. His is a tale of incredible endurance, of the determination of the British Admiralty to discover the fabled North-West Passage, and of the investment in national pride in claiming it for Britain.

The driving force behind the several expeditions to find this passage that were launched in the first half of the 19th century was Sir John Barrow, Second Secretary to the Admiralty.

It did not matter to Barrow that (by the 1840s) the North-West Passage, after several expeditions, had already been proved commercially unviable and that Arctic weather conditions were such that it could be traversed only on rare occasions. These conditions had long since ceased to bother him. No, the North-West Passage was now a badge of honour, and Barrow was determined that Britain should pin it to the national lapel. "If the completion of the passage be left to be performed by some other power" he warned, "England by her neglect of it ... would be laughed at by all the world for having hesitated."

So who was Captain John Franklin, whom Barrow sent on his first expedition to the Arctic in 1821, which required him to map the northern shore of Canada by trekking overland?

He was a brave, extremely charming officer who had circumnavigated Australia and had fought in the battles at Trafalgar and New Orleans. He was religious, carrying a 12-point checklist starting off with 'Have I this day walked with God?' Against this, he was overweight and unfit, with a weak heart and poor circulation. He could not hunt, canoe or trek, nor did he know anything of overland travel. Three meals a day were a must; he could not move without tea, and in the words of one contemporary, he could not cover more than eight miles a day without being carried.

This was the leader of a perilous, extremely arduous expedition to whom Barrow of the Admiralty delegated three Arctic expeditions over the years. As it turned out, his first expedition killed 11 of his 20-strong party and very nearly killed Franklin, too. Over months, the lack of food, which they had wrongly assumed they could get by hunting or from the local Indians, reduced them to starvation. They were forced to boil rock lichens and the hides and bones of deer left behind by the uncooperative Indians; they even boiled their boots. One demented crewmember killed another and was shot in turn; there was suspicion of cannibalism. One of the party, arriving with a delay at Fort Enterprise, where Franklin had had every expectation of finding food, described the scene he found:

"No words can convey the filth and wretchedness that met our eyes. The partitions and floorboards had been lifted to feed the stove. Four corpse-like figures lay on the bare earth. The ghastly countenances, dilated eye-balls, and sepulchral voices of Captain Franklin and those with him were more than we could at first bear."

Yet after covering 5,500 miles by land and water, having mapped only a small strip of the coastline, the existence of which had never seriously been in doubt, they did make it back to England.

In London, nobody bothered about Franklin's failings. When his journal was published the public was far too interested in his ordeal to bother with the North-West Passage. They wanted sensation, and Franklin supplied it. He became known as the man who ate his boots – actually they were soft moccasins – but who cared

For his second expedition, in 1825, Franklin prepared to the point of excess: *"He had all the food he could desire."* After some initial exploration the crew split in two. Franklin sailed with 15 men, while 10 men under his deputy Richardson, a survivor of the first expedition, mapped the coastline. Both parties were effortlessly successful and returned home without a single casualty in September 1827 to be showered with honours and promotions. Two other expeditions had been less successful but contributed useful information. *The North-West passage was all but in the bag.*

Despite his failure in the field on his first attempt and being old, overweight, and unfit, Franklin, as the Royal Navy's senior Arctic officer, politicked successfully to lead the next attempt to finally claim the North-West Passage for Britain. The argument before the reluctant First Lord of the Admiralty that prevailed against a younger, fitter candidate was: *"Unless you let him go, he will die of disappointment."*

On 7 February 1845, Franklin was given his last command. The ships *Erebus* and *Terror* were made ready, the former equipped with a secondhand steam engine from the Greenwich Railway. This time there would be enough canned food to last at least three years.

There would be every comfort known to Victorian man, from soap and slippers to silver cutlery and silk handkerchiefs. Against the long winters a 1,700-volume library was installed, including bound editions of Punch to keep them laughing in the dark. Nobody, however, expected them to stay away for very long.

Franklin, on the Erebus, and Crozier, commanding the Terror, left the Thames on 19 May 1845, the whole company in good spirits. Neither Franklin, nor Crozier, nor the 133 men under their command, were ever seen alive again.

The years passed. By 1848 the Admiralty was worried by Franklin's nonappearance. They felt no real cause for concern: John Ross, another Arctic explorer, had survived for longer with less food and feebler ships. Besides, Franklin had intimated he could last until 1850, perhaps 1852. Even so, in 1848 three expeditions went out in search of Franklin. When they returned empty handed, prizes were instituted: £20,000 for Franklin himself, £10,000 for his ships, and the same for the North-West Passage. Several expeditions

followed, including one American and five ships of the Admiralty in the interest of redeeming national honour as demanded by the *Times*. Lady Franklin raised funds to help with the search. As Fergus Fleming writes:

Franklin, who was at best only a reasonably capable explorer and at worst one of the most ill-starred commanders to set foot in the Arctic, was elevated to the rank of national hero.

His intended rescuers fared not much better. One described the crew of a sister ship as "the horrible company of insane, lame, blind, frostbitten and scorbutic scarecrows staggering over the ice." The ships were stuck in the ice for four winters. More men died of disease and exhaustion. Some Inuit had told the unfortunate searchers of a party of whites dragging a boat over King William Island: "The strangers fell down and died as they walked." Subsequently, remains of 35 corpses were found, along with remains of human flesh in their cooking pots. So was silver cutlery with the initials of Franklin's officers and one of his medals.

Finally four of the five ships were abandoned to the ice and the survivors sailed back to London, where their leader, Captain Sir Edward Belcher, was court-martialled for the loss of his fleet. In 1855 the Admiralty informed Lady Franklin that her husband was dead and they would no longer be looking for him.

CREDIT UNION NEWS



Alumnus Stein Schjolberg Has Published *The History of Cybercrime*

Judge Stein Schjolberg's book *The History of Cybercrime* has been published and is available on Amazon (November 24, 2014). It includes references to the work of SRI in the Internet pioneering years and especially to Donn B. Parker as the global pioneer in the combat against computer crime from the early 1970s. Here is an excerpt of the description of *The History of Cybercrime* from the Amazon website:

This book presents the history of computer crime and cybercrime from the very beginning with punch cards to the current data in the cloud and the Internet of Things (IoT). Today, the technological development of social media, such as Google, Facebook, YouTube, Twitter, and more, has been so rapid and the impact on society so fast and enormous that codes of ethics and public sentiment of justice implemented in criminal legislations have not kept pace. . . . Most of the judges and lawyers around the world from a professional judicial point of view would agree with the former US prosecutor Benjamin B. Ferencz in his statement, "There can be no peace without justice, no justice without law and no meaningful law without a Court to decide what is just and lawful under any given circumstances." The judiciary is one of the three powers of any democratic state. Its mission is to guarantee the very existence of the Rule of Law and thus to ensure the proper application of the law in an impartial, just, fair, and efficient manner. This basic principle must also be valid for Cyberspace at the international level. The book presents a draft United Nations treaty on "The Third Pillar for Cyberspace - An International Court or Tribunal for Cyberspace." Another draft United Nations treaty is presented on combating online child sexual abuse. The United Nations declarations and principles for the protection of individual and human rights are fundamental rights also in Cyberspace.

Stein Schjolberg was a Visiting Senior Fulbright-Hays Scholar at SRI in 1981-82. While at SRI, he authored the book *Computers and Penal Legislation: A Study of the Legal Politics of a New Technology*. He is an international expert on cybercrime and has published widely on computer crime and cybercrime legislation, as well as on court technology issues.

Spring Fling Survey Coming

Bay Area alumni, keep an eye out for a survey from the Alumni Association Steering Committee. To be sure we plan an appealing Spring Fling, we need your feedback. The survey will be short and easy to complete quickly, so please fill it out and return it to us. We appreciate your opinions and comments.

Membership Has Its Rewards

Attendees at the Annual Reunion received an SRI International Alumni Association membership card, and all other members have either received them or will receive them by mail. Bay Area alumni will find that this card entitles them to discounts at the following establishments: Kepler's Books, Sultana Restaurant, Trellis Restaurant, and participating See's Candies shops.



The SRI Alumni Association welcomes new members:

Dee Campbell
Susan Cole
Beth Fairman
Stellare Griffin
Laura Pinkerton

And welcomes back previous members:

Mike Foster
Mike Wilber

We look forward to your participation in the Alumni Association and hope to see you at our next group event.

Sherry Dyce Barba*

Sherry Dyce Barba, a former programming staff member at SRI, died in Cupertino on July 27, 2014, of pancreatic cancer. She was 80 years old.



Born in Los Angeles, Sherry graduated as Salutatorian from high school in Phoenix, Arizona. She received a B.S. degree from the University of Colorado and a master's degree in mathematical sciences from Stanford. While working as a computer programmer, she met and married Rolf Dyce, who was working at SRI. After some years of living the expatriate life in Puerto Rico, the couple returned to California in 1978 and took up residence in Sunnyvale.

Sherry joined SRI in 1979 as a scientific programmer and analyst in the Applied Electromagnetics & Optics Lab. She was a senior applications programmer when she retired from SRI in 1998.

After a divorce, Sherry met and married Peter Barba in 1990. In their 24 years of marriage, Sherry and Peter lived a life full of social and organizational activities, sports, camping with family, and travel. A month before she died, she celebrated her 80th birthday and took off the next day to go on a biking trip in Europe, when she suddenly became ill and was diagnosed with pancreatic cancer. True to form, she remained active and full of life to the end.

Sherry is survived by Peter, children Eric and Karen, grandsons Alex and Gavin, and brother T. Michael, as well as Peter's family of two children, four grandchildren, and three great-grandchildren.

John Carrico



John Carrico, a former SRI staff member, died at home in Baltimore, Maryland, on July 31, 2014, at age 76.

John graduated from Assumption University in Windsor, Ontario, Canada, with a major in physics. In 1961, he received a Woodrow Wilson Fellowship, which provided

full support for Ph.D. studies to students who had demonstrated academic excellence. He received his Ph.D. in physics in 1966 from Brandeis University in Waltham, Massachusetts.

After attaining senior-level positions in various companies, John joined SRI in 1988 as a business development manager and lab manager in the Physical Sciences Division. Later, he moved to SRI's Washington, D.C., office, where he became a program development manager working on national security planning and marketing in the Defense & Intelligence Program Development group. According to a former SRI coworker, John was "a great supervisor, mentor, and friend." He left SRI in 2002.

John is survived by his wife, Anita; children John, Timothy, Kevin, and Laura; stepchildren Susan, Marcia, and Lisa; brothers Michael, Thomas, and Richard; and 14 grandchildren.

Robert Dawson*



Bob Dawson, a longtime SRI staff member, died in San Diego, California, on July 14, 2014, at age 83.

Born in Washtucna, Washington, Bob served in the U.S. Army before he graduated from Gonzaga University in Spokane, Washington, in 1954. After moving to California, he joined SRI in 1958, where he spent his entire 33-year career. During that time, he held a managerial position with the Long Range Planning Service, was a senior research analyst in biomedical and health research groups, and served as assistant to the head of the International Business Consulting Group and to SRI Executive Vice President and COO Paul Jorgensen. He retired from SRI in 1992.

Bob is survived by children Catherine, Robert, and Peter, and by grandchildren Brendan, Erin, Hannah, Jack, and Seneca.

Clyde Dodge*

Clyde Dodge, a former projects administrator at SRI, died after a long illness on September 14, 2014, at age 95.

Born in Kansas City, Kansas, Clyde served in the U.S. Navy during World War II and then graduated from UC Berkeley. He joined SRI in 1950 and served in a variety of project administration positions, primarily in the International Management and Economics Group, until he retired in 1984. During his time at SRI, Clyde was an active member of Staff Activities, for which he handled the sale of Giants tickets.

Clyde is survived by his wife, Natascha; children Clyde, Lynelle, and Randy; granddaughter Melissa; step grandson Paul; and step great-granddaughter Lucy.

David Thomas (Tom) Magill

Tom Magill, a former managerial staff member at SRI, died on July 29, 2014, after a long battle with Parkinson's disease. He was 79 years old.

Born in Evanston, Illinois, Tom received a B.S. in electrical engineering from Princeton University and an M.S.E. and Ph.D. in communication theory from Stanford. After establishing himself as an electrical engineer, Tom joined SRI in 1970. He specialized in the design and testing of advanced telecommunications systems and components and was internationally recognized as an expert in spread spectrum and multiple access techniques. He worked on GPS, WiFi, and other technologies to improve communication for both commercial and military applications. Over his professional career, Tom was granted 11 patents and published 28 papers. After serving as program manager and program director, he left SRI in 1984 as associate director of the Telecommunications Sciences Center in the Engineering Sciences Group.

Outside of work, Tom was memorable for his wicked sense of humor and his creativity with practical jokes. He enjoyed

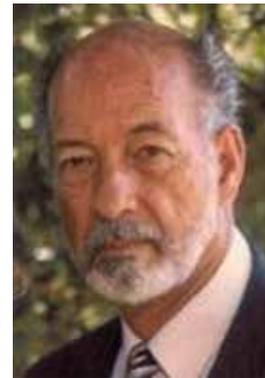
participating in sports, bird watching, and gardening, and he loved good food, especially Asian foods.

Tom is survived by his wife, Adina, and her son, Ron; Tom's children Catherine, Diana, Michael, and Elizabeth; and grandchildren Alex, Sophia, Colin, Trevor, and Marisol.

Carl J. Moore

Carl Moore, a former SRI staff member, died in Milpitas on November 16, 2014, at age 83.

Carl worked at SRI from 1957 to 1965 and from 1968 to 1994. He was supervisor of the Photo and Video group in Report Services when he left SRI. Carl is remembered by many at SRI as talented, friendly, considerate, and helpful to others. He is survived by his wife, Clela, and their son, Gary.

Lloyd Alfred Robinson*

Lloyd Robinson, a former engineering staff member at SRI, died at home in Mountain View on September 2, 2014, at age 84.

Born in Fillmore, Utah, Lloyd received a B.S. in physics from Pacific Union College in Angwin, California, and an M.S. in electronic engineering from Stanford. He joined SRI in 1952 as a research engineer and remained with SRI for his entire career. He designed the anechoic (antecho) chamber, was the first to use the "network analyzer," and designed the radar antenna on the Oahu shore. The holder of three patents, he was nicknamed "the wizard" for his problem-solving abilities. Lloyd was a senior research engineer in the Systems Technology Division when he retired in 1996.

Outside of work, Lloyd enjoyed backpacking, hunting, being a "collector," making videotapes of family events and prints of his wife's artwork, setting up art shows, and spending family time in a Tahoe-Donner vacation home.

Lloyd is survived by Gladys, his wife of 63 years; sons William, Randal, and Bryan; and grandchildren Lauren, Katie, Cole, Brandt, Paige, Marissa, Ashley, and Ryan.

Heinrich Schwendener



Heinrich Schwendener, a former SRI staff member in Zurich, Switzerland, died on July 28, 2014, at age 62.

After completing undergraduate studies and earning a doctorate in geophysics from the Federal Institute of Technology (ETH) Zurich, Heinrich spent several years teaching and doing research at the ETH Institute of Geophysics, followed by a position as a geophysicist for an oil exploration and production company. He joined SRI in Zurich in 1988 as a consultant with the Chemical Industries Department. He was a senior consultant with the Process Industries Division when he left SRI in 1996. In his subsequent career he rose to senior executive positions in the energy industry, including chairman and CEO of several energy-related companies.

Heinrich is survived by his wife, Brigitte, and two sons.

*Member of the SRI Alumni Association

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