August 2022 Newsletter

SRI International

Alumni Association



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MESSAGE FROM ARCHIVES CHAIRMAN DON NIELSON



Don Nielson

Probably foremost in your mind as you read any of these newsletters is how SRI is doing. Since I'm not engaged enough to know clearly and because this isn't exactly a confidential forum, let me just say that it seems to be doing well. For certain, exciting new and relevant research continues, and you will find several indications of that again in this issue. SRI is also

a bit more far flung than in earlier times, but it is beneficial and, in our increasingly connected world, not all that unusual.

But about to emerge from the background are actions directed toward the redo of not only the Menlo Park campus, but also Princeton. While monetizing this kind of implicit value is compelling and can clearly foster SRI's research capability and engagements, the scale of these actions make them nothing short of redevelopments in which SRI is literally immersed. In earlier issues you've read of the substantial scope in Menlo Park. It is intrinsically a one-shot effort, meaning a time for careful planning and, we trust, avoiding irreversible mistakes. Regarding Menlo Park, the rest of this year will see relocation planning. Actual consolidation will occur over 2023 and 2024 and site completion by 2027, assuming all goes as planned.

The History Corner this time relates an SRI occasion that materially contributed to a turning point in human-computer interaction. Over a relatively short time, an interdisciplinary team laid a prescient foundation for how we could interact with computers in our everyday lives. You'll enjoy taking it in, and please take a moment to watch the video links provided; they are a bit scruffy and old but bring it all to life. At both Apple and Samsung, Adam Cheyer, his SRI colleagues, and his open agent architecture have made the flexible, redundant, and reliable interaction with computers a reality, whether they are in hand or embedded in other machines at hand.

Next, check out how London colleague and frequent contributor Peter Weisshuhn found his way into a long career at SRI. Then you'll find some literary exposure for two of our respected alums, Jake Feinler and Don Shockey.

Now, back to the state of the Institute and our upcoming reunion. As you know, there is a new person at the helm of SRI. His name is David Parekh, and having met him once and listened to him at an All Hands meeting or two, I find him engaging, attentive, and infectiously eager in his new job. But you needn't take my word because you can hear and meet him yourself at our reunion on October 6. He is looking forward to addressing you, so let's welcome him by turning out. I'm sure you will enjoy it. To register just follow the instructions on the enclosure.

Finally, the last page of this issue is again an invitation for alumni membership. There are some selling points mentioned and, remember, you are our best advocates. Please let your SRI alumni acquaintances know about the Association, its benefits, and how they can join.

I look forward to seeing you at the reunion at SRI in October. Until then, stay safe and remember that your good health comes first!

Thursday

October

The Annual Reunion is on October 6, 2022. Please see the announcement on page 16. The invitation flyer for the event is enclosed with this mailing.

2022 SPRING FLING

Spring Fling: Picnic at Burgess Park

Close to 60 SRI alumni and guests enjoyed free lunches at Burgess Park in Menlo Park on May 19. The weather was pleasant and afforded everyone a chance to visit for a few hours in a familiar location close to SRI.

Many thanks are due to those who made the event a reality. Dave Harvey coordinated the date with the City of Menlo Park and reserved the picnic area. Augustina Biosic and Don Shockey cleaned tables and benches before the event. Linda Jansen designed and printed all the name tags, which were handed to the attendees as they checked in and were greeted by Augustina and Toni Tena. Gary Bridges ordered and picked up all the box lunches; he also took the memorable photographs shown here. And last, but certainly not least, a big thanks to Don Nielson for staying afterwards and helping clean everything up!

Hope to see you all at our next event—the reunion in early October. For more details please see page 16.



2022 SPRING FLING (Concluded)



NEWS FROM SRI

BioCyc: Access to Comprehensive Information on Microbial Genomics and Metabolic Pathways at Your Fingertips

SRI's BioCyc collection now exceeds 20,000 organismcentric pathway/genome databases (PGDBs). BioCyc and its Pathway Tools provide user-friendly means of navigating, visualizing, and analyzing the genome databases to yield insights for a wide range of scientific pursuits, such as microbiology, biofuels, and infectious diseases research, as well for multiple industries, including agriculture, bioinformatics, biotechnology, drug discovery, genomics, and synthesis biology. BioCyc is particularly useful in helping researchers make sense of the vast amounts of data generated by the "omics" (genomics, proteomics, and metabolomics) studies in our world of post-genome biology.

"The BioCyc databases are extremely comprehensive, integrating computational inferences, data imported from other databases, and manually curated information from 130,000 peer-reviewed publications," said Peter Karp, director of SRI's Bioinformatics Research Group. "Each database consists of an organism's annotated genome and its inferred metabolic pathways. Sixty-nine of the BioCyc databases are curated, integrating extensive information from the experimental literature." MetaCyc is a key database in the BioCyc collection, containing curated information on metabolic reactions, pathways, and enzymes. MetaCyc



The overall mission of BioCyc is to provide up-to-date, comprehensive information on microbial genomes, metabolic pathways, and regulatory networks together with powerful bioinformatic tools for searching, visualizing, and analyzing that information.

The "cyc" in BioCyc denotes encyclopedic references to 20,000 total databases and 69 curated databases with contents derived from 130,000 publications.

Source: https://www.youtube.com/watch?v=WYawdWYO2F

contains 3,006 metabolic pathways, making it one of the largest collections of curated metabolic pathways.

BioCyc and the associated Pathway Tools software have been under development continuously for 25 years and are used by scientists, researchers, educators, and students in thousands of colleges, universities, nonprofit organizations,



Page from the BioCyc database collections (source: https://biocyc.org/).

government laboratories, and commercial companies worldwide.

BioCyc was recently integrated into Wolters Kluwer's Ovid[®] platform to increase genomic researchers' access to comprehensive data. "These extensive databases will create a one-stop shop for genomic and metabolic pathway information," said Vikram Savkar, senior vice president and general manager, Medicine Segment of the Health Learning, Research & Practice business at Wolters Kluwer. "By adding a direct link to BioCyc's PGDBs and software-based tools to Ovid, we are connected to a whole new dimension of aggregate data that researchers need to accelerate the pace of their work."

Sources:

SRI 2014 Press Release: SRI International's BioCyc Database Collection Expanded for Easy Access to Information about Microbes and Metabolic Pathways. https://www.prnewswire. com/news-releases/sri-internationals-biocyc-databasecollection-expanded-for-easy-access-to-information-aboutmicrobes-and-metabolic-pathways-282153971.html

SRI 2022 Press Release: SRI International expanding BioCyc database collection for genomic researchers. https://www.sri. com/press/press-release/sri-international-expanding-biocyc-database-collection-for-genomic-researchers/

YouTube video: BioCyc and Pathway Tools. https://www. youtube.com/watch?v=WYawdWYO2Fc

SRI Ventures Launches Confidencial: Security for All of a Company's Applications



SRI Ventures launched Confidencial, a startup company providing privacy-enhancing technologies to secure sensitive information within existing business applications such as Microsoft Office and Google Workspace. Such security is critical for enterprises that have distributed locations or branches (such as retailers, banks, and hospitals). Often, the headquarters of such organizations are protected against cyberattacks, but the branches are not, leaving back doors open for cybercriminals to gain access to sensitive data. To avoid loss of critical data, every branch and remote location should be secured with the same level of security as the headquarters and central data centers. The need for such protection increases daily as more businesses move toward increasingly distributed operations that rely on cloud-based infrastructure and remote work.

Confidencial will enable distributed enterprises to selectively block sensitive information seamlessly within applications. Confidencial's core technology was originally developed under Defense Advanced Research Projects Agency (DARPA) programs. Confidencial also adapts natural language processing technologies from SRI to automate application of protection techniques.

"Confidencial is leveraging SRI's cybersecurity and automation technologies to provide urgently needed encryption and controls for distributed enterprises across multiple sectors," said Todd Stavish, vice president of SRI Ventures.

The Confidencial platform can be automatically deployed to protect collaborative workflows today. "The platform utilizes current cryptographic standards to be immediately applicable but is designed to be agile and evolve with an enterprise as such standards become quantum-safe," said Karim Eldefrawy, co-founder and chief technology officer and a key inventor of the underlying technologies in his previous role as a principal computer scientist at SRI.

"One of the leading causes of cyber threats is the improper exposure of proprietary data, whether inadvertently, intentionally, or due to breaches," according to Razmik Abnous, co-founder and chief executive officer. "By using SRI's natural language processing and our cryptographic techniques, we can automatically identify and protect sensitive information."

Confidencial's early adopters are in such sectors as defense, financial services, life sciences, legal services, and sports and entertainment.

Source:

SRI Press Release, June 7, 2022. https://www.sri.com/ press/sri-ventures-announces-new-spin-out-confidencialto-secure-sensitive-information-and-collaboration-fordistributed-enterprises/

NEWS FROM SRI (Continued)

Bionic Muscles on the Horizon?



Materials scientists at the University of California, Los Angeles and SRI have developed a new material and manufacturing process for creating artificial muscles that are stronger and more flexible than their biological counterparts.

For a soft material to be considered for use as an artificial muscle, it must not easily lose its form and strength after repeated work cycles. Of the many candidate materials for artificial muscles, dielectric elastomers—lightweight materials with high elastic energy density—are of special interest because of their optimal flexibility and toughness.

Using commercially available chemicals and an ultraviolet light-curing process, the research team has created an improved acrylic-based material that is more pliable and tunable and that is simpler to scale without losing its strength and endurance than other candidate materials. The result is a thin, processable, high-performance dielectric elastomer (PHDE) film that is sandwiched between two electrodes to convert electrical energy into motion as an actuator.

Each PHDE film is as thin and light as a strand of human hair, about 35 μ m thick. Stacking multiple layers together creates a miniature electric motor that can act like muscle tissue and generate enough energy to power motion for

small robots or sensors. The researchers have made stacks of PHDE films varying from 4 to 50 layers.

Artificial muscles fitted with PHDE actuators can generate more megapascals of force than biological muscles, and they also demonstrate 3 to 10 times more flexibility than natural muscles.

A simplified process, along with the flexible and durable nature of the PHDE film, allows for the manufacture of new soft actuators capable of bending to jump like spider legs or of winding up and spinning. The researchers also demonstrated that the PHDE actuator could toss a pea-sized ball 20 times heavier than the PHDE films. The actuator can also expand and contract like a diaphragm when a voltage is switched on and off, giving a glimpse of how artificial muscles could be used in the future.

This advance could lead to soft robots with improved mobility and endurance and to new wearable and haptic technologies with a sense of touch. The manufacturing process could also be applied to other soft thin-film materials for applications including microfluidic technologies, tissue engineering, and microfabrication.

Sources:

Materials Today. New material could lead to big leap in artificial muscles. July 15, 2022. https://www.materialstoday. com/polymers-soft-materials/news/new-material-big-leap-in-artificial-muscles/

SRI webpage. https://www.sri.com/hoi/artificial-muscle/

Davis, M. Scientists create artificial muscle that's stronger than human muscle. WebMD. https://www.webmd.com/ a-to-z-guides/news/20220714/scientists-create-artificialmuscle-stronger-than-human-muscle

NEWS FROM SRI (Concluded)

SRI to Develop the First Quantum Manufacturing Technology Roadmap



The National Institute of Standards and Technology (NIST) granted SRI \$300,000 to create the first-ever quantum technology manufacturing roadmap (QTMR). This roadmap will identify precompetitive development and supply chain gaps in US quantum-related fields to benefit multiple quantum technology application areas. The undertaking is of national security and economic importance.

The roadmap will identify barriers to advanced manufacturing of quantum-related devices, components, and systems in the United States. It will define common needs and challenges, assess supply chain barriers, and provide a detailed analysis of various technology and manufacturing gaps.

"This will be a large effort to engage stakeholders, including quantum system integrators who are building competing platforms, to develop this industry roadmap," said Navin Lingaraju, research scientist in SRI's Applied Physics Laboratory and QTMR principal investigator. "Within the last year, there has been rapid convergence within organizations around plans to build large-scale quantum systems. The roadmap development effort will help identify shared manufacturing challenges and facilitate planning for potential US manufacturing institutes to support the scaleup of quantum technologies.

SRI will leverage its team of industry, national laboratory, and academic partners—as well as pledged member

companies of the SRI-managed Quantum Economic Development Consortium (QED-C*)—to define needs and set targets to ensure US competitiveness and identify opportunities for investment to guide both government and private organizations. The effort has more than 30 pledged collaborators at the outset, including Rigetti, Quantinuum, IonQ, Cisco, and Keysight.

"SRI's industry-leading experience in quantum technology and leadership role in QED-C positions us to facilitate US adoption of critical manufacturing technologies that shape the rapidly evolving quantum industry," said Celia Merzbacher, executive director of QED-C and QTMR co-principal investigator. "This roadmap will guide investments across the quantum supply chain and by public and private investors. The QTMR expects to define critical gaps in infrastructure, standards, test and measurement, as well as critical technologies."

The award is part of NIST's Advanced Manufacturing Technology Roadmap (MfgTech) Program, which provided a total of seven awards in a variety of fields.

*For more information about QED-C, see the SRI Alumni Association Newsletter, December 2021, page 10.

Sources:

SRI Press Release June 13, 2022. https://www.sri.com/ press/press-release/sri-international-developing-first-everquantum-manufacturing-technology-roadmap/

NIST Press Release, May 12, 2022. https://www.nist. gov/news-events/news/2022/05/nist-awards-fundingstrengthen-advanced-manufacturing-critical-andemerging

NIST MFgTech Program. https://www.nist.gov/oam/ advanced-manufacturing-technology-roadmap-mfgtechprogram

A Background Note on This Article

In April 1989 I drafted some notions about a new model for human-computer interaction that we could pursue at SRI. Computers were gaining enough power to accommodate a greater share of that power to the interaction process. It also had become clear that SRI was sitting on a family of human-computer interaction modalities or tools perhaps unmatched anywhere. The mouse had appeared in 1965, automatic handwriting recognition in 1978, automatic speech recognition around 1988, and over that latter decade or so natural language understanding for both text and speech blossomed. Maybe it was time to bring these modalities flexibly together by calling, for starters, on the Artificial Intelligence Center (AIC) and the Speech Lab to combine their talents to enrich our interaction with computers. So later that year, when the time arose for petitioning for the next year's internal investment money, I wrote an internal proposal, and my colleagues in Engineering agreed to underwrite what I called the Computer Dialogue Lab.

Physical space was carved out, and rooms with equipment and one-way windows were built for tests. The investment was substantial, amounting to \$285K in 1990 alone, but spread over several orgs across SRI. The goal of this initiative was to lead us to a richer, more natural environment for the computer user. I remember buying free lunches for the better part of a year to bring the AIC and Speech Lab talent together to see what would hatch. Alas, other than in 1992, when Phil Cohen of the AIC created a decision support system he called Shoptalk,¹ nothing substantive materialized. But Phil's realization was important because it held the precept that if a user was in need of some object, often information, and the means to retrieve it was before him/her, the easiest thing to do was point to it. If the object was not on the screen, the easiest modality was to ask for it. Note that the keyboard wasn't involved.

We did win a few projects but nothing to justify the investment SRI made. Not, that is, until a couple of researchers appeared somewhat later whose talent and leadership would take human-computer interaction far beyond my original concepts. Here is the story, offered by one of those creative leaders, Adam Cheyer.

—Don Nielson

The Computer Human Interaction Center (!)

By Adam Cheyer

Toward the end of the last millennium, a small group was formed with the purpose of exploring pervasive ambient computing (today referred to as the Internet of Things or IoT) while challenging the very boundaries of how research was typically conducted at SRI. The Computer Human Interaction Center (CHIC!), always written with an "!" for emphasis, was the brainchild of Dr. Luc Julia. At the time, the World Wide Web was just beginning to blossom into a global phenomenon, and Dr. Julia began to dream of a future where computing wasn't constrained to a desktop or laptop computer, but was woven in and around the very fabric of your everyday life. SRI was the perfect place to work on such an exploration, having a large number of multidisciplinary researchers with various relevant skill sets. The challenge, however, was that while it was relatively easy to form collaborations within centers and groups, institutional boundaries made it more difficult to create efforts that would engage researchers from different centers or divisions around the Institute. Along with me as co-director and with support from the Information and Computer Science Division VP Don Nielson and his successor Bill Mark, Dr. Julia launched CHIC! in 1998, growing the team to nearly 20 part-time collaborators, including researchers from across SRI as well as visiting graduate students and professors from



The original CHIC! team webpage. You can tell this was a long time ago from the pixelated images.

^{1.} https://hci.stanford.edu/courses/cs547/speaker.php?date=1993-01-13

partner universities. Funding came from proposals to the National Science Foundation (NSF), NSF-EU, SRI IR&D, and commercial contracts from BMW and others.

To galvanize the team, in March 1999 Dr. Julia issued a challenge to CHIC !: to create six innovative and interconnecting applications in just six months, with the work being revealed publicly to the press at an open house on the auspicious date of 9/9/99 at 9:00 a.m. The goal was to feature two innovative applications for the workplace, two for the house, and two for the car.

The Office

The first experience a visitor to SRI's CHIC! laboratory had was to be greeted by a six-foot-tall kiosk, InfoWiz. When a visitor approached InfoWiz, they would see a screen with content about SRI and an animated wizard-like character asking them to pick up a

telephone handset attached to the kiosk. Upon lifting the handset, they were greeted by the InfoWiz's voice, and then they could engage in a spoken language conversation with the avatar who would answer any question they might have about SRI or their visit using a mixture of language,



The InfoWiz Kiosk and a snapshot of its screen, with the animated Wizard that would answer all your spoken questions by dialoging and automating the web content displayed.

animations and gestures, and automation of visual web and media content about SRI. InfoWiz employed an adaptive strategy that monitored how well the assistant thought it was understanding the conversation, adjusting its level of conversational initiative to become progressively more structured if a fully open and undirected conversation wasn't working well.

If appropriate to the visitor's needs, the InfoWiz would suggest that they borrow a mobile tablet version of the kiosk, OfficeMATE, to help guide them on their visit. The tablet interface offered a copy of the full InfoWiz web with its media content about SRI; an InfoWizenhanced version of a calendar, useful to help an interviewee know where they should go during their scheduled day; and a multimodal interactive map of the building where a visitor could use an electronic pen or their voice to ask for directions or bring up map-related content. SRI's office corridors were instrumented with in-building position sensors, so that as a visitor carried OfficeMATE through the hallways, locationrelevant information was constantly displayed on the tablet: their location on the map, the web page of the researcher whose office they were passing, and the like. The InfoWiz assistant would pop up every so often to point out some particularly pertinent information about the location that the visitor was walking past.



OfficeMATE: In-building geolocation and a multimodal pen/voice interface to a calendar, map, and web content about SRI.

When a visitor arrived at a CHIC! conference room, they could make use of a second office-related application called EMCE (Enhanced Multimodal Collaboration

HISTORY CORNER (Continued)

Environment). EMCE provided conference tables with low-angled embedded computer monitors for each participant, along with personal microphones and earpieces for private audio information. As they logged in, the user's display showed a shared virtual table with all the other participants located around it. Conference participants could share local documents, images, notes, or drawings in a public way that appeared on everyone's virtual view, or they could have private resources that only the user could see. Drawn scribbles benefited from an automatic cleanup capability: If a conference participant drew a graphical table, circle, chart, or other figure on the whiteboard, the system would autocorrect the image to render a more perfect version of the illustration, with straight lines, sharp corners, and so forth. Finally, as the meeting progressed, a timeline of what happened during the meeting was recorded in the form of meeting minutes.



EMCE: An augmented collaborative meeting environment.

The Home

The CHIC! laboratory also had a smart home demonstration space featuring an enhanced kitchen and a living room where a voice-controlled television was the centerpiece.

In the kitchen, CHEF (Collaborative Home E-Fridge) was a refrigerator with a flat-panel touch display integrated into the door. A guest could use the graphical display, handwriting (with finger), or speech recognition to issue commands to the refrigerator. The contents of the fridge and the kitchen were known to



CHEF: Collaborative Home E-Fridge, featuring handwriting, speech, food delivery, and meal planning.

HISTORY CORNER (Continued)

the system using RFID tags, which would help keep an estimate of how many times various items were used. HEF featured an integrated meal planning calendar, a web-based recipe search function that could propose new things to make based on the ingredients available in the kitchen, and an integrated food delivery system (WebVan) that would suggest reordering low-supply ingredients or ordering missing ingredients for the week's meal plan. If you forgot in which cabinet an item was located, a 360-degree camera mounted on the ceiling would zoom in to the location of the item you asked about. And the most popular aspect of CHEF? Magnetic poetry on the home screen, where if you were missing a particular word tile, you could create a new one by writing the word with your finger.

SURF was the name of the voice-enabled TV at the center of the CHIC! smart home. A push-button microphone was attached to the remote control so that while watching a show, you could click and speak to issue commands or queries. When the phone rang, the caller ID was displayed on a bar above the live TV broadcast so you knew who was calling. If you let the call go to voicemail, you could simply say "Play my voicemail" to hear messages over the TV speaker while continuing to watch your show. Additionally, you could bring up your email, fax, or EMCE meeting minutes in a picture-in-picture display. Of course, a TV programming guide was integrated, so you could ask when your favorite show would air next. You could also ask to see the baby monitor projected in a corner of your TV display, or you could ask CHEF whether there was any ice cream left in the fridge-perfect for the ultimate couch potato!

The Car

In the car, CHIC! offered two innovative experiences. The first, CARS (for Cooperative Agents and Recognition Systems—OK, we were stretching a little on naming back then), was an embedded car navigation and entertainment system that featured speech recognition for driving directions, communications (including a unified mailbox of voicemails, emails, fax, pager, and more), games (including a language tutor that graded your pronunciation using speech recognition technology), and office control, such as accessing documents, work contacts, and so forth.



CARS and TravelMATE: In-car multimodal interfaces for enhanced navigation and entertainment.

The second system, TravelMATE, was an augmented reality experience for a tourist. As a user walked or drove around San Francisco, a small laptop computer or tablet simultaneously displayed a 3D model of what they were seeing in the real world, automatically updated based on the user's position and orientation. Labels of buildings (e.g., Transamerica Tower) were overlaid on the user's view to provide them with more information than was available in the real-world view. In addition to the tablet display, we experimented with a true augmented reality interface that would project content additional to what the user was seeing through a heads-up display similar to a very heavy pair of glasses. With speech recognition, the user might say, "Show me supermarkets around here," and a list would be projected on their display; they could then point to particular display elements and the gesture would be triangulated by a pair of cameras located below the windshield, allowing multimodal speech and pointing combinations (e.g., "Get directions to this one.").

Bringing It All Together

At the core, the CHIC! work was a smart integration framework called the Open Agent Architecture (OAA). Each application was composed of a community of "agents," written in different programming languages and running on many computers, that would compete and cooperate to offer the required component functionalities. The benefits of this approach included extreme software reuse and the ability to blend distinct applications into one seamless experience. For example, when someone carried an OfficeMATE tablet into an EMCE meeting room, there was a seamless transition between the experiences. You could talk to your CHEF refrigerator from your SURF television or bring up your EMCE meeting notes. If you were driving using a CARS navigation system, your refrigerator might reach out and ask you to pick up some milk at the nearest grocery store.

On 9/9/99 at 9:00, the accomplishments of the CHIC! team were on full display at an open house at which the public and the press were welcome. Live demonstrations were given of the developed technologies, offering a peek into the future of pervasive ambient environments and the Internet of Things. As the millennium drew to a close, the CHIC! group's vision of integrated multimodal and spoken language assistants set the stage for a bright new future, laying the foundation for later commercial developments from members of the team, including Apple's Siri (embedded into billions of phones, Apple TVs, cars) and Samsung's Bixby (embedded into hundreds of millions of refrigerators, speakers, televisions, smart watches, ...), and more.

See a short video of the CHIC! Open House at https:// youtu.be/e7zYjUd2IV8; also see https://youtu.be/ y6WJTV7z3OQ.



The Open Agent Architecture created an application (in this case CHEF) out of a dynamic community of software agents.

INTERNATIONAL JOURNAL

How I Came to Join SRI: A Somewhat Unusual Story

By Peter Weisshuhn



In 1970 I started my consulting career in the London office of Arthur D. Little (ADL), an organization similar to SRI headquartered in Cambridge, Massachusetts. I stayed for four years and then joined a client, the Vendo Company of Kansas City, to become European marketing

manager. The Vendo Company was a producer of automatic snack and drink vending machines installed in public places and factories. It was an interesting job but becoming repetitive after two years.

One day in early 1974, I was in Brussels to visit our local sales office. I had also arranged lunch with Andrew, my former colleague in London who was then in ADL's Brussels office. We discussed our jobs, my interest in possibly returning to ADL, and the firm's politics, with which Andrew had become disillusioned. So he had registered days before with Heidrick & Struggles (H&S), the headhunters. H&S had mentioned a consulting job with SRI in London, but Andrew would not move from Brussels. Asked whether he knew anyone who might be interested, he had given H&S my name.

When I returned home that Friday evening, my wife told me that a man from H&S had called repeatedly to impress on her the urgency of my calling him back on the weekend as he must speak to me about a job on offer that was tailor-made for me. When I did call him, we agreed to meet early on Monday at his Mayfair office. Mayfair is one of London's top addresses for fund managers and other professional service firms. My contact's office reflected the area's premier status. Sitting under a chandelier, the H&S man asked a few standard questions, mostly to confirm what he already knew, and then launched into a lament about his boring life. I first suspected that this was a refined technique to test me, but then it struck me as simply unprofessional. On my way out, he introduced me a to colleague who asked whether I spoke French; my mais oui satisfied them.

The next day I received a phone call to arrange a meeting with Fred Weil in SRI's Croydon office. Meeting Fred and some others persuaded me to join SRI. Once I was on board, Fred told me that I was the second candidate proposed by H&S. The first had been accepted but soon had to quit for a spell in prison. This was of course embarrassing for H&S and meant no fee unless they produced an acceptable substitute—hence their haste in finding me. These unorthodox circumstances led to my enjoying a rewarding career at SRI for 17 years.

Jake Feinler's SRI Career Told

A short time ago, John Rushby of the Computer Science Lab made us aware of *Broad Band – The Untold Story of the Women Who Made the Internet*,¹ a book that recounts the roles women have played in creating the Internet. Among the women profiled is SRI's Elizabeth "Jake" Feinler!



The beginning of the book delves almost exclusively into the earliest stages of computer programing, long before the Internet was on anyone's mind. It was the realm of batch processing and compilers and the few women who made such incredible contributions. Jake's presence comes with the appearance of computer networking, and hers is a wonderful story and well told in the book.

In a nutshell, Jake and the folks she gathered around her spanned at least the first two decades of computer networking. Her arrival at SRI preceded all that, but in 1972 she was offered a role in a new unit in Doug Engelbart's Augmentation Research Center (ARC), and that changed everything for her. Engelbart, in meetings with his sponsor, the Advanced Research Projects Agency (ARPA), had agreed to house one of the two necessary functions of the brand-new ARPANET: the operationalization of how users and their machines could become part of this network. The immediate need was a handbook listing the computing resources available on the network, and the new unit was called the Network Information Center (NIC).

The NIC soon became the gateway for all new users of the ARPANET. There were the essential network collections: the dynamic inventory of computing hosts, the resources they had to share, and those who maintained them became the Resource Handbook: users on the net were listed first in the ARPANET Directory and then in the online counterpart called WHOIS; the protocols that new hosts and users would need to operate on the network became the Protocol Handbook, and then came the design criteria for how the network would evolve. The diminutively named Request for Comments (RFCs) were housed in the NIC. When these documents didn't catch the user's eve, there was always the NIC Reference Desk where first Jake and then her team sometimes operated around the clock to keep the network operating and growing.

But exponential growth was daunting, particularly when the network's communications protocol had to change to enable the Internet and the fundamental accounting of its burgeoning number of hosts had to be redesigned. So a new, hierarchical system was created around the domain concepts of today. Jake and her team were involved in that evolution, specifying the names of the new domains now intrinsic to all Internet addresses. And growth continued. When there became a million hosts on the Internet, the NIC with its host-pinging software was the place they would be recognized. For more than two decades, Jake and her NIC team enabled networking to become the indispensable resource it was.

Yes, Jake, with her penchant for record keeping, her organization skills, and her dedication to tackling the challenges of this new information world deserves all the credit she has received and more. The Internet Society has both inducted her into the Internet Hall of Fame and awarded her the Jon Postel Service Award. She is truly a woman who helped substantially to make the Internet.

^{1.} Claire L. Evans, Portfolio/Penguin, New York, 2018.

SRI-RELATED BOOKS IN THE NEWS (Concluded)

An SRI Researcher Brings His Avocation to Life



It seems Don Shockey has always been an athlete and a leader. During his college days in Pennsylvania, he was captain of both the football and track teams. After a PhD from Carnegie-Mellon and an internship abroad, Don came to SRI and over time developed its capability

and reputation in fracture physics, the science of how and why all manner of things break. His professional contributions are widely recognized both inside SRI and across his profession and client base.

After landing in California to work for SRI, Don found an outlet for his athleticism on the ski slopes of the Sierra Nevada. There, his skill and volunteering spirit led him to a lifelong participation in ski patrolling. That accrued experience meant Don came to know intimately the dangers of avalanches to skiers and objects in their path and he applied his fracture physics knowledge to the snowpack. In seeking a way to convey that knowledge, Don chose to write a novella, *Saved by an Avalanche: A Ski Patroller's Obsession.* It brings to life a situation that not only illuminates the dangers of avalanches, but also keeps a pristine environment safe from human encroachment. Here's a description from the book's back cover: "While providing a gripping story, this novel describes ski patrol life, how avalanches occur, and a unique method for controlling avalanches." The novella is available on Amazon.

Don retired from SRI in 2018. He continues to be active in his retirement, serving on the Midpeninsula Regional Open Space District volunteer trail patrol.



ALUMNI NEWS



SRI Alumni Association members are invited to attend the annual reunion in Menlo Park on October 6, 2022. It will be held in the International Building from 4:00 until 7:00 p.m. The program will include a report on the status of the Institute and a technical presentation. A special feature of the reunion will be the induction of Dr. Takao Kobayashi and Sally Longyear into the Alumni Hall of Fame. You can count on sumptuous hors d'oeuvres, excellent drinks, delightful conversation, and plenty of door prizes.

This year the reunion is free of charge for one alumni member and one guest. Your additional guests are welcome to attend at a charge of \$25 each. As an added bonus, paying guests who are former SRI employees but aren't currently members of the association will have their entrance fee go toward one year of association membership.

An invitation to the reunion with sign-up form is included with this mailing; members receiving electronic distribution will need to print the sign-up form from their email attachment. Please complete the form and return it with your details and payment for any additional guests by Friday, September 30.

Wanted: Your Submissions

We welcome articles and shorter items from all Alumni Association members to be considered for publication in the newsletter. Have you done something interesting or traveled to interesting places? Received any awards or honors? Your fellow alumni want to know! Please send items to steering-committee-alumni@sri.com.



The SRI Alumni Association welcomes new members:

David Cooper Michael Davis Peter Holland Erik Matlin Jacqueline Owen Ash Pal Paul Penwell Wade Viernes

And welcomes back previous member:

Paul Zaman

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

Directory Addendum

The enclosed directory addendum (covering the period April 1, 2022, to July 31, 2022) contains new members and corrections. Please add it to your 2022 Directory.

Alumni Association Membership Renewals Due by November 30

It's almost time to renew your SRI Alumni Association membership for 2023. Membership renewal forms will be mailed to association members in **mid-October**. The fee is \$25 per member, due by **November 30, 2022**. All members who renew on time will be included in the 2023 Alumni Directory, which will be issued in January.

Joanne Hawkins*

Joanne Hawkins died on June 16, 2022.

For almost two decades, concluding in 2017, Joanne Hawkins served as an executive assistant and an office manager for the SRI's Center for Technology in Learning (CTL).

Joanne is remembered by colleagues as being an essential resource and support to the CTL research group during a time of exceptional growth and productivity. She worked tirelessly and with determination to support others and make the workplace better. Colleagues had the following comments about Joanne:

"She was part of the heart of CTL for me."

"She was spunky and fun, warm and pragmatic."

"She saved me from my complete inability to deal with policies and procedures, with grace."

"She kept the ship sailing; she cared about us."

"She was a wonderful friend and colleague."

"She was such a kind and thoughtful soul."

Joanne was known throughout the Education Division; she was an institution. Her contributions and her character will be remembered by the hundreds of researchers who worked for or with CTL during those decades, as she was important to every aspect of CTL's functioning.

Remembrance from Jeremy Roschelle.

John Kenneth Horner



John Kenneth (Ken) Horner died on June 2, 2022, at his home in Morgan Hill, California, after a long battle with cancer with his wife, Linda, at his side. Ken was 85.

Ken was born on June 14, 1936, in La Junta, Colorado, the son of Rex Horner and Carolyn Bellar. He recounted in his memoirs that he grew up in a house with

no indoor plumbing and doors that would not close as his father worked on the house after work at his job as a

mechanic at the Santa Fe Railroad. Ken's father's family had come to the West in a covered wagon, with Ken's father having been born in a soddie. Ken drew water from a cistern with a bucket on a rope and used an outhouse for the first 11 years of his life until his family moved from the country into town.

The first in his family to attend college, Ken majored in chemistry at New Mexico Highlands University, where he met his wife, Laura Lee Devine. They married in 1957 on the day after Ken graduated; he was 21 and she was "almost 20." They moved to Tempe, Arizona, where Ken earned his master's degree at Arizona State University (ASU) while Laura worked for one of Ken's ASU professors. After graduation, Ken and Laura moved to North Wales, Pennsylvania, with their first son, and Ken worked as a chemist for Merck Sharp & Dohme. In Pennsylvania, Ken and Laura had three more children. In 1963 Ken drove his family of six in their white Mercury Comet station wagon to Sunnyvale, California. Ken started work at SRI, and the fifth Horner child was born.

Ken and Laura lived in Sunnyvale for more than 40 years. There were relatives nearby, top schools, a neighborhood with many friends and classmates, and a valley that still had cherry and apricot orchards. Ken loved a good party, whether it was for the holidays, birthdays, or his famous Memorial Day Horner Softball Picnic & BBQ. That event, which he hosted for more than 25 years, included a softball game at San Antonio field followed by a backyard gathering with burgers, chicken, hot dogs, and Ken's famous he-man chili, beer, soda, and a magic act. Ken coached his three sons in Little League for more than a decade and would recount the details of those games for years after.

In 1970 Ken left the field of research chemistry and founded the DP Index Company. For 26 years he wrote, edited, published, and marketed California's first computer guide. Ken was an entrepreneur, ahead of his time by making his living in the Silicon Valley computer industry years before Apple or Microsoft existed.

A talented woodworker, Ken became a master of marquetry and woodturning after he retired in 1996, creating beautiful gifts for his family. Ken wrote numerous bestselling books on woodworking including his *Woodworkers' Essential* series. He also wrote his memoirs, a crime novel set in the San Francisco Bay Area during the early days of Silicon Valley, and, before his death, his final *Just a Kid* two-part series based loosely on the aggrandized life of a very special kid (himself).

IN MEMORIAM (Continued)

After Laura died in 2004 of cancer, Ken met Linda in a woodworking class, and they moved to Morgan Hill, California, in 2008. They married in 2011 on a grassy knoll in their backyard with dozens of guests and family in attendance. Having lost their prior spouses, Ken and Linda felt fortunate to have found each other. They built a large woodshop in their backyard that served as a meeting place for local woodworking groups and woodworking classes they taught.

Ken was preceded in death by his wife Laura and his son Gregory (1981). He is survived by his wife Linda; brother, Byron, and sister, Marian; children, John Douglas, Mary Carolyn, Clifford, and Lizabeth Ann; and 10 grandchildren.

Based on an obituary published by the San Jose Mercury News/San Mateo County Times.

Robert Edward Larson



Robert (Bob) Edward Larson died at age 83 on March 10, 2022, surrounded by loved ones. He fought a courageous 25-year battle with Parkinson's disease.

Bob was born in Stockton, California, to Clarence Larson and Gertrude (Ruben) Larson on September 19, 1938. His family moved to Oak Ridge, Tennessee,

in 1942 when his father was commissioned to work on the Manhattan Project. After winning the Tennessee State Science Fair his senior year for his project of building an early computer, Bob graduated from Oak Ridge High School as Valedictorian in 1956. He went on to the Massachusetts Institute of Technology where he received a bachelor of science degree in 1960. In 1961 and 1964, he was awarded master's and doctorate degrees from Stanford University in electrical engineering.

Bob worked for IBM, Hughes Aircraft, and SRI. He received many awards in the field of electrical engineering, including Outstanding Young Electrical Engineer in the US from the Eta Kappa Nu IEEE (Institute of Electrical and Electronic Engineers) Engineering Honorary Society. In 1968 Bob was a co-founder of Systems Control in Palo Alto, California, where he served as president and chief executive officer before its sale to British Petroleum in 1982. Bob was also president of IEEE in 1982, traveling the world to address most of the IEEE sections. He was a general partner and technical advisor at the venture capital firm Woodside Fund from 1983 to 2012.

Bob was a Consulting Professor at Stanford University in the Engineering Economics Systems Department from 1973 to 1988. He wrote several textbooks and more than 100 technical papers on software and computer systems. As part of his role with IEEE, he traveled to China in the early 1980s where he met Jiang Zemin, who would go on to become the paramount leader of China. As a result of this relationship, Bob helped China build its electrical grid, as well as begin to privatize various industries and sectors. He was honored for his work in China. At the end of his career, Bob was president of the US-China Green Energy Council, encouraging green energy projects in both countries and holding conferences toward those goals. He also volunteered with the IEEE Smart Village Project, bringing solar energy and electricity to villages in developing countries.

While Bob had an exceptional work ethic and highly successful career, he always found time for his family. He was a devoted husband, father, and grandfather, working numerous swim meets and attending sporting events, plays, and concerts. He loved rock and roll music, singing all the verses of his favorites with the California Beach Boys Tribute Band at his memorable 70th birthday dinner party.

Golf was Bob's favorite sport, and he was captain of the golf team at MIT and had belonged to Palo Alto Hills Golf and Country Club since 1972. Bob also was involved in the Community School of Music and Arts in Mountain View. He was active in the Gideons International and Bridges Community Church, where he taught Sunday School with his wife, led home Bible studies, and served on the Altos Foundation Board, which owned the homes for the pastors of the church. Bob passed along his great work ethic to his three children. He mentored his students and coworkers and sought to mediate coworkers' problems. Bob could find the humor in almost any situation and put people at ease.

Bob was preceded in death by his brother Lance Larson. He is survived by his wife of almost 58 years, Sue; children, Carrie Jenner, Cindy Fletcher, and Erik Larson; brother, Larry Larson; and six grandchildren.

Based on an obituary published by the San Jose Mercury News/San Mateo County Times.

Alexander Vladimir Lisin



Alexander (Al) Vladimir Lisin died peacefully on April 4, 2022, at the age of 89. He was a resident of Cupertino, California.

Al was born on October 23, 1932, in the Russian community of Harbin, China. His family immigrated to San Francisco, California, in 1936.

While at SRI, Al worked in the Poulter Laboratory.

Al will be remembered by his friends and family for his smart and kind demeanor. His life was filled with many joys—his wife, Pat; their folk dancing; his running and hiking, his education and engineering career, and his love of people and the outdoors.

Al was preceded in death by his wife of 62 years, Patricia. He is survived by four children and five grandchildren and by his cousin and her three children.

Based on an obituary published by the San Jose Mercury News/San Mateo County Times.

David Charles MacMichael



David C. MacMichael, died of pneumonia on May 16, 2022, at his home in Linden, Virginia, at the age of 93. David was a Central Intelligence Agency (CIA) analyst who accused the Reagan

administration of misrepresenting intelligence as part of an effort to overthrow the left-wing government of Nicaragua, claims that foreshadowed the political scandal known as the Iran-Contra Affair.

David was born in Albany, New York, on June 5, 1928, and grew up in Leonia, New Jersey. His mother, Gertrude (Mahood) MacMichael, was a homemaker, and his father, Charles MacMichael, was a concert pianist who later worked for the Heinz food processing company.

David enlisted in the Marine Corps out of high school, in 1946, and served two years before enrolling at Hampden-Sydney College in Virginia on the GI Bill. He graduated in 1952 with a degree in history and immediately went back to the corps, this time as an officer.

The Marines sent him to Korea. During the final weeks of the war, in 1953, he was seriously wounded in a mortar attack. After spending more than a year recovering, David returned to service once again, this time to be trained as an expert in counterinsurgency. In 1959 David resigned his commission to earn a doctorate in history from the University of Oregon and then teach at Dominican College of San Rafael, now the Dominican University of California.

Given David's military and academic background, soon after he started teaching he was recruited by SRI, at the time an arm of Stanford University that held contracts with the Defense Department and the CIA. The institute sent him to Thailand for three years at the height of the Vietnam War, and he remained with SRI until 1981 when he began working directly with the CIA.

As a contract employee with the CIA, his job was to analyze military and political developments in Central America at a time when the region was considered a key Cold War battleground, home to the leftist Sandinista government in Nicaragua and a growing left-wing insurgency in El Salvador.

Amid fears that the Soviet Union was trying to foment a communist revolution on the doorstep of the United States, the Reagan administration began funding the right-wing Nicaraguan rebels known as contras, justifying the effort by citing a flood of Soviet weapons that the Nicaraguan government was purportedly providing Salvadoran guerrillas. However, David's research indicated that the flow of weapons into El Salvador had almost stopped in early 1981, soon after Reagan took office. Despite David's analysis, the CIA developed a plan that Reagan approved to create a covert force of 1,500 fighters in to destabilize the Nicaraguan government. They claimed in statements to Congress and the public that Nicaragua was arming Salvadoran rebels.

David resigned from the CIA in 1983 and went to Nicaragua at his own expense to investigate. He then briefed members of Congress on his findings, and in 1984, fearing that Reagan was moving toward "a major military intervention" in Central America, David gave his findings and evidence to the *Washington Post* and the *New York Times*. Eventually, Congress voted to cut off funding to the rebels and effectively bar the use of federal money for the contras. Senior officials in the Reagan administration continued to support the group, developing a covert scheme in which arms were sold to Iran in exchange for the release of American hostages held in Lebanon, with some of the proceeds diverted to the Nicaraguan rebels. When this Iran-Contra operation came to light in 1986, it erupted into one of the biggest political scandals in recent decades, leading to more than a dozen indictments and tarnishing the administration's public image.

Although his whistle-blowing made him a pariah among his former colleagues in the intelligence community, David said it was worth it. "You find yourself in this situation maybe once in a lifetime," he said in a 2006 interview with the website The Ethical Spectacle. "You only come to the plate once and had better take your swings. I took my swings. That was my one ethical plus in a lifetime of unethical behavior."

After leaving the CIA, David worked for the Council on Hemispheric Affairs, a Washington-based research organization focused on Latin America, and cofounded organizations for dissidents from the US intelligence community, including the Veteran Intelligence Professionals for Sanity and the Center for the Study of Covert Action.

David also maintained a devotion to physical fitness that he traced back to his years in the Marine Corps. At 65, he walked across the country, starting at Point Reyes in California and finishing near Washington. He later completed the Appalachian Trail and, as recently as last year, chopped firewood for exercise.

David's marriage to Martha Ostrander in 1953 ended in divorce. He married Barbara Jentzsch, a journalist, in 2003. David is survived by his wife, Barbara; brother, Charles MacMichael, and sister, Joann Marsh; daughters, Stephanie Kolkka and Alicia Williamson; and son, John MacMichael.

Based on publications of the New York Times and the Washington Post.

Sherrill Hossom Muller



Sherrill (Sherry) Hossom Muller died on February 28, 2022, at age 86 with her loving husband, Eric, by her side.

Sherry was a Long Beach, California, native. She attended Los Cerritos Elementary School until the Hossom family moved to nearby Naples in 1950. She then attended Will Rogers Junior High

and Wilson High Schools before matriculating to Stanford University, where she earned both a BA and a MA in art and architecture. She fell in love with sailing, competing successfully in sabots and penguins at Alamitos Bay Yacht Club, and was a member of the Stanford intercollegiate sailing team. She then earned a master's degree in education at Columbia University. She returned to Palo Alto, California, where she worked as a graphic and technical illustrator for SRI, the Stanford Linear Accelerator Program, and other tech companies.

Sherry and her then husband, Jack Tate, moved to a ranch outside Bend, Oregon, where they raised cattle and horses and Sherry raised llamas. After Jack's death, she remained in the Bend area until she met Eric Muller. They married and soon moved to their Washington home overlooking the San Juan and Canadian Gulf Islands where they lived for more than 20 years. Sherry and Eric purchased a trawler-style powerboat and spent 20 summers traveling through the Inside Passage to Canada and Southeast Alaska, fishing for salmon, halibut, crab, and prawns. They reluctantly listed the boat for sale after the 2018 cruising season.

Throughout her life, Sherry had a keen interest in a wide variety of things. In addition to her beloved blue Porsche 912, which she raced in Porsche rallies, she held a private pilot's license, fished and hunted, and was active in Oregon horse trail rides even after moving to Washington. She also enjoyed periodic conferences and reunions at Stanford and the Hoover Institute.

In addition to her beloved husband, Eric, Sherry is survived by her sister, Linda Landes; nieces and nephews, Cynthia Landes, Greg Landes, and Allison Stordahl; a grandnephew and three grandnieces. Sherry will also be missed by family friend Jon Rotzein and Eric's family.

Based on an obituary published by Gazette Newspapers.

Edward Murray*



Edward (Ed) Murray, unexpectedly and much too soon for the many who loved him, died on April 20, 2022. He was 76.

His professional life was one of achievement, beginning with earning a BS and an MS in mechanical engineering at George Washington University in his

hometown of Washington, DC. His knowledge in areas like heat transfer next took him to Stanford University, where he was awarded a PhD in laser physics. He then joined SRI in Menlo Park, California, where he rose rapidly and was eventually director of the System Technology Division, overseeing four laboratories with 215 employees that did contract research in a wide range of areas from over-thehorizon radar to electro-optics. Along the way, he published frequently and received honors such as the US Army's Distinguished Service Award.

After many years at SRI, Ed broadened his horizons by moving into the mainstream technology industry, applying his considerable technical and management skills to the semiconductor and later liquid crystal display production equipment industries, holding senior positions at KLA Tencor and Photon Dynamics, both Silicon Valley companies. Having long been a financial and real estate investor on the side, he retired at age 61 to focus on his portfolios, to travel, and to pursue his many hobbies and interests.

Ed lived in Palo Alto for most of his life after going west to Stanford. He was kind and curious, with a quiet passion for the people and things that were special to him. A lifetime fitness buff, he swam laps, worked out in the gym, hiked the hills, or did 30-plus-mile bike rides up to Skyline on a daily basis.

He is survived by his partner/wife of 33 years, Susan Hathaway; sons, Scott and Michael; three grandchildren; and a large circle of caring friends.

Based on an obituary published by the San Jose Mercury News/San Mateo County Times.



JoAnn Velayo

JoAnn Velayo, loving wife, proud mother, aunt, and friend, died on July 4, 2022, at the age of 62.

JoAnn was born on February 21, 1960, in San Jose, California, to Clyde and Elizabeth (Betty) Hodges. Because her father was involved in highway construction, she moved often and lived in many small towns in Northern California

until the family settled in Newport, Oregon. There, she finished elementary school and graduated from Newport High School.

JoAnn attended Oregon State University, and met her eventual soul partner, Rick Velayo, in the dorm her freshman year in 1978. They dated for the rest of their college years, and both graduated with degrees in finance. After college, they lived in New York City and Los Angeles. They finally settled the Bay Area in 1984, where JoAnn spent many summers with her sister, nieces, and nephews and began her 38-year career with SRI. JoAnn and Rick were married in 1986, and their son, Aaron, was born in 1996.

At home, JoAnn enjoyed evening walks with her son, gardening, cooking, and fine wine. She loved her pets very much, including the previous family golden retrievers Shasta, McKinley, and Kona, in addition to the first family cat, Cinder. She was an avid fan of the Bay Area sports teams, especially the Golden State Warriors. She was thrilled when the Warriors made it into the playoffs and would have loved to have seen them when they won the NBA Championship. When possible, Rick and JoAnn would find time to see a Giants or a 49ers game.

Music was a major part of JoAnn's life. When Aaron showed a talent for music and drumming, JoAnn and Rick exposed him to as many concerts and types of music as possible. Attending 10 or more concerts and music events a year was not uncommon. In recent years, she was a regular attendee at the BottleRock and the Outside Lands music festivals in Napa and in San Francisco with her friend Andi.

Traveling was one of JoAnn's main joys. She enjoyed trips to the Philippines (Rick's birth country) and Alaska, as well as Caribbean cruises and driving trips around California and Oregon. She especially liked going to Disneyland, where she was last able to go in December 2021 with many family

IN MEMORIAM (Continued)

members. Rick and JoAnn enjoyed a two-week guided tour in the fall of 2021 traveling to numerous national parks.

JoAnn is survived by her husband, Rick, to whom she was married to for 36 years; son, Aaron; sister, Jane; and brother, Joe, in addition to numerous nieces, nephews, and cousins. She was definitely a favorite of the entire family. Additionally, the current cats, CJ and Ringo, miss her very much.

A Celebration of Life will be held with date and time forthcoming.

Based on an obituary published by the RWC Pulse at https:// www.rwcpulse.com/obituaries/joann-velayo-5604071.



Gary Wakai

Gary Wakai died at age 68 on April 20, 2022, after long struggles with diabetes and cardiovascular disease. During his 40-year affiliation with volleyball, he established the standards for Bay Area volleyball leagues and refereeing. Gary will be remembered for his kindness, quick wit, brilliance, and optimism.

Gary's parents, born and raised in Central California, were the children of Japanese immigrants. After their release from internment camps in Arkansas and Arizona, they met and married in 1952 and moved to San Mateo, California, where Gary was born and lived most of his life.

Gary attended San Mateo High School, where he excelled socially, athletically, and academically. He was a lineman on the varsity football team, lifetime member of the California Scholarship Federation, National Merit Finalist, and Math Team captain. Gary ranked top 3 in the state in math competitions and earned many academic achievement trophies. On the basis of his phenomenal work on an annual nationwide test administered by the Mathematics Association of America, Gary was ranked as the 10th best high school mathematician in the country. The San Mateo High School class of 1972 voted Gary as "Most Likely to Succeed."

Gary and his high school friends loved playing poker, eating McDonalds, and drinking Slurpees. They delighted in annual camping trips. During one camping trip, a bear approached a sleeping friend and Gary. Gary's friend was scratched by the bear, while Gary required stitches in his scalp.

After high school, Gary attended California Institute of Technology (Caltech), where he earned a bachelor's degree in mathematics in 1976. He was a setter on the Caltech club volleyball team, and his passion for the sport continued throughout his life.

After graduating from Caltech, Gary worked as a technical illustrator for SRI in Central Publications and then the Physical Sciences Division for several years in the late 1970s. Thereafter, he had a career in computer programming but then decided to dedicate his life to volleyball. He wanted to be the Johnny Appleseed of volleyball and invested nearly all his time and energy to expand the sport.

Gary dabbled in refereeing high school and recreational volleyball in his early adult years. As he gained more experience, he officiated for several volleyball referee associations and ages. He earned a USA Volleyball Junior National rating in the 1980s. He was a renowned NCAA Division I referee for several major conferences, such as the Pac-8 and Pac-10. He was a lifelong member of the Pacific Sierra Board of Officials and encouraged and mentored officials all over the Bay Area. When Gary retired from officiating NCAA volleyball, he often watched Stanford Womens' and Mens' volleyball matches from his usual spot in the home team end zone.

Gary loved playing volleyball as much as he loved officiating. He was a standout player at the 6 foot-and-under tournaments and legendary in the heyday of outdoor grass tournaments in the 1990s. Eventually, Gary created and supervised his own indoor adult leagues in San Francisco. Gary's AA division was the best in the Bay Area. Gary mentored, coached, and refereed volleyball players of all levels, from beginners to former Olympians and professional players.

For more than four decades, Gary's San Francisco volleyball leagues created and fostered a community where athletes met their lifelong friends and spouses, and, eventually, where children of these volleyball marriages played and socialized. Gary was so passionate about his volleyball leagues that after every major health setback, his goal was to return to the gym and watch over the sport he loved.

Gary's greatest contribution to volleyball was his invention of the reverse coed format, a gender-equalizing variation of the sport. Reverse coed is quite possibly the only form of

IN MEMORIAM (Concluded)

coed doubles that is played in most grass tournaments and has spawned innumerable reverse coed leagues nationally. Gary is owed a real debt of gratitude for this contribution.

In addition to his devotion to volleyball, Gary was passionate about science, politics, sociology, spirituality, and philosophy. Gary was fond of feeding the birds and squirrels in his backyard in San Mateo and loved the San Francisco Giants. He was also a regular sudoku player.

Gary is survived by many caring friends, a sister, and extended family. He is predeceased by his father, Masao, and mother, May.

Based on an obituary published by Sneider & Sullivan & O'Connell's Funerals and Cremations.

Note: At press time we learned about the passing of **Alex Florence**^{*} on July 19, 2022, who suffered a heart attack while at home. We hope to publish his full obituary in the December 2022 newsletter, or when more complete information is available.

*Member of the SRI Alumni Association

CREDIT UNION NEWS



NEW MEMBERSHIP IN THE SRI ALUMNI ASSOCIATION

Please consider joining the SRI Alumni Association. The association was founded in 1996 to provide former staff members the opportunity to keep in touch with SRI and their colleagues, to support the institute in a variety of ways, and to help perpetuate SRI's traditions and values.

SRI Alumni Association members enjoy many activities and services:

- Alumni Association Newsletter—Published three times a year, giving news about SRI programs, Alumni Association activities, and individual members (see past issues at https://alumni.sri.com/newsletter.html).
- Membership Directory—A regularly updated resource of contact information for association members.
- Annual Reunion Meeting—An opportunity for:
 - Socializing with other Alumni Association members.
 - Viewing the Alumni Hall of Fame Induction ceremony.
 - Hearing a prominent SRI speaker describe an important SRI project or organizational development.
- **Spring Fling**—A picnic or visit to a Bay Area point of interest; past trips have been to the Computer History Museum, the Hiller Aviation Museum, NASA-Ames, and the California Academy of Sciences.
- SRI Archives—Association members maintain and catalog SRI's photographic and nonproject archives.

We encourage you to participate in the SRI Alumni Association. Your first year's membership is free. Your membership thereafter will be \$25 per year. By completing and returning the application below, you will be enrolled and will receive future issues of the newsletter and invitations to all alumni events. Please indicate how you would like your information to appear in the Membership Directory. If you prefer that some or all of your contact information not be published in the directory, please indicate your preference below. Also, please indicate whether you would prefer receiving the newsletter as an electronic copy (PDF, which saves the association printing/mailing costs) or as a hard copy. If you prefer to complete an application online, please do so at https://alumni.sri.com/join.html.

SRI ALUMNI ASSOCIATION NEW MEMBERSHIP ENROLLMENT (*Please don't use for renewing your membership*) First Year's Membership Free!

Date:		
Publish contact information in the Membership Directory: Yes \Box No \Box		
Publish address: Yes \Box No \Box / Publish email: Yes \Box No \Box / Publish telephone: Yes \Box No \Box		
Please indicate how you would like to receive copies of the newsletter: Electronic via email: \Box Hard copy via mail: \Box		
Name:	SRI ID no.:	Division:
Address:	Email:	
City:	State:	Zip code:
Telephone: Land: ()	Mobile: ()	
Date of retirement or when you left SRI:		
Mail to: SRI Alumni Association, 333 Ravenswood Avenue, M/S AC-108, Menlo Park, CA 94025		

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