# **SRI Alumni Association**



Archive: srialumni.org/newsletters

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#### **Message from Don Nielson**



Don Nielson

All of you, particularly those who were unable to attend the September Reunion, want to learn how the Institute is doing. Well, this issue tries to give you some insight. On the next page, you can get excited about a couple of current projects that have huge potential, such as buying your

own personal kit to detect a range of cancers before they are symptomatic. Then you'll find a bit of how the Institute is doing operationally. CEO David Parekh spent some time covering this at the September reunion, including responding to a number of questions. As you might expect, actions of the current administration, including revising the research budgets of federal agencies like the DoE and NIH, have had negative consequences for the nation's research effort and SRI. You'll find in his remarks how the Institute is finding innovative ways to adapt. Pat Lincoln also delivered a talk at the reunion that covered generative AI and the power of teamwork.

You can then turn the History Corner and find a couple of interesting insights into two very different aspects of SRI. One explores how one of SRI's longest operating labs has not only wended its way for over half a century but how, in two ways, it has impacted the world around it. The other account points to the physical and mental conditioning that has benefitted those who have taken advantage of SRI's enduring fitness center.

Again, we are blessed to have David Gibby's ongoing contributions from abroad, taking us places we'll never learn of otherwise. Think of flying out of south London and only Gatwick comes to mind. Not so here. Learn that Croydon, where SRI's London Office was housed, at one time also had an airport of importance.

As mentioned in the last issue, your Association has been exploring incorporation. It all started with the Alumni Steering Committee trying to make it easier for you to pay your dues online. But the legal procedures for forming a

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non-profit are daunting, and our efforts there are currently paused.

On another administrative matter, even though we have cut our costs by making the Newsletter available only digitally, other costs continue to rise. So, effective next year, we feel it prudent to raise our annual fee to \$35 from the \$25 it has been for well over two decades. And since some of our challenge is simply remembering to send in our dues, we are mulling the notion of a lifetime membership, perhaps available sometime next year.

On behalf of the Association, I would like to welcome our 18 new members. Please tell us how we can help make your new home better, and please volunteer if you can! Check the well-written In Memoriam section for those you may have known. Finally, we need to commend the new members of the Steering Committee, who have really hit the ground running, including posing fresh new ways to improve our operation.





# POSEIDON: Screening for Early Cancer Detection

What if a simple test could save

millions of lives by catching cancer early?

The Advanced Research Projects Agency for Health (ARPA-H) has awarded up to \$34 million to SRI and partners Foothold Labs, Triple Ring Technologies, and Beacon Dx Health to develop technology as part of the POSEIDON (Platform Optimizing SynBio for Early Intervention and Detection in Oncology) program. The SRI team, through POSEIDON, will pioneer an approach that provides people with an affordable, easy-to-use, over-the-counter at-home cancer screening test that uses only breath or urine samples. The test will detect metabolic products of more than 30 different cancer types in their early stages, before symptoms occur and before cancerous tissues have had the opportunity to grow or metastasize.

According to the National Cancer Institute, more than two million new cases of cancer will be diagnosed in the United States in 2025. Currently, there is no recommended screening test for nearly 60% of diagnosed cancers, such as brain, pancreatic, and ovarian cancer. Current multicancer detection (MCD) tests can't accurately identify

"POSEIDON marks a paradigm shift in cancer screening to ensure the greatest healthcare impact for millions of Americans,"

-- Jason Roos, ARPA-H Acting Director

Stage 1 solid tumors, which is critical for effectively diagnosing and treating cancers. In addition, the cost of late-stage, non-curative cancer treatment is two to

three times higher than early-stage, potentially curative treatments. POSEIDON has the potential to make significant, lasting healthcare and economic contributions to the future of cancer care for all Americans.

"The field of cancer screening needs a revolution, and POSEIDON stands ready to deliver," said POSEIDON Program Manager Ross Uhrich. "This revolutionary funding effort brings together experts in synthetic biology, oncology, medical devices, big cancer data, and commercialization to create test kits that will transform how and when people are screened for cancer. POSEIDON will allow every American the opportunity to test themselves long before they have symptoms and at their discretion."

SRI researchers are working with a team of experts to develop and commercialize this technology. Foothold Labs<sup>1</sup> will adapt its

"The ability to target cancer cells and leave healthy cells unharmed is at the heart of this program."

--Kathlynn Brown, President SRI Biosciences

diagnostic testing platform; <u>Triple Ring Technologies</u><sup>2</sup> will apply bioengineering best practices to accelerate development; and <u>Beacon DX Health</u><sup>3</sup>, an SRI spinout, will drive commercial viability. This collaborative approach builds on SRI's long history of developing deep technology and delivering solutions that impact people's lives.

### The Technology and the Team

SRI's work on POSEIDON is centered around its proprietary FOX Three platform, which enables researchers to discover molecular guidance systems (MGSs) that bind to specific types of cancer cells. These MGSs can deliver a biological payload into cells, triggering the secretion of specific molecules if cancer exists. Those molecules can then be detected in urine by using an affordable, easy-to-use sensor device test. This targeted mechanism ensures that a unique, detectable signal is generated only when cancer cells are present, offering a significant advantage over traditional tests that rely on faint, passive, or endogenous cancer biomarkers. The overall strategy is to provide a highly specific and sensitive new scientific avenue for cancer screening.

While many FOX Three applications have been focused on therapeutics, including recent work on RNA cancer therapy, the platform also plays a role in diagnostics. SRI researchers have developed over 50 different MGSs that target 20 different cell types.

"SRI's expertise in developing cancer-specific peptides spans two decades, focusing on a wide range of therapeutics, imaging agents, and diagnostics," said Kathlynn Brown, president of SRI's Biosciences Division. "Teaming up with ARPA-H to bring affordable and reliable early cancer screening to millions of people is a testament to science and our passion to address cancer," she added.

As part of the SRI-led team, Foothold Labs will adapt its rapid diagnostic testing platform using biosensors, AI, and machine learning to detect the molecules in urine. Its NanoRev<sup>TM</sup> device will be adapted into an at-home cancer test by integrating its modified thin-film electrochemical sensors into a small cartridge and providing associated analytics.

<sup>1.</sup> https://footholdlabs.com/

<sup>2.</sup> https://www.tripleringtech.com/

<sup>3.</sup> https://beacondx.net/



### **Vision and Impact**

With low-cost, easy-to-use, at-home methods, SRI and its partners are focused not only on the breakthrough science of early detection, but also on the essential commercial viability and widespread accessibility necessary to realize ARPA-H's vision for transforming cancer care.

"The program envisions POSEIDON's Multi-Cancer-Early-Detection tests conveniently available for all Americans, particularly those in rural environments with more limited access to healthcare providers," said Jason Roos ARPA-H Acting Director, Ph. D.

If successful, the over-the-counter, at-home MCD test device kit will detect more than 30 different cancers and be fully integrated into clinical care through electronic health record and telemedicine capabilities. The kit aims to ensure that individuals will connect with a healthcare professional via a telemedicine call within 96 hours and will receive their results either virtually or in person at the clinician's discretion. In cases of a positive result (e.g., presence of cancer), individuals will be connected to the nearest medical center for an official diagnostic workup and continued care.

**Sources:** https://www.sri.com/press/story/poseidon/; https://arpa-h.gov/news-and-events/arpa-hs-poseidon-program-kicks-develop-cancer-screening-kits-home-use; https://arpa-h.gov/explore-funding/programs/poseidon



# Managing Sleep and Screentime

Families with adolescent children are confronting difficult questions about digital technology.

When is social media safe, and

when is it problematic? How can teenagers use AI at school? Does screen time impact brain development? The Adolescent Brain Cognitive Development (ABCD) study is providing answers. Launched in 2015 by the National Institutes of Health, the ABCD study is following more than 10,000 participants from pre-adolescence into adulthood. The goal is to understand how sleep, attention, substance use, physical activity, sports injuries, and other factors impact the growing brain.

"If families can change one thing, it would be to not allow phones in the bedroom when it is bedtime," says Fiona Baker, Director, SRI's Center for Health Sciences and its Human Sleep Research Program. Baker manages a team that runs one of four California-based ABCD research sites. She is also a co-author on more than 100 papers leveraging ABCD study data. (All told, ABCD has provided data for more than 1,600 research studies.) One takeaway from the research is that there is a strong association between problematic social media use and adolescent mental health challenges. Baker also connected the dots between screen use and sleep, pointing out that not only are kids consuming digital media before sleep, but they are being woken up throughout the night by the sound of notifications.

In addition to unpacking the findings of individual studies, Baker pointed to a collection of ABCD infographics designed with non-experts in mind. These infographics aim to capture high-level insights from the ABCD study in a user-friendly format that's appropriate for parents, educators, and students and focuses on themes like substance use, sleep, and screens. "Making the latest research easy to understand is so important, not only for parents, but for kids too, so they can make good mental health and sleep hygiene decisions," said Baker.

Sources: https://www.sri.com/press/story/major-nih-study-helps-families-manage-sleep-and-screentime/

### **Pipeline for Education**

The SRI-led LEARN Network demonstrates how we can get the best evidence-based educational programs to classrooms and students.



For all the challenges faced by educators in the United States, there's no shortage of educational products on the market. The real problem, observes SRI principal education researcher and technical assistance provider Kerry Friedman, is that many of the most promising solutions never make it into the classroom. That's a concern even in the best of worlds. It's a critical challenge now, as math and reading outcomes have yet to recover from their COVIDera decline<sup>4</sup>. One bright spot: It's also a problem that the SRI-led LEARN Network<sup>5</sup> — funded by the Department of Education's Institute for Education Services<sup>6</sup> — is uniquely suited to solve.

"We've found that there are all sorts of reasons that educators implement and sustain new programs and

<sup>4.</sup> https://www.nytimes.com/2025/09/25/us/reading-math-scores-declines-impact.html

<sup>5. &</sup>lt;a href="https://learntoscale.org/">https://learntoscale.org/</a>

<sup>6.</sup> https://ies.ed.gov/



practices beyond just 'Does it work?" Friedman comments. "The LEARN Network was created to unpack why that's the case and help figure out how to more reliably get evidence-based products into the classroom."

# Why evidence-Based Educational Products Struggle to Scale

Research shows that educational programs based on strong experimental evidence can translate into improved outcomes in the classroom. If that's the case, why don't all classrooms use the most rigorous, evidence-based approaches available? Friedman suggests that it's because educational product developers haven't had access to good data about how the procurement process differs across schools and districts. Without that data, it's very difficult to develop an effective scaling strategy. Teachers do want the best outcomes for students, but many education programs are disruptive to classroom flow, require too much training or ongoing support, or are simply disliked.

Other reasons that limit uptake include:

- No marketing budget or funding to e-invest in further development.
- An overwhelming number of options for decision makers.
- Lack of engaging design, visual effects, and entertaining narrative elements

"And then there are those intangibles that, in the tech world, they call 'delight," Friedman adds. "Does it make people feel good to use it?" Those intangibles can help an evidence-based product succeed. But they can also mask the deficiencies of engaging products that lack strong experimental foundations. Clever visual design and entertaining narrative elements, for example, may earn rave reviews from students without delivering best-in-class learning outcomes.

#### The LEARN Network difference

The key insight that defines the LEARN Network is that evidence-based products fail when they lack a clear scaling

strategy. Working with four product teams, SRI facilitated training, coaching, and collaboration activities grounded in SRI's Invent-Apply-Transition (IAT) framework. These activities not only enhanced the teams' scaling capacity, but also enabled SRI to further evaluate and refine scaling strategies for evidence-based educational products. These activities were then collected in a LEARN to Scale Toolkit that SRI has made freely available to all researchers and educational product developers, alongside an open access library of case studies, blogs, podcasts, webinars, and other resources.

SRI is also pursuing new research into current school and district procurement processes, bringing the commitment to rigor and relevance that guides the institute's Education Division. The data dashboard that resulted from SRI's research is now filling a significant gap, providing academic researchers and nonprofit labs with market data that they could never afford to acquire on their own.

# Getting from Research to Learning Outcomes

Among the many strategies and tactics surfaced by the LEARN Network, the most fundamental insight might be the simple fact that educational product developers need to think more carefully about scaling.

"Scaling shouldn't come at the end," Friedman emphasizes. "It has to be embedded through the whole research, design, and development process. That's what we emphasize in the toolkit, and that's the central insight from our work that will, I hope, continue to make an impact in the field of education."

**Sources:** https://www.sri.com/press/story/building-a-lab-to-market-pipeline-for-education/; https://www.nytimes.com/2025/09/25/us/reading-math-scores-declines-impact.html;https://learntoscale.org/https://ies.ed.gov/

The LEARN Network is supported by the Institute of Education Sciences, U.S. rtment of Education, through Grant R305N220012 to SRI International. The opinions expressed are those of the authors and do not represent views of the Institute or the U.S. Department of Education.

#### **Alumni Association Membership Renewals**

Thanks to those who have renewed SRI Alumni Association dues! If you have not, please do so by December 31. Please send your \$25.00 check to:

SRI Alumni Association 333 Ravenswood Avenue, AC-108, Menlo Park, CA 94025

#### OR

Join at: <a href="mailto:srialumni.org/join/">srialumni.org/join/</a> Renew at: <a href="mailto:srialumni.org/renew/">srialumni.org/renew/</a>

Look for dues news in the April issue! After over 25 years, we have decided to raise dues next year to \$35. We hope to also offer lifetime dues.

# SRI Alumni Reunion

Chris Padilla carefully planned and executed a successful Alumni Reunion 2025 with attendance of about 100 people. Scott Seaton did an excellent job as MC, introducing speakers, handling questions, and managing the raffle. We are grateful for the donation of some of the wine from Jeanie Graham and for the SRI Federal Credit Union donation of \$1000 in gift certificates for the raffle. David Hartig ably handled the A/V for the program and also recorded the event. More photos from Jim Colton and Patti Schank at: <a href="mailto:srialumni.org/events/img/reunion/2025">srialumni.org/events/img/reunion/2025</a>.

We are particularly grateful that two very busy people took time to speak with us and answer some questions: SRI CEO David Parekh and (now former) ICS President Pat Lincoln. David delivered a comprehensive update on SRI's current efforts, challenges, and future directions. In his talk focusing on generative artificial intelligence (AI), Pat spoke about the power of teamwork, interdisciplinary collaboration, and a shared mission to solve critical national and technological challenges. We provide summaries of the two talks below. We used automatic transcription and assistance from ChatGPT in preparing these summaries. We hope we caught all hallucinations... but let us know! Below are summaries of these speeches (Pat's was delivered in person at the event; David's via Zoom from SRI's WDC office).



### David Parekh: SRI Featured Projects, Current Challenges, and Future Directions

David opened with a video highlighting SRI's legacy of transformative innovations,

from the Internet and the computer mouse to advances in education and emergency services. Paraphrasing, he said he's sure you're reading the headlines, and like others, we are deeply affected by the changes in the R&D landscape. "We can't quite predict the future," he stated, "but we're already working on the next wave of innovations that will improve our lives at work, at home, at school, and in our communities." With federal money in education getting reduced, he added that we are doing more with states and foundations. At NIH, when vaccine worked stopped, a new area in cancer detection has begun and we are very much involved. [see the article in this issue on the ARPA-H POSEIDON effort]. Other growth areas include:

- Commercialization and innovation training: SRI is helping organizations, including DARPA, commercialize technologies. SRI is one of just five places so selected.
- International partnerships: Collaborations in Japan are expanding, including a project to help Japan develop its own DARPA and their own commercial accelerator. New such partnerships also include the

- United Arab Emirates (UAE) (AI and personalized medicine) and UAE and Abu Dhabi (AI and health).
- *Quantum sensing:* Here we are producing breakthroughs that include detecting heartbeats from across the room using advanced quantum sensors.
- Geiger mode lidar: SRI continues developing cutting-edge lidar for aerospace and defense applications.
- AI and education: SRI is reimagining educational technology in the AI era. Researchers are pushing beyond traditional large language models to develop creative, algorithmic AI solutions with DARPA and Caltech.
- Life sciences: SRI has developed a novel peptide-based drug delivery system capable of targeting specific cells for therapies like cancer treatment

David also spoke about the Menlo Park campus redevelopment project, which has passed a major hurdle with Planning Commission approval. (City Council review at the time of the Alumni Reunion was pending, but on September 30, 2025, the Menlo Park City Council approved resolutions and introduced ordinances for certification of the final environmental impact report [EIR] and the approval of the master plan, with modifications<sup>1</sup>). Once completed, the project is expected to generate \$400M annually, providing SRI with new flexibility for internal R&D investment.

<sup>1.</sup> https://www.menlopark.gov/Government/Departments/Community-Development/Projects/Under-review/Parkline

#### **Alumni News (Reunion Continued)**

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In leadership news, David announced that Pat Lincoln has been appointed head of DARPA's I2O (Information Innovation Office). Of course, he will recuse himself from working with SRI. Dimitra Vergyri will serve as interim director of SRI's Information and Computer Sciences (ICS) Division while SRI seeks leadership candidates.

David concluded that SRI remains committed to its mission of delivering world-changing solutions in safety, health, and sustainability, with a renewed focus on being agile, identifying new customer bases, and growing high-impact areas like quantum sensing, AI-health applications, and national security technologies. He emphasized that SRI's strength lies in its ability to adapt and innovate.

#### In the Q and A session, David informed us that:

- SRI now has about 1200 staff, about half in the Bay Area.
- The advent of AI means SRI will be striving to advance beyond the limitations of the large language model.
- The income from the redevelopment of the campus can give us more flexibility in applying innovation to the important needs we see.
- DARPA is surviving the current R&D downturn even as it may favor more applied research; SRI is doing well in the DARPA replicates ARPA-H (health), IARPA (intelligence), and ARPA-E (energy).
- The delay in the Menlo Park redevelopment has challenged some commitments.
- The new cap on indirect costs on some government contracts has nationwide impact, but some agencies are adjusting as best they can while the courts address the issue.
- SRI alumni can help by sharing stories of past achievements and of negotiating the "rough patches" in the past.



# Pat Lincoln: Generative Al and the Power of Teamwork

Pat Lincoln, longtime leader of SRI International's Computer Science Laboratory (CSL) and, more recently, the Information and Computing

Sciences Division (ICS), delivered a thought-provoking talk reflecting on his decades at SRI and exploring the sweeping impact of generative AI (GenAI). The occasion marked both a farewell and a forward look: Pat announced both his upcoming move to Washington, D.C., to serve as a DARPA office director and STAR Lab's Dimitra Vergyri's appointment as interim leader of ICS. Pat says the office he is going to, the Information Innovation Office, is undergoing change.

Pat opened with gratitude and reflection. "There are fantastic people at SRI, fantastic technologies, and I'm really optimistic about SRI's future, and the future of technologies in general." He elaborated on SRI's skill at multi-disciplinary team work to address problems, and to innovate and solve problems. "As a team you can weave magic together... to find these teams across disciplines, across areas, this biologist and that computer scientist and electrical engineer, solving this problem in this area."

Since joining SRI in 1989, Pat has witnessed—and also helped shape—successive waves of technological revolution, from the birth of the Internet to advances in cybersecurity and artificial intelligence. He traced the lineage of innovation from SRI's early ARPANET contributions and networked computing breakthroughs to today's rapidly evolving AI frontier.

He characterized GenAI as the latest industrial-scale shift, rivaling the invention of electricity or the Internet in scope and consequence. Still, he cautioned that AI's evolution will likely follow a "hype cycle": after extreme hype about capabilities, followed by some disillusionment, eventually something useful is found.

About to enter into his new huge DARPA responsibility, he is well aware of GenAI's risks. Very worried about the possible changes that may come, he confesses that he may not be worried enough. He highlighted several critical challenges:

- Trust and misuse: Chatbots and GenAI tools can appear intelligent or even empathetic, leading users to overtrust them. This poses ethical and social risks, from synthetic or false information to outright manipulation.
- Safety in critical systems: As AI is embedded in cars, hospitals, and defense systems, errors could cascade through interconnected infrastructures. We need guardrails on the AI in pacemakers, cars, airplanes, etc.. To this end, Pat argued for "design for assessment"

   building AI systems that can be formally verified, tested, and made transparent before deployment.
- Energy costs: Data centers powering modern AI consume gigawatt-level electricity, necessitating innovation in low-power, sustainable AI. SRI and others are doing research to lower costs in terms of energy use in AI systems while maintaining similar characteristics in performance.
- Displacement: Give a human a tool that guarantees ten times more capability and you may very well then need one-tenth the manpower. But this same technology can also increase the convenience and safety of our homes as well as the infrastructure that enables our businesses, cities, and government to work efficiently and reliably.

Lastly, Pat celebrated SRI's continued leadership in safe, sustainable AI research, including:

• Low-power generative models that run efficiently on smaller devices.

#### **Alumni News (Reunion Concluded)**

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- Learning from small data vital for niche applications and underrepresented languages.
- AI for cybersecurity, defending systems against emerging threats.
- AI for good, such as helping identify human trafficking networks through image analysis and geolocation.

#### In the Q and A session Pat suggested that:

- Graduate law schools should teach students about risk, and always considering the worst-case possibilities, to the point of paranoia.
- It is both important and necessary to consider the tradeoffs between the benefits and risks of GenAI. That may be very difficult in today's complex systems,

- and complexity may exist in a single unit, like a Waymo within its complicated environment or in the interdependence of the components of our infrastructures at times of stress.
- In embedding ethics into what AI can do, note that it is a challenge to embed ethics in *any* system you give autonomy to. Pat went on to discuss how AI can help find otherwise anonymous people on the dark web and how SRI won a DARPA project working with the FBI and Interpol to develop ways to uncloak that anonymity. AI will help in that endeavor. The biggest challenge is how to avoid surrendering too much autonomy before the ethics are worked out.

### **SRI Alumni Reunion 2025 Photos**

More photos from Jim Colton and Patti Schank at: <a href="mailto:srialumni.org/events/img/reunion/2025">srialumni.org/events/img/reunion/2025</a>



















# The SRI Alumni Association welcomes new members:

Jose Blackorby Jon McCarty

Jennifer Gill Jon Mirsalis

Shari Golan Walter Moos

James Hawley Yamini Namasivayam

Park Jongwon Dror Oren

Holly Knight Bhaskar Ramamurthy

Gregory Kovacs Michael Tashker

Breniel Lemley Phil Vahey

John Lowrance Steve Young

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



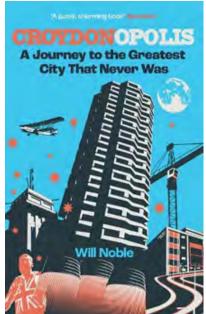
# A Visit to the "Forgotten Airport"

by David Gibby

In September of last year, I received an email message from Bob Mellberg drawing my attention to an article on the CNN web site, with the header, "This airport was once the gateway to Europe. Now no one's heard of it." The article was referring to Croydon Airport, only a few miles from where SRI's Croydon office was located when I joined SRI in 1985. We UK-based alumni decided to visit it this year, and on Sunday, 5 October, we met there for our annual reunion.

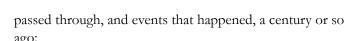
The date was one of only a few available to us because the visitor centre there is open only on the first Sunday of each month, and tickets have to be booked well in advance, but we managed to obtain enough for a dozen of us to be given a conducted tour with a very knowledgeable guide.

Croydon Airport opened in 1920 and became the home to Britain's first national airline, Imperial Airways, itself the result of a merger in 1924 between four smaller airlines. The airport was considered innovative and included Britain's first purpose-built Terminal Building and Control Tower. It is claimed that Air Traffic Control was invented here. By 1928, the airport's terminal had grown to become the world's



largest. During World War II and the Battle of Britain, the airport was the home of RAF Croydon's fighter aircraft. In 1943, it housed RAF Transport Command, which transported thousands of troops into and out of Europe.

The corridors of the building are lined with photographs and posters from bygone ages, reminding us of some of the aircraft flown from Croydon in the past, personalities who have



- In 1919, Winston Churchill took flying lessons, but was persuaded to stop, after nearly being killed in a crash at takeoff.
- In 1927, Charles Lindbergh flew into Croydon shortly after completing the first solo trans-Atlantic crossing.
- In 1930, Amy Johnson became the first woman to fly from Croydon to Australia, an 11,000 mile journey that took her 19 ½ days.
- In September 1938, British Prime Minister Neville Chamberlain returned to Croydon Airport from his meeting with Hitler in Munich, proclaiming "Peace in our time!".

After the war, Croydon continued to be used as a civilian airport, handling passengers, mail, and other cargo. However, as planes became larger and increasingly powered by jet engines, longer runways were needed than the area around Croydon could provide, so Heathrow gradually became London's main airport, and Croydon Airport finally closed in 1959.

Among the posters we saw on the walls was one advertising a book titled "Croydonopolis." The graphic on the front cover included a photograph of the NLA Tower, in which SRI occupied three floors for many years, before moving to Menlo Park House.

After our guided tour, which lasted nearly two hours, we walked the short distance to the Croydon Aerodrome Hotel, which was originally built to serve the airport passengers, but has since been expanded and is now one of Best Western's hotel group collection. We then enjoyed a pleasant lunch, in a much more modern environment than in the airport building next door.

For further information, see <u>www.historiccroydonairport.org.</u> uk

## The Artificial Intelligence Center – a Prolific SRI Lab

By Don Nielson

So, here comes this consuming world of artificial intelligence or AI. On the one hand you can scarcely exist today without this new revolution blurting out its existence at you, while on the other it can sequester itself beyond detection. It seems to be offering new efficiencies while at the same threatening to displace some fraction of our labors or our ability to discern truth. It also poses the not-so-whimsical question of whether we and the devices we use amount to a zero-sum game of net intelligence; that is, will AI make us innately more intelligent or less?

Though interesting, none of this is where I am headed here. This note stems from a curiosity I half-stumbled on regarding SRI's own AI group, the Artificial Intelligence Center (AIC). Now, bordering on 65 years of continuous existence, it is probably the longest tenured lab ever at SRI.

A little background reveals that near its beginning, close to 1960, the AIC labored in what they then called learning machines, patterned on how the brain works. But the power of the hardware denied them the performance they sought, and they moved over to the more powerful regular computers emerging at the time. But the deep learning machines of today have reversed that transition, and with indescribable power, they seem to amaze everyone, including their designers. In between these two phases of learning machines, SRI's AIC took a more theoretical approach to AI with new languages and algorithms used in the broadening scope of AI applications. Some of those algorithms were so fundamental that they are still embodied in much of what you see today, varying from Mars rovers to natural language understanding<sup>1</sup>. So, the AIC has endured<sup>2</sup>.

But here is the curiosity: Along the way, this lab, desirous of a theoretical base but seemingly chained to benefit the practical world, has created a distinguished set of alumni that have taken their AIC training beyond SRI to new, but varied, heights. Of those, here we will address partially a band of entrepreneurs and partially a set of notable academicians.

### The Entrepreneurs

**Charlie Rosen.** The first itch to spawn SRI's AI work occurred over 15 years after its founding, and it took an



entrepreneurial direction. When he saw that sponsorship of early learning machines was fading, Charlie, who was the lab leader at the time, led the group into robotics --intelligent robotics. But

after perhaps 5-6 years, Rosen vectored part of the lab into the practical applications of industrial robots and won a set of commercial companies to sponsor it. The success he found there, aided by the notoriety of their robot, Shakey (the first robot to reason about its surroundings), and in particular its vision modules, encouraged him to leave SRI with a number of his AIC colleagues to form the **Machine Intelligence Corporation**. It was about 1978, and it became the AIC's first spin-out. But for reasons I can't now determine, it lasted only a few years before it failed.

Cordell Green. The work on Shakey also led to planning systems for its route-finding aspect. This area drew Cordell to SRI, where he continued the development of problem solvers and theorem-provers for Shakey's exploits. However, around 1970, he faced some ROTC obligations. He entered the Army and got assigned to ARPA, where he initiated a program in speech understanding. After leaving ARPA, he eventually founded the **Kestrel Institute**, a non-profit that develops methods for software assurance. Founded in 1981, it is still in operation. In 1985 he won the nationwide Grace Hopper Award for computer professionals for significant contributions before the age of 35. Cordell passed away earlier this year (see the section In Memoriam).



Peter Hart. Peter came to the AIC early on, lured by the task of giving Shakey sight. That was in 1966, the same year that the group took on the AI name. Peter also became involved with Shakey's navigation problems and with others developed the fundamental

and lasting algorithm already mentioned<sup>3</sup>. In the summer of 1974, Peter led a new effort into a class of AI programs called expert systems. After that, he accepted the overall lab leadership role in 1976. But Peter longed for another, more basic research setting and agreed in 1979 to join **Schlumberger** at its subsidiary **Fairchild**, taking other AIC staff with him. His stint there was followed by his foundings of, first, **Syntelligence** in 1983 and acquired in 1991, and **Ricoh Innovations** in 1997.

<sup>1.</sup> Most prominent among this is the heuristic enabled route-finding algorithm A\*. en.wikipedia.org/wiki/A\* search algorithm

<sup>2.</sup> Much of this tale draws on Nils Nilsson's "The SRI Artificial Intelligence Center – A Brief History", Tech Note 317, 24 Jan 1984. Wikipedia is also used to trace some individuals and companies.

<sup>3.</sup> Op Cit 1. Also, if you want to see the level of Shakey's abilities, just go to a 24-minute film made by Peter and Nils Nilsson in 1972 at: <a href="mailto:youtube.com/watch?v=GmU7SimFkpU">youtube.com/watch?v=GmU7SimFkpU</a>.

Though Shakey's funding days were eventually numbered, the fact that it suggested a variety of humanoid properties led to a number of AIC initiatives beyond route-finding and vision. Natural language understanding, speech recognition, and how robots might intrinsically try to solve the tasks before them were topics of interest that developed in Shakey's absence. Funding was found for what DARPA called a Computer Based Consultant. All that set the framework for a few other AIC members that need mentioning.

Gary Hendrix. Another researcher who appeared at the AIC about 1973 was Gary Hendrix. He, with others, tried to pursue sponsorship in natural language processing but found little success at the time. Eventually, Gary, with Earl Sacerdoti, found work in a natural language interface to distributed databases, and Gary eventually led that AIC program. But in 1980 Gary, with the entrepreneurial itch, left to found Symantec, created to sell his database interface. In 1990 Symantec acquired Norton Computing and shifted its emphasis to corporate security. In 2019, Broadcom acquired Symantec's Enterprise Security Division, which retained the Symantec name. The Consumer Division of the former Symantec became NortonLifeLock. Symantec as a separate company no longer exists, but its traceable parts are still going after 45 years.

Jerry Hobbs. The understanding of natural language by computers also brought Jerry to the AIC in 1977. His specialty became techniques for the extraction of information from text. This led to his leadership of the natural language group and ultimately to the founding of Discern Communications in 1999. Its purpose was the automation of self-service, question-answering software, primarily for call centers. In 2003 Discern was acquired by Spanlink and involved stock return to the founders and to SRI. Jerry left SRI in 2002 to become a senior computer scientist and research professor at USC's Information Science Institute. He is the author of two books on his specialty and has won numerous lifetime awards, including an honorary doctorate.



Adam Cheyer. Over time, and in general, SRI had created multiple ways for users to interact with their computers. The mouse, handwriting recognition, natural language, both typed and spoken, were there to interact with almost arbitrary applications. But there needed

to be some flexible selection among any or all of this set to satisfy a user's preference for any task. In 1989, I created a

space called the Computer Dialogue Lab, where this venture could be explored. While a few innovations resulted, mainly at the hand of Phil Cohen, when Adam came to the AIC in the early 1990s, the flexible gathering of these modalities was realized in the form of software agents.

The architecture for such a set of agents went far beyond the above user modalities to include many intermediary servers (e.g., email and telephone) that those modalities could use. The architecture found use in a variety of projects around the AIC and beyond.

Adam and his colleagues spent about six years in this multiagent endeavor. Then, for personal reasons, Adam left SRI in 1999 to become VP of a startup called **VerticalNet**<sup>4</sup>, only to return to the AIC after a few years to pick up where he had left off. In 2003, under DARPA sponsorship, Adam became co-lead of its largest AI project ever. It was called CALO, an acronym for a Cognitive Assistant that Learns and Organizes. This initiative involved the main AI research labs around the world. But, also relying on Adam's earlier work at SRI, the most notable result of this combined effort was a virtual personal assistant called **Siri**<sup>5</sup> that would not just gather and assimilate the information needed for a user task, but could also act on it.

After about five years, the time was right to take Siri to the world and, with others, Adam formed a company called **Siri** that was eventually purchased by Apple. After a few years there, and a perceived failure by Apple to incorporate some of the original Siri's ability to invoke user action, around 2012 he left to form another company called **Viv Labs**. Aiming at a more open and flexible assistant than Siri that was capable of handling more complex inquiries, Viv raised money to that purpose. When able to demonstrate their new virtual assistant, Viv was acquired by **Samsung** in 2016. In 2017, this new intelligent assistant gained the name of **Bixby**.

But, where Adam is involved, expect more, much more. Along the way, he was a principal in creating online enterprises, just two of which will be mentioned here.

One was **Sentient Technologies** where Adam was a cofounder. To become operational, they raised \$143M, and by 2016 it was the most well-funded AI company in the world. After securing some commercial clients, the company was dissolved in 2019 when its two main divisions were sold

Though very heavily funded and highly evaluated after its IPO, it was never profitable. VerticalNet succumbed to the dot-com burst in the early 2000s.

<sup>5.</sup> In its beginning, Siri, activated by speech, used the capabilities of another SRI spinoff called **Nuance Communications**, which came out of SRI's Speech Technologies and Research Lab.

Back to TOC

to two AI-oriented companies: **Evolv Technologies** and Cognizant Technology Solutions.

The other startup that Adam was involved with was **Change.org**. Starting in 2007, it was founded by Adam and three others, including its president. It was created as an online platform intended to raise awareness of, and bring influence to, a wide variety of social causes. It is US-based, but with worldwide presence. By 2012, it hit 10 million users submitting 500 petitions per day. In 2025 it claimed to have over 500 million users and still is the dominant online service for change.

#### The Academicians



**Nils Nilsson.** Nils was a leadership figure from the time he graduated from **Stanford** and entered the SRI group that was to become the AIC. That was 1961. With perhaps the exception of language, he touched on almost all other aspects the Center

came to engage, starting with the design and construction of Shakey. Along the way, his orientation was always to seek the fundamental or theoretical basis for the Center's projects, enough so that he was to write some of the first texts on this new science of AI. He eschewed management roles, but with the departure of many to form companies, he accepted leadership of the AIC in 1980. After five years, he decided to leave SRI for Stanford, and there became the first **Chair of its Computer Science Department**. After five years there, he returned to teaching until his retirement in 1991. Along the way, he was a founding fellow of AI's principal organization, the AAAI. Nils passed away in 2019 at his home in Oregon.

Richard Duda. One of the earliest arrivers to the AI-group-to-be (1963), Dick came to lead the learning machine group and the building of their first hardware. He later led Shakey's vision effort working with Peter Hart. Together they then delved into the area of pattern recognition and classification and would write what was to become a classic text in that area. It was published in 1973 but reprinted over 25 years later in 2000! After working on early versions of expert systems, he decided to leave SRI with Peter Hart and others to form a new AI laboratory within Fairchild and then Syntelligence. He later joined the Electrical Engineering Faculty at San Jose State University, where he now has emeritus status.

**Barbara Grosz.** Out of the notion of intelligent robots grew the idea of enabling dialogue with one—essentially talking to a computer. This area of research, natural language understanding, attracted others to the AIC. One



was Barbara, who in 1973 came from Berkeley to finish her dissertation at SRI. For over a decade she became an important contributor to, and eventual leader of, the language group. But in 1986 she decided to leave for academia and took a job in

computer science at **Harvard**. Her tenure at Harvard was compelling. Starting as a **professor of computer science**, in 2001 she became the first **Dean of Science in the Radcliffe Institute for Advanced Study** and by 2008 its **overall Dean!** Radcliffe began as a women's school; then, after becoming attached to Harvard, it still reflects, as does Barbara, a life-long advocacy for women's higher education. In 2011 she returned to Harvard as a professor and cofounded Harvard's Embedded Ethics Program in computer science. Always active in AI's professional societies, in 1993 she became the first woman to lead its AAAI. She is still at Harvard as an emerita.



Martha Pollack. Later, in 1985, another woman was drawn to the AIC. Martha joined the natural language group and worked closely with Barbara and others for about seven years. While still at SRI, she decided to test academia at the University of

Pittsburgh. She joined their faculty and remained there until 2000. She then joined the faculty of the University of Michigan, teaching computer science. She then left teaching to enter a more administrative track and was appointed Dean of the Michigan School of Information in 2007, then Vice Provost of the University in 2010. During that period, she was also serving leadership positions in AI journals and professional societies. In 2013 she was appointed Michigan's 14th Provost and Executive Vice President of Academic Affairs. But her rise was not yet done. In November 2016, the Trustees of Cornell University elected Martha as its 14th President, and she was inaugurated in August 2017. Her tenure was noted by her bringing decorum to the campus and improved mental health services to students. Though Jewish, she rejected calls to boycott university interests in Israel and came under scrutiny by a US Congressman for the University's response to anti-Semitism. She resigned her post in June 2024.

**Ray Perrault.** Before coming to the AIC, Ray was a professor of computer science at the **University of Toronto** from 1974 to 1983. At SRI and after serving in the natural language group, he transitioned to the leadership of the AIC. He served in that role from 1987 to 2017, far

longer than any predecessor. Outside SRI, his leadership roles in several professional AI societies and awards are remarkable. Ray also had a hand in starting CSLI and coleading the huge CALO project already mentioned.

Phil Cohen. As mentioned above, Phil engaged in the development of the agent-based approach to the modalities of human-computer interaction. He left SRI for the Oregon Graduate Institute, then to Monash University in Australia. After teaching, he went to Adapx Inc. and is now Chief Scientist at Openstream.ai. He has also been honored with lifetime awards.

Stan Rosenshein. Stan was director of the AIC when he left to found Teleos Research, founded to explore the computational theories of interaction and agency. This was followed by founding BranchTime Technologies. Neither of these were successful. Stan also engaged in research at CSLI and other roles at Stanford: Consulting professor 1984-1993, Distinguished Visiting Scholar from 2007 to 2010, and National Guest Scholar from 2012 to 2019.

#### Conclusion

Looking back over what I've seen of the AIC, something becomes clear. When you set your research sights on winning research that is basic to your field of interest, and particularly if that field is one whose foundations and applications are emerging, you create a distinct advantage for your professional future. You can opt for the implementation of that new field in meeting the new applications it can serve, or you can elect to formalize that field in teachable ways.

Finally, while all this seems impressive, it regretfully leaves out at least a dozen other AIC members who have advanced the science of AI enough to be honored, sometimes repeatedly, by its professional societies, AIC leaders included—another equally important story to be told.

I gratefully acknowledge the review of this by Ray Perrault, the AIC's longest serving director.



# Wellness and Fitness at SRI

By Don Shockey

Recognizing the importance of physical fitness and its correlation with the ability to perform well on research

projects and solve mental challenges, SRI has provided its staff with a well-equipped fitness facility since the early 1980s. Assisted by a financial agreement with the SRI Credit Union, the SRI Menlo Park Fitness and Wellness Center (aka the "gym") was remodeled in 2018 and moved from the basement of the I Building to its current location in the B wing of Building A. The new facility is larger and has all new equipment—state-of-the-art weight machines, free weights, stair climbers, and treadmills—as well as a separate room for exercise classes.

In response to the pandemic and the changing work environment in 2020, the fitness center was transitioned to a self-service gym. The center is open to SRI employees Monday through Friday from 4 am until 8 pm.

I was a frequent user of the gym during my 46 years at SRI. I recall working out at the center and taking exercise classes with colleagues during our lunch hour (eating our sandwiches at our desks afterwards) or after the workday.

One of the activities I remember most clearly was the yoga classes held twice a week. These classes were always completely full and our yoga mats nearly touched each other.

I had to get to the fitness facility early to get a place for my mat. The classes I attended with yoga instructor Julie were very strenuous—she really pushed us—but all of us students loved her teaching style.

After teaching on Tuesdays and Thursdays for 5 years, Julie planned to leave SRI, and Kathleen, the SRI fitness center manager, hired instructors Sarah and Lee to take her place. Below are two verses of a poem I wrote for Julie in 1997 upon her departure—The 3P's of Yoga at SRI: The Poses, the Pain, and the Purpose. (The full poem includes 5 more verses! <a href="srialumni.org/newsletters/2025/ShockeyPoem.pdf">srialumni.org/newsletters/2025/ShockeyPoem.pdf</a>) I make it sound like she was really tough (and she really was), but we loved her.

Two times a week we're too tired to speak, because Julie has been to the gym.

I think she enjoys how she slowly destroys our joints, stretching us out limb by limb.

A sadist, I'm thinking, 'cause I see her winking and smiling while we are in pain.

But she's really not happy that we're feeling crappy; she smiles 'cause she knows it's our gain.

But the poses and strain bring on purposeful pain that reveals to us our inner light.

The holds and the motions release our emotions and keep us from being uptight.

Without strife or denials, we now handle life's trials, whether problems are perceived or real.

Our awareness is heightened, our outlook enlightened—a new way to think and to feel.

#### **History Corner (concluded)**

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In addition to the exercise classes, the treadmills, and free weights, the fitness facility provided lockers and showers, allowing us to get outside and exercise in the fresh air during the lunch hour and after work. Many of us did daily runs through the SRI neighborhood, Menlo Park, Palo Alto, and Stanford. Sometimes we ran on the Menlo-Atherton High School track, and occasionally we ran up to the Stanford dish and back. Running was not common when I first started doing it for exercise, and I think many who saw me running the streets thought it was weird. But then running became popular, and I was joined at noon by a number of my colleagues. After our 20- to 40-minute runs, we'd return to the gym to shower and get back to work. Running became a fad and SRI formed a running team, joined the Bay Area Corporate Cup, and competed with institutions in Bay Area track meets and running events. A group of us trained by meeting at noon on Mondays, Wednesdays, and Fridays and running timed laps around Burgess Park, across the street from the SRI Menlo Park campus.

Tennis became popular in the '70s and '80s, and a number of us, who had never played much tennis, happily got into

it. The sport became so popular, that it was difficult to find an unoccupied court in the noon hour anywhere nearby, although there were many public courts in the vicinity (Burgess and Nealon Parks, the MA High School, Willow Park). My colleagues and I ended up taking our lunch break earlier and earlier to find an empty court. I and a number of colleagues joined the Menlo Park Tennis Club and played in the local tournaments. Tennis was a lot of fun back then—but now pickleball has taken over!

During its peak, up to 10 group exercise classes were offered each week at the fitness center, along with personal training sessions. The fitness center staff organized many onsite group events, such as the annual Turkey Trot/Walk, and at one time they put together a cookbook of health holiday recipes submitted by SRI employees.

I retired 6 years ago, but to this day I take yoga classes at a nearby 24-Hour Fitness Center twice a week. I no longer run, but I hike 4 to 6 miles, 5 days a week, in the Midpeninsula Open Spaces. SRI's Wellness and Fitness Center has had a lasting and positive effect on me and many SRI employees.

### **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: <a href="mailto:steering@srialumni.org">steering@srialumni.org</a>

# **WE NEED HELP!**

If you can volunteer any time (an hour here and there or a bigger commitment), we need help with:

- finding stories for this newsletter
- assisting alums (mailing newsletters to those who need a printed copy, reading those who require assistance)

• recruiting new members

• and, especially, THE HALL OF FAME (we have no one working on that now)

You can reach us at: steering@srialumni.org

it to

In Memoriam Back to TOC



#### **Albert Bien**

Albert (Al) Bien died on November 1, 2025, at the age of 91 in Sunnyvale, California. Born on October 30, 1934, in Beijing, China, Al was the youngest child of Daisy and Edward Bien. His family lived in Beijing until 1937,

when the Japanese army invaded and occupied the city at the outset of the Second Sino-Japanese War. His family was forced to relocate to Tianjin, the first of seven moves they would make during World War II. Over the following years, Al lived in Kunming, Chongqing, Yumen, returned briefly to Chongqing, and later settled in Shanghai. In 1946, after World War II ended and as the Chinese Civil War intensified, the family fled China and traveled to San Francisco, California, aboard the U.S. Navy transport USS General J.C. Breckinridge.

Al and his family moved to Bakersfield, California, where his father worked for Richfield Oil Company (now ARCO). After a brief stay, they joined relatives in Honolulu, Hawaii. In 1948, the family returned to Bakersfield, where they settled.

Al and his future wife, Susan, were part of the close-knit Chinese community in Bakersfield, where they shared many mutual friends. Al and Susan first got to know each other in the summer of 1955 while working at the Union Avenue Plunge, the city's large public swimming pool. They stayed in touch over the years as they finished college and launched their careers.

Al attended the University of California, Berkeley, earning a Bachelor of Science in Electrical Engineering in 1958. He began his career at the Naval Ordnance Test Station (NOTS) in China Lake, California, where he worked on airto-air and surface-to-air weapons systems. During this time, he also pursued a Master of Science in Control Systems Engineering at UCLA.

Soon after, Susan began her career in New York City. Al reconnected with her, and they married in December 1962.

When the project at the NOTS concluded in 1963, Al joined SRI, where he eventually led its Naval Weapons Research Center. He left SRI in 1979 and, together with two other co-founders, established ATAC, a company specializing in software engineering, airspace modeling, and data analysis for the aviation industry.

Al was an avid outdoorsman who loved scuba diving, backpacking, camping, hunting, fly-fishing, and skiing. He shared his passion for fly-fishing with his children and grandchildren, often organizing family trips to favorite rivers and streams. After retiring, Al traveled the world with his fishing companions in search of unique species, visiting destinations such as Mongolia, Brazil, Kiribati, Patagonia, South Africa, Mexico, and the Bahamas. In his later years he found joy in gardening, spending time in Half Moon Bay, and sharing time with his children and grandchildren. He was a devoted husband, father, grandfather, uncle, and friend.

Al is survived by his wife, Susan; their children, Nicole, Aimee, Marc, and Stefan; and eleven grandchildren.

**Source:** https://www.limacampagnamortuaries.com/obituaries/Albert-Bien?obId=46415831



# George Bryer Carpenter

George Carpenter died on September 6, 2025, at the age of 82. He was born in Edmonton, Alberta, Canada, to Bryer and Winogene Carpenter on March

10, 1937, and grew up in Kinsella, a small town about 90 miles to the southeast of Edmonton. The family lived in a Canadian National Railway (CN) station (since Bryer was the stationmaster) and raised purebred cattle on their nearby farm, where George helped build a house later in life. After high school, George attended the University of Alberta, where he majored in electrical engineering. He earned money for college during the summer by doing surveying work for CN. His success as an undergraduate earned him a scholarship to Stanford for graduate school in 1960.

At Stanford, George studied the interaction of very-low-frequency (VLF) radio waves with the magnetosphere, including the electromagnetic pulse (EMP) effects of the high-altitude nuclear tests being conducted by the US and USSR at the time. The results of this research were instrumental in confirming that high-altitude nuclear tests fill the visible magnetosphere with neutrons that decay and deposit beta electrons on magnetic field lines. This research led to a job at SRI in 1963. That same year, George married Carol Lubman in her hometown of Chicago, Illinois, and they settled in Palo Alto to raise their family.

At SRI George applied an FM technique for use with NPG, a naval radio station that broadcast time signals for navigation and synchronization for maritime and scientific communities. The analyzed results became the basis of George's Engineer's thesis in 1964. George's transmitter studies provided information on a multitude of topics, including echo fading, discrete echoes on separate paths,



echoes spread in time, and irregular echoes with complex temporal variations. His investigations of EMP produced by nuclear detonations became a lifelong interest and resulted in an accumulation of about 16,000 data items that George turned over to the National Nuclear Archive in Albuquerque, New Mexico.

In 1968, George became a US citizen. His later projects at SRI included calibrating GPS satellites using the Stanford Dish and development of ground-penetrating radar and its uses. George led a team that pioneered the use of radar to penetrate forests, jungles, and the earth itself to expose hidden targets. He also traveled to Kuwait to support Air Force tests of advanced weapons in a desert environment.

After a 40-year career at SRI, George formally retired as the director of SRI's Geoscience and Engineering Center. He continued to consult with SRI and also worked with Los Alamos National Laboratory (LANL).

After retirement, George pursued his many hobbies, including model trains, stamp collecting, and travel. His lifelong interest in CN stemmed from his personal connection to the railway in his youth. George also collected brass engine models and curated a vast database of train photos. He and Carol took many cruises in the Caribbean and Mediterranean; he also cruised in Alaska with his extended family.

George is survived by his wife, Carol; daughter Catie; son, Jim; and sisters Pat and Alice. He was predeceased by his daughter Jill and his brothers, Bert, Bill, and James.

Sources: Palo Alto Online obituary\_George\_Carpenter; "The Early History of VLF Radio Research at Stanford"; UofA Engineer - University of Alberta Alumni Magazine, Winter 2004



### **David D. Elliott**

David Elliott died on August 6, 2025, in Palo Alto at the age of 95. He was born in Los Angeles, California, and his early life revolved around education, photography, and experiencing theater through his

mother, Millie, who was a stage actress in Pasadena. After graduating from Stanford University with a B.S. in physics, he completed his PhD in high-energy nuclear physics at Caltech, as well as postdoctoral study in space physics at the University of Paris.

He met his wife, Arline, over the bridge table at a singles mixer at Lockheed Missiles and Space, Co., where she was a legal secretary and he was a research scientist. After their wedding in San Francisco, they relocated back to Southern California, where David worked at The Aerospace Corporation and daughter, Laurie, was born. In 1970, he was selected for the role of scientific advisor to the National Aeronautics and Space Council in Washington, DC, and later the Director for Science and Technology, Executive Office of the President.

Upon their return to the Bay Area in the late 1970s, the family settled in Menlo Park, where David continued his career as a VP of Engineering at SRI International. He was administrator of the JASON group and a member of the executive committee of the Army Science Board.

Arline was a loving partner, "house manager", and volunteer during this time. The Elliott family loved to frequent Stanford football games and hosted regular pre-game tailgate parties with friends for years. David was a true foodie, and he and Arline traveled extensively, making friends wherever they found themselves. One of their pastimes, besides bridge and food, was watching professional tennis, which took them to France, Australia, and Indian Wells. David's favorite experience as a grandparent was hosting his grandchild during summer breaks at their second home in La Jolla.

After his retirement, David continued to contribute his national security policy knowledge at Stanford University as an affiliate of CISAC, where he collaborated with others on papers, research, and a book. He was widowed just before the COVID-19 pandemic and relocated to the Vi retirement community in Palo Alto, where he enjoyed the vibrant social life and the food.

David is survived by his daughter, Laurie, and one grandchild.

Source: https://obituaries.rwcpulse.com/obituaries/memorials/david-d-clliott?o=9099



# Claude Cordell Green<sup>1</sup>

Cordell Green died after a long illness on February 12, 2025, at the age of 84.

Cordell was a notable early pioneer of modern computer science and artificial intelligence. He studied at Rice University, where he received a B.A. and B.S, and then at Stanford, where he earned first an M.S., and then a PhD

<sup>1.</sup> For more information about Cordell Green, see the <u>article by Don</u> Nielson in this issue.

in 1969. At Stanford, Cordell was a lecturer and assistant professor of computer science. In 1968, long before Siri or ChatGPT made it easy for people to ask computers complex questions, Cordell developed a theoretical framework for how computers could "listen to" and answer questions. His doctoral thesis, "The Application of Theorem Proving to Question-Answering Systems," showed how it was possible for computers to solve problems using formal logic. His thesis is widely credited with creating the foundational theory for logic programming and deductive databases, and with contributing to the groundwork for formal, inference-based AI. Cordell also made seminal contributions to the field of program synthesis, including a paper that provided the basis for the Refine language.

In SRI's Artificial Intelligence Group, Cordell's thesis work on QA3 was the planning component of Shakey the robot and had a major impact on AI research in the 1970s. His work on QA3 stimulated other work in logic-based AI around the world.

Cordell left SRI to join the US Army, then worked at the ARPA Information Processing Techniques Office, where he helped plan the Speech Understanding Research Project and served as an assistant to Lawrence Roberts, who was then creating ARPANET. He was one of the first DARPA Program Managers for Artificial Intelligence and Speech Understanding. Later, he worked at Systems Control, Inc., a research firm in California, as their chief scientist for computer systems.

In 1981, Cordell founded the Kestrel Institute, a non-profit that develops methods for software assurance. There he led research on automated generation of software that is mathematically proven to be free of bugs, which is critically important in domains such as medicine, finance, and defense. As director and chief scientist at Kestrel, Cordell developed the Specware system, a category-theory-based software development environment. The Kestrel Institute continues today to foster an environment enabling researchers to explore, focus on basic science, and create collaborative projects leading to contributions in program synthesis, expert systems, and AI.

In 1985, Cordell was awarded the Grace Murray Hopper Award for establishing the theoretical basis of the field of logic programming, and in 2002, he received the eighth International Stevens Award for his contributions to methods for software and systems development. He was a fellow of the ACM, AAAI, and ASE.

Cordell enjoyed the outdoors and family adventures that included bike expeditions, attempts at in-line skating, skiing, and backpacking. He delighted in exploring nature,

thinking through problems and ideas with family and friends, dancing bachata, and sharing playlists. He created a rose garden in his yard that won many prizes in local competitions When family members were ill, he sent cut roses to distant cities, claiming that the scent of the roses could bring not only joy, but also cure the incurable.

Cordell is survived by his wife, Chris; sister, Yvonne; sons Jeff and Nick; daughter Laura; and four grandchildren.

Sources: Chris Green, Don Nielson, Richard Waldinger, <a href="https://ithistory.org/honor-roll/dr-cordell-green">https://ithistory.org/honor-roll/dr-cordell-green</a>



# Herbert Ednar Lindberg

Herbert (Herb) Lindberg died on August 22, 2025, in Grass Valley, California, at the age of 94. Born in Chicago as the youngest of

five children, Herb became the first in his family to earn a college degree (B.S. in Engineering from the Illinois Institute of Technology in 1952). Herb then attended the University of Southern California School of Engineering and received an M.S. in Mechanical Engineering in 1954. Herb was then accepted at Stanford University to work toward a PhD in Mechanical Engineering. It was in the Stanford bookstore that Herb met Mary Mildred Pagels, who was studying for her master's degree in Education. Mary paid for Herb's books when he discovered he had forgotten his wallet! Herb paid her back, love followed, and they married in June 1956.

In 1957, Herb and Mary celebrated the arrival of the first of their four children, and in 1958 the completion of his PhD at Stanford. After a short stint in Southern California working for Hughes Aircraft, Herb and Mary returned to the Bay Area, where they bought a home in Sunnyvale and Herb took jobs first at Lockheed and then at SRI. Herb's research in dynamic buckling would contribute to improvements in designs of buildings, bridges, tunnels, and even automobile bumpers. One highlight of his career was receiving an award from the US Journal of Defense Research for best paper of 1978 for research supporting the Strategic Defense Initiative, also known as Star Wars.

Herb loved basketball, tennis, and golf, and especially enjoyed hiking, camping, swimming, and boating. He instilled that same love in his four children, taking his family all over California and the Pacific Coast to various national and state parks, as well as to Canada. He also enjoyed traveling with Mary to Mexico, the East Coast, and Europe.

Herb was a born leader, and for any committee that he joined, he inevitably became president, secretary, or some other officer in charge. Such committees included the Kona Kai Swim and Racquet Club, the South Yuba River State Park, various homeowners' associations, and the Nevada County grand jury. Herb was also a lifelong camera bug, and he combined his photography skills and docent volunteering to create a book documenting wildflowers along the Yuba River, and later a series of documentary videos about the rebuilding of the Bridgeport covered bridge.

Herb and Mary retired in the 1990s, and in 1998 built their dream house at Lake Wildwood in Penn Valley, where they welcomed their children and grandchildren on many family visits. In 2017 they moved to Eskaton Grass Valley, and it was there under hospice care that Herb died.

Herb is survived by his wife, Mary; his children, Barbara, Julie, Craig, and David; five grandchildren; and two great grandchildren.

**Source:** Barbara Lindberg, <a href="https://www.legacy.com/us/obituaries/legacyremembers/herbert-lindberg-obituary?id=59306317">https://www.legacy.com/us/obituaries/legacyremembers/herbert-lindberg-obituary?id=59306317</a>



## Michael Charles Harold McKubre

Michael (Mike) McKubre died on August 28, 2025, at the age of 76 after a long battle with prostate cancer. Mike was born in 1948 to parents Mac and Joy in Greenhithe, New Zealand. Mike's

early days in Greenhithe included walks through the mud flats, clambering around the rocks by the moored flying boats, and climbing trees—an activity at which he excelled. Mike attended school in Greenhithe, other parts of New Zealand, and eventually Washington, D.C., where his father was posted for a time as part of the Royal New Zealand Air Force. Mike returned to his native New Zealand and received his MSc and PhD at Victoria University in Wellington. He continued his postdoctoral studies in the Electrochemistry Department at Southampton University, England.

Mike joined SRI's Materials Research Laboratory in 1978, where he quickly became a central figure on the Electrochemistry team. He was a pioneer in applying the then-new technology of portable computers to the control and study of electrochemical mechanisms—an innovation

that helped SRI modernize experimental research in this area. Mike and his team explored and advanced diverse fields, including corrosion, batteries, fuel cells, and energy systems. Mike was appointed manager of the Electrochemistry Program in 1982 and mentored many young scientists.

When low-energy nuclear reactions (LENR) were announced in 1989, Mike embraced this novel technology and in 1992 established SRI's Energy Research Center, which he directed until his retirement. Mike quickly became a leader in LENR and received the field's highest honors. Mike became a world-renowned leader in the study of LENR and published over 200 papers in his career. The group's work earned international recognition, and in 2009, Mike appeared on a CBS News 60 Minutes segment to discuss his work. Mike's reputation as a reliable, rigorous scientist and thoughtful referee became well established in this field. Mike devoted his career to the careful experimental study of new energy possibilities. He believed that the world's most urgent problem was how humanity will power its future, and he dedicated decades of research to addressing that challenge with integrity and perseverance.

Beyond his scientific achievements, Mike was a man of great intellect and humor. Lunchtime discussions at SRI were often illuminated by his sharp wit and keen insight. His openness and generosity of spirit brought people together—colleagues, families, and friends alike. His legendary home gatherings, full of laughter and camaraderie, remain cherished memories for many. For decades, his athletic prowess also shone on the SRI soccer field, where he brought the same passion and teamwork that defined his professional life.

Mike was exceptional in every dimension — personal, professional, and intellectual. Even after retiring to New Zealand in 2006 with his wife, Dr. Esperanza Alvarez, herself an SRI alumna, he remained deeply engaged in scientific and technological pursuits.

Mike will be deeply missed by his family, his colleagues, his friends, and by the many whose lives he touched with his brilliance and humanity. Mike is survived by his wife, Esperanza; his first wife, Carolyn; his children, Alexandra, Nicholas, and Jennifer; and four grandchildren.

Sources: Fran Tanzella; Angel Sanjurjo; https://www.youtube.com/watch?v=OgfejnuqkSw; https://www.facebook.com/groups/664411543715732/posts/3213487635474764/; https://www.instagram.com/p/DN62cdBEwN-/





# Gayle Kazue Maehara Nakano

Gayle Nakano died on August 25th, 2025, at the age of 83 from injuries sustained in an accident in a Sunnyvale

parking lot a few days before her death. Gayle was born on Oct. 30, 1941, in Puunene, Maui, the daughter of Ichiro "Iron" and Florence Maehara, and older sister to brother Paul. She was raised surrounded by family, with a focus on education and love of baseball.

After graduating from Carleton College in Minnesota in 1963 with a degree in Biology, Gayle moved to Palo Alto. She worked for a time at SRI International and then at Syntex (later acquired by Roche Bioscience), where she spent her career as a research biologist.

Gayle met Bud Nakano when he paid her a sales call. She never purchased the insurance he tried to sell her, but he ended up buying it for her when they married a little over a year later. Bud and Gayle had one daughter, Erin.

As a mother, Gayle worked part time for most of Erin's school years to ensure she could be present in her child's life. She was a strong stabilizing factor in her husband's pursuit of justice for the Japanese American community, and for the many extracurricular sports and activities in which her daughter participated. She provided homemade Christmas cookies for family and friends, was the scorekeeper for Erin's softball game, and was a long-time volunteer at Palo Alto High School's library, continuing after her daughter graduated. A lifelong sports lover, she bowled, golfed, was a devoted San Francisco Giants fan, and 49er faithful for as long as she lived in the Bay Area. A passionate theater goer, she held season tickets for A.C.T. and Theatreworks, and traveled frequently all over California and Hawaii, and even ventured to Australia and Japan with family and friends.

Gayle's quiet, generous spirit, keen observations, and wit will be missed by family and friends. She is survived by her husband, Bud; daughter, Erin; grandson, Cormac; and brother, Paul.

**Source:** <a href="https://www.mercurynews.com/obituaries/gayle-nakano/">https://www.mercurynews.com/obituaries/gayle-nakano/</a>



# Darrell Thomas Stoehr

Darrell Stoehr, 75, died October 17, 2025, at his home in Sunnyvale, California.

Darrell was born December 8, 1949, in Manitowoc, Wisconsin, the fourth of four children born to the late Joseph and Virginia (Webb) Stoehr. Darrell attended Lincoln High School in Manitowoc, where he met the love of his life, Rosanna "Zanna" (Rosinsky). He graduated high school in 1968, and he and Zanna were married in 1969. The following year, Darrell and Zanna welcomed their first son, Craig, into their lives. Their second son, Darrick, was born 7 years later.

In 1972, driven by an uncertain job market in Manitowoc, the family moved to the Bay Area and settled in Sunnyvale. There Darrell was hired as an experimental welder at SRI International, a job that he loved. At SRI he built a meaningful career spanning 42 years, until his retirement in 2014.

Darrell is survived by his two sons, Craig and Darrick; daughters-in-law Lisa and Erica; brother Duane; sister Darlene; and four grandchildren. Darrell was preceded in death by his wife, Rozanna, and one brother, Donald.

Sources: Lisa Stoehr; Erica Stoehr, <a href="https://www.linkedin.com/in/darrell-stoehr-957b69a4/">https://www.linkedin.com/in/darrell-stoehr-957b69a4/</a>



### **Peter Weisshuhn**

Peter Weisshuhn of the SRI-Croydon (U.K.) office, died on November 2, 2025, after a short illness.

Peter was born in Czechoslovakia in 1938, a year before World War II decimated Europe. He came from a

prosperous family that manufactured paper bags for the grocery trade. His family lived in The Sudetenland, which Hitler annexed in the months before the start of the war. Peter's family were German-speaking Czechs and survived the war, but witnessed much of the ugliness of the Nazi regime. After the war, the family rebuilt their lives and opened a new factory. They became part of the postwar German "economic miracle" with help from the U.S. Marshall Plan.

Later, the family moved to Canada, enticed by the financial incentives for building businesses there, but Peter's father's business did poorly. Peter's mother, a resourceful woman, then worked a variety of jobs to keep the family afloat, including selling door-to-door in Montreal.

Peter studied Engineering and Business at McGill University in Montreal and earned money during vacations and on weekends by painting people's houses (exterior and interior). Although Peter was a non-smoker, his first job after graduating was with Imperial Tobacco; he then worked for

#### In Memoriam (Concluded)

Back to TOC

a few other companies, also in Canada. He met and married his wife, Margot, and after the couple had their first child, they moved to London to make the most of the engineering opportunities in the UK. There they had two more daughters.

Peter joined SRI Consulting as a senior consultant in 1975, having worked previously for Vendo and ADL Consulting. He was recruited by Fred Weil, who had transferred from Menlo Park in the mid-1970s to set up the Mechanical Industries Consulting Department in Croydon, at a time when SRI Consulting was expanding into Europe. Peter took over the department in about 1980, when Fred returned to Menlo Park. Peter's work consisted of advising clients on marketing and strategic development in the mechanical engineering and automotive sectors in Europe.

Peter's fluency in four European languages enabled him to work with clients across Europe. He was also instrumental in setting up SRI's Frankfurt and Paris offices. He became increasingly involved in advising on technical innovation and headed the Innovation Management Group in his last two years at SRI. He retired from SRI in 1994 to set up his own consultancy business, Innovation Partners.

Peter's "Taxi Tales" in earlier editions of the SRI Alumni newsletter describe his adventures during taxi rides in his 18 years with SRI in Europe.

Peter is survived by his wife, Margot; three daughters; and eight grandchildren.

**Sources:** David Gibby, Nick Sturcke, SRI Alumni newsletters; <a href="https://sites.google.com/learn.scola.ac.uk/suttonnctjstudents/catherine-cover/a-story-of-survival-peter-weisshuhn">https://sites.google.com/learn.scola.ac.uk/suttonnctjstudents/catherine-cover/a-story-of-survival-peter-weisshuhn</a>

Riverside, and his Ph.D. in Chemistry from the University of California, Berkeley.

He dedicated his career to SRI International and then Southwest Research Institute (SwRI), where his intellect, curiosity, and commitment to discovery made a lasting impact on colleagues and the field of scientific research. While at SRI in the 1970s, Bob worked on a project for the Office of Naval Research (ONR) that studied the relationship between detonation phenomena, chemical structure, and kinetics for isomeric dinitropropanes and other nitroalkanes.

Bob's many passions reflected his zest for life. He enjoyed golf, baking, theater, gardening, and his faith. He was a docent at the National Cathedral and joyful cashier who greeted all customers at the Op Shop. Bob was happiest surrounded by good conversation, a fine cigar, and a perfectly mixed martini. Known for his inquisitive mind, humor, and love of bringing people together, Bob inspired those around him to live fully and learn continuously.

He is survived by his wife, Jane Schubert; his children, Helene, Paula, and Andrew; brother Mark and sister Paula; and two grandchildren. He was preceded in death by his wife, Suellen Whitehead Woolfolk, and daughter Nancy.

Bob will be remembered for his intellect, humor, and unquenchable curiosity—qualities that enriched every life he touched.

Source: https://www.altogetherfuneral.com/obituaries/d-20884676/silver-spring-maryland/robert-william-woolfolk/october-2025; https://apps.dtic.mil/sti/html/tr/AD0740829/



# Robert William Woolfolk

Robert "Bob" Woolfolk, 88, died on October14, 2025, in Washington,

D.C. Born in California in February 1937, Bob earned his undergraduate degree from the University of California,

#### PLEASE HELP

If we have missed an obituary notice for someone, please let us know at: <a href="mailto:steering@srialumni.org">steering@srialumni.org</a>

We have heard of the passing of a few people but have found no further information. Let us know if you know about: Florentino "Tino" Bruno., Eric Turner, Bob Champaign, Bob Beal, and Mark Nanson.

#### **Alumni Association Membership Renewals**

Thanks to those who have renewed SRI Alumni Association dues! If you have not, please do so by December 31. Please send your \$25.00 check to:

SRI Alumni Association 333 Ravenswood Avenue, AC-108, Menlo Park, CA 94025

#### OR

Join at: <a href="mailto:srialumni.org/join/">srialumni.org/join/</a> Renew at: <a href="mailto:srialumni.org/renew/">srialumni.org/renew/</a>

Look for dues news in the April issue! After over 25 years, we have decided to raise dues next year to \$35. We hope to also offer lifetime dues.