

# Alumni Association



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## MESSAGE FROM ARCHIVES CHAIRMAN DON NIELSON



*Don Nielson*

Here's a greeting both to you and to springtime! In this issue, you will find articles by your peers in the Association—ranging from an episode from Walter Jay's experience in World War II to Gia Campari's latest Friends in Concert performance—and accounts of a few current SRI activities that are newsworthy. The latter include

innovations in robotics, a new pharmaceutical for treatment of the Ebola virus, and some insight into home support for children's schooling in math and sciences.

SRI has a long tradition in robotics, including at both system and component levels as well as their generalized language. Here you will find a recent innovation, a small, variable transmission bound to come into wide use. And, surprisingly, there is still no FDA-approved drug for Ebola therapy. SRI is exploring one that seems safe, is broadly available, and has application in viral diseases beyond Ebola.

From our Association members comes stalwart David Gibby, who gives us a detailed, illuminating, and colorful view of his recent visit to Morocco. You'll learn of its culture, some of its history, and his impressions of what they are facing. I guarantee you will want to tag along!

Mary Wagner gives us a firsthand account of one of SRI's longest and most impactful areas in the field of education. This comprises a series of projects exploring the education of our youth with disabilities, often referred to as Special Ed. Included are longitudinal studies that for the first time tracked some thousands of students into adult life to help judge their outcomes. Mary's article is the first of two to appear from her educational research studies.

For those of you who have attended our Spring Flings in the past and for those who never have, you will find our upcoming one irresistible. We will be visiting the recently opened visitor center at Apple's huge circular complex in Cupertino. You will need to fill out the enclosed form and send via regular mail or email; and, yes, there is a "free" lunch, at least one you have already paid for with your membership! Please join us May 16.

Finally, if there is someone that you came to know at SRI whose contributions to SRI or some other part of the world are so important that they need exposure and recognition, please consider nominating the person to the Alumni Association's Hall of Fame. Like every such award, they all begin with someone caring enough. Maybe you.



## Celebrating a Monumental Moment

On December 9, 1968, an SRI team of researchers led by now legendary Doug Engelbart first showed the world the way all of us now use computers. The demonstration was part of the Fall Joint (IEEE and ACM) Computer Conference held in San Francisco's Civic Auditorium. Starting with Doug's vision of how computing should be continuously interactive and building on a few of the technical trends of that day, they not only stirred the audience of a thousand or more before them but in large measure came to show everyone the way computing was to unfold as an adjunct to our intellectual work. It was a bold undertaking and so successful that it came to be called "The Mother of All Demonstrations." It arguably was the crown of all of SRI's important contributions before or since.



*Credit: Williamson Studio, Seattle*

The above image will probably become a logo for a celebration of the 50th anniversary of "The Demo" in December of this year. Planning the details of the main events is just now under way, addressing their venues and programs. Quite a number of people from the United States and abroad are engaged in this effort. Participating institutions will be SRI, the Computer History Museum, professional computing societies, and hopefully some corporate sponsors. A much more complete picture will appear in the August newsletter.

## Parents Need Support to Engage in At-Home Science Learning for Young Children

In a first-of-its-kind survey, the Education Development Center (EDC) and SRI spoke to more than 1,400 parents about the educational activities they do with their young children (ages 3 to 6). The findings showed that far more parents would engage in science-related activities with their children—if they knew how.

Although many parents indicated that it is important to help their children learn at home and that they feel confident

helping with reading and math, far fewer feel able to assist with science learning.

The findings are significant because science learning—the ability to develop and test ideas, ask questions, predict, and observe—is important for school success and is known to contribute to learning in other content areas, such as language development and critical thinking. Also, science achievement gaps start early and persist. Limited exposure to science and other STEM (science, technology, engineering, and mathematics) activities in early childhood can lead to a reduced interest in science and lower science achievement later on.

Among the survey highlights:

- Although more than 7 of 10 parents have high confidence levels in their ability to support school readiness related to reading and writing, math, and social/behavioral skills, 5 of 10 parents do not feel "very confident" when it comes to supporting their children's science learning.
- Early science learning is critical. Yet close to half of parents say other skills, such as reading and social skills, are more important than science for children to learn at home.
- Almost all parents do daily learning activities with their children, but only about half do daily science-related activities.
- Seven of 10 parents say having access to ideas for doing science with everyday materials would help them "do more science" at home.

Researchers point out that in the past decade, more parents have helped their young children read and learn math—with achievement gaps narrowing—and now attention must focus on science.

This study was commissioned by the U.S. Department of Education as part of the Ready To Learn Initiative, led by the Corporation for Public Broadcasting and PBS. It was conducted by EDC ([www.edc.org](http://www.edc.org)) and SRI, long-standing evaluation partners for the Ready To Learn Initiative.

The survey report is available online at [https://www.sri.com/sites/default/files/publications/edc\\_sri\\_what\\_parents\\_talk\\_about.pdf](https://www.sri.com/sites/default/files/publications/edc_sri_what_parents_talk_about.pdf).

The SRI press release is at <https://www.sri.com/newsroom/press-releases/parents-nationwide-say-more-support-needed-home-science-learning-young>.

## Inception Drive: Ultracompact Variable Transmission for Robotics

The latest breakthrough from SRI Robotics is the “Inception Drive,” a novel, ultracompact, infinitely variable transmission (IVT) that is an order of magnitude smaller and lighter than existing technologies. This new transmission can reverse the direction of the output relative to input without clutches or extra stages, dramatically increasing total system efficiency in applications including robotics, transportation, and heavy industry.



Although the IVT concept is not new, the clever engineering of SRI’s Alexander Kernbaum’s team is a big deal because it means that IVTs can be integrated into robotic applications in a way that was physically impossible before.

Traditional fixed-ratio transmissions have a complex relationship to total system efficiency. It is not uncommon for an increase in transmission efficiency to cause a reduction in total system efficiency. For instance, this happens when an efficient actuator is asked to hold a position under load for a period of time, causing the motor to see high torques with no mechanical work being done. Inception Drive can transcend this problem by switching to very high ratios, reducing or eliminating motor torque during static lifts.

With high torque and power density, Inception Drive is small enough to replace fixed-ratio transmissions in robots, possibly enabling energy savings of up to 50% in many applications. In addition, the transmission’s reversible output may allow for the reduction of the number of motors required in a robot, thereby significantly reducing the overall weight and cost of the system.

The variable-ratio transmission also allows for safer human-robot interaction through variable impedance control. Traditionally, robots require a high transmission ratio to lift heavy items, resulting in a rigid robotic system that is dangerous for human interaction. Because the transmission

ratio of the Inception Drive is adjustable, the impedance of the system can be raised for specific tasks and then lowered for human safety.

An interesting video demonstration by Alexander Kernbaum is available online at <https://www.youtube.com/watch?v=0-uSUrcRsyw>.

SRI’s project description is at <https://www.sri.com/work/projects/inception-drive-ultra-compact-variable-transmission-robotics>.

A more detailed description of the Inception Drive is at <https://spectrum.ieee.org/automaton/robotics/robotics-hardware/inception-drive-a-compact-infinitely-variable-transmission-for-robotics>.

## Scientists from SRI and Collaborations Pharmaceuticals Identify Potential New Ebola Virus Therapy

No drugs have been approved by the U.S. Food and Drug Administration (FDA) to treat infections from Ebola virus disease (EVD). Preventing the next Ebola outbreak with a vaccine will require a widespread immunization campaign, and antiviral drugs effective against EVD will be needed for a proper outbreak response. Scientists from SRI and Collaborations Pharmaceuticals, Inc., recently published a study of tilorone dihydrochloride—an orally bioavailable drug that is used clinically as an antiviral in Russia and a few other countries—as a treatment effective in preventing the death of mice administered a lethal challenge of mouse-adapted Ebola virus.



Previously, tilorone was identified as a possible candidate to fight the virus after a machine-learning model trained on anti-Ebola virus screening data identified the drug as a potent in vitro Ebola virus inhibitor. The current study assessed the pharmacokinetic properties and anti-Ebola activities of tilorone, which can be given orally and is already used in

humans as an antiviral against influenza, acute respiratory viral infection, viral hepatitis, viral encephalitis, myelitis, and other diseases in Russia.

Only a few potential drugs have shown efficacy against Ebola in mammalian disease models, and tilorone provides an option with a new mode of action and broad-spectrum activities. The anti-Ebola efficacy of the drug in an animal model and its history of safe use in humans make it an excellent candidate for future development as a standalone drug or in combination with one of the current clinical-stage anti-Ebola drugs.

“Further preclinical investigations will be undertaken to understand how the compound is working, and we will

also use additional disease models that better replicate the human disease,” said Peter Madrid, Director of Discovery Technologies at SRI. “Tilorone has the clear advantages of widespread availability, broad-spectrum antiviral potential, and a track record of safe human use for other viral diseases.”

More details on this study can be found online at <https://f1000research.com/articles/4-1091/v3> and <http://www.contagionlive.com/news/antiviral-drug-identified-as-effective-ebola-fighter>.

The SRI press release is at <https://www.sri.com/newsroom/press-releases/scientists-sri-international-and-collaborations-pharmaceuticals-inc-identify>.

## INTERNATIONAL JOURNAL

### Not Saluting General Patton and Getting Away with It

By *Walter Jaye*

It was mid-November 1944 in the Lorraine region of the Vosges Mountains of France. General Patton was about to launch his drive to the Saar region. A diversionary attack was planned, to be executed by a U.S. Army Corps at the juncture of 3rd and 7th Armies. The Corps my unit belonged to, the French 2nd Armored Division, was picked for the job. Our attack started early morning on 19 November. By noon of that day, the Combat Command, of which I was a radio operator in the communications half-track, had pushed more than 10 km past its objective. Obviously there was a question of what to do next. We stopped in the village of Cirey, and the Colonel in charge went into the Town Hall, where there were telephones, and our half-track parked across the street, ready to handle messages. Our divisional commander, General Philippe Leclerc, arrived, and shortly thereafter I took a cigarette break outside. Two jeeps approached, and when they came close, I noticed to my surprise that the drivers were Brigadier Generals and all the other occupants had multiple stars on their shoulders. The first jeep stopped abreast of me, and the officer next to the driver stood up and asked me in good French “Où est votre Général?” (“Where is your General?”). I was so awed by whom I saw that all I could do was point my arm across the street to the Town Hall without saluting. All eight general officers got out of their jeeps and entered the building. They were General George Patton and General Alexander Patch,



commanders of 3rd and 7th Armies, respectively, and their staffs. I had known immediately who was addressing me because we, in Armor, all admired and knew what the man with the pistols in his holsters looked like. I may have been the only soldier in the entire world that got away with not saluting General Patton.

*Walter Jaye was at SRI from February 1956 to July 1992. He worked in the Radio Physics Lab, which became the Geoscience Center, retiring as Assistant Director. He remains in touch with many of his colleagues. Walter and his wife, Diana, have lived in Menlo Park for the last 50 years, 40 of them in their current house. He has no special hobbies but stays as active as his age permits, greatly helped in this regard, he says, by his dog. See the December 2015 newsletter for an article on Walter's life and his French Legion of Honor award.*

## Morocco Bound!

By David Gibby

It's hard to believe that it is more than 75 years since Bing Crosby, Bob Hope, and Dorothy Lamour starred in the comedy film *The Road to Morocco* and Humphrey Bogart and Ingrid Bergman starred in *Casablanca*! Many of our friends remember these films, but only a few have visited the country to see something of its people, culture, and scenery. Having enjoyed a day trip from the south of Spain to the port city of Tangier in 2006, my wife, Jeanette, and I had wanted to see more of the country, so last October we decided to have a two-week touring holiday there with a group of like-minded travellers.



*Our itinerary.*

We flew from London to Marrakesh and were then taken, by air-conditioned coach, to our hotel for a one-night stay before heading north the next day. A friend of ours, a retired British Airways captain, told me that when he first flew there, on the inaugural flight, they were met by a large welcoming party, and he then rode the two miles to the old city centre on a camel, clutching his pilot's briefcase in one hand while maintaining his balance with the other!

The next day we set off for the Middle Atlas Mountains, driving through the desert landscape to visit Beni Mellal and Ifrane, where, at an altitude of 1,700 metres, the climate supports grapevines, olive groves, cedars, and eucalyptus trees. We spent the night near the ancient city of Fez, and in the morning we visited its spectacular medina (a labyrinth of narrow alleyways in which scores of different craftsmen and shopkeepers ply their trades) and Al-Karaouine, the oldest university in the world, with a theological college dating back to the 14th century.

In the afternoon we visited Volubilis, a UNESCO World Heritage site and the largest Roman excavation site in the country, before driving on to the royal city of Meknes to

stay the night and then see the famous city gate, the Sultan Moulay Ismail Mausoleum, and the city's "old quarter." In another busy day, we then drove on to Rabat, the seat of government, where we saw the Hassan Tower (begun in 1195, it was intended to be the largest minaret in the world) and visited the Mausoleum of Mohammed V, who negotiated independence from France in 1956.

That evening we arrived in Casablanca and enjoyed a night tour of the city, stopping to see the floodlit Hassan II Mosque and Rick's Café, designed and furnished (by Kathy Kriger, a former American diplomat in Morocco) to look like the one in the 1942 film.



*Rick's Cafe.*

The next day we were taken on a guided tour of the huge Hassan II Mosque—the largest in Morocco, with a minaret over 200 metres high, and the 13th largest in the world. It is the only mosque in Morocco where non-Muslim visitors are allowed. The cost of building it, at about 600 million euros, was a matter of some controversy because, although a few rich Arab countries (such as Kuwait and Saudi Arabia) donated money and provided some loans, the general public were expected to contribute, and about 12 million people did so—in a country where the average annual disposable income is about US\$500.



*Hassan II Mosque.*

After a week of travelling, we returned to Marrakesh, where we had a more relaxing time staying at a resort hotel and making a few leisurely trips into the city, experiencing its sights, sounds, and smells! In the main market square,

we were able to sit and enjoy a cool beer or a coffee while watching the dozens of traders selling everything from baseball caps to recycled car tyres! We saw snake charmers and sellers of secondhand sets of false teeth, although we suspected that their objective was to charge tourists for photographing them! In the evenings, the place really came to life, with hundreds, if not thousands, of people milling around, chatting, singing, dancing—and checking their smartphones! What a mix of old and new!



*Herbs and spices, Marrakesh.*



*Used false teeth for sale.  
(Taken for free with telephoto lens.)*

Before we went to Morocco, some of our friends asked us if we would be safe, thinking of the terrorist atrocities in recent years in neighbouring Tunisia and in other Middle East tourist destinations, such as Egypt, but we always felt that we were quite safe, and the people were welcoming—even the market traders, although keen to sell you their wares, were not a nuisance, as they had been in Tangier.

Morocco has a population of 34 million people, who are governed by a constitutional monarchy with an elected parliament; the king is a member of the Alawi dynasty, which has reigned over Morocco since the 17th century and is the de facto head of the Alawite sect within Sunni

Islam, which is the country's official religion. Christianity and Judaism are tolerated, but only Muslims may become citizens.

The present king, Mohammed VI, appears to be more secure on his throne than his father, Hassan II, who survived a few assassination attempts. One was at his 42nd birthday party, when 1,000 troops opened fire on the guests, 90 of whom were killed and a further 130 injured. In another attempt, in 1972, his private plane was attacked by Air Force jets; the head of the Air Force paid for this incident with his life, and a few other senior officers were court-martialled.

The country regained its independence from France in 1956, but under conditions that gave France and French companies preferential treatment in commercial and cultural matters. These conditions are due to lapse in a few years, after which contractors from other countries are expected to win contracts—for example, to further develop the country's infrastructure and the country's rich mineral resources in the south, although border disputes with neighbouring Mauritania may cause complications.

The country has three official languages: Arabic, French (from its colonial past), and Berber, the language of the tribes who live mainly in the Atlas Mountain areas, some of which are very remote. The Berber language, Tamazight, has its own script (e.g., ⵜⴰⴳⴷⵓⴷⴰⵢⵜ ⵜⴰⴷⵣⴰⵢⵔⵉⵜ). English is being taught more widely and in the next few years is likely to overtake French as the language of business.



*Morocco's three languages.*

One of the main challenges facing the country has been the low level of literacy, especially among women. Ten years ago, about 80% of young men were considered literate, while among young women the rate was only about 65%. These figures are both now nearer 90%, due largely to programs actively supported by the king's wife, who is a strong believer in "educate the mother and you educate a family." These programs aim to encourage attendance at school (an attendance allowance is paid, which is 30% higher for girls than for boys) and to provide work for women in rural communities, at the same time teaching them how to read and write.

We saw some of these groups at work, weaving beautiful carpets and producing Argan oil, a natural alternative to more common chemical-laden beauty products. My wife was aware of how expensive Argan oil products are, but after we saw for ourselves how much manual labour is needed to produce one small bottle, we understood why! The Argan fruit (similar to a hard olive in appearance) contains a seed, or nut, that is hammered to extract its kernels, which are then ground to produce a paste that is further treated to extract the oil. The fruit is either picked by hand from the trees or retrieved from goats' droppings after the animals have climbed the trees and eaten it! We were told that the goats and the trees live symbiotically (the kernels will germinate and grow only in the goats' droppings!) and only in certain parts of Morocco where the soil is most suitable, so the supply of Argan oil is likely to remain limited.

One of our last visits from Marrakesh was to the Atlantic fishing port of Essaouira, where the architecture shows its Portuguese heritage. It was on the way there that we saw groves of Argan trees for ourselves, complete with a few goats climbing them and eating the fruit.

We enjoyed our two weeks in Morocco, until the last evening. Our flight back to London was due to leave at 4:30 a.m., so we had to leave our hotel at half past midnight in order to get to the airport and complete all the passport and security checks in good time. Needless to say, we didn't get much sleep that night, but it was a small price to pay for such memorable experiences.



*Women hammering Argan nuts to extract the kernels.*

## “Life begins at the end of our comfort zone”

By Gia Campari

For the past 15 years, in my leadership programmes, I have included an exercise that many people struggle with: uncovering your purpose in life or your purpose in the current chapter of your life. “Your voice,” as Stephen R. Covey used to call it (particularly in his book *The 8th Habit*). “Your unique contribution,” as I call it. I believe that everyone has something unique to give to the world, and it is what gives our lives meaning. Victor Hugo expressed this powerfully and simply in his poem “Puisqu’ici-bas toute âme...” (“Since on this Earth every soul...”).

Reynaldo Hahn put some verses of this poem to music; because it expresses so beautifully what I passionately believe, this is the song I chose to open my very first concert in 1998 and also my seventh one in June 2017. Verses and translation are shown on the next page.

With varying degrees of success, I apply what I teach to my own life. After so many years, I think I have arrived at the core of what makes me get up in the morning: to nudge myself and others over the edge of our comfort zone.

Nothing pushes me further from my comfort zone than singing in public, though my singing has much improved since my first concert. Singing on one’s own may be fun, but singing with friends is euphoric! So I encourage as many friends/colleagues/acquaintances as possible to join me on stage in the delightful jewel of an opera house in Fidenza, where I was born, and where every 3 years or so I organise an opera concert.

Last year, 43 friends joined the chorus, and all but a handful were way out of their comfort zone. I shall have to figure out how to raise the bar for the 2020 concert. At the first concert, the chorus stood on stage and sang from their scores. The second concert required them to learn the texts by heart (in Italian); then the languages were extended to include French and German; subsequently, the performers were required to sing and act; finally, they had to sing, act, and dance! What could be next? All ideas welcome! Performers were enthusiastically applauded by a further 120 friends in the audience. (Entrance strictly by invitation only!)

SRI Alumni at my 2017 concert included Peter Weissshuhn and Marie-Aline Amoretti on stage and Andrew Flower in the audience.

You can find further information on the concert website: [www.friendsinconcert.co.uk](http://www.friendsinconcert.co.uk).

*Gia joined SRI-Croydon in 1987 as a Consultant. She left to join a Swedish consultancy in 1996 and set up her own consultancy, Signals of Change, in 2002, specializing in leadership and team performance. She came to opera late in life and is using her creative and organizational skills to encourage friends and acquaintances to step out of their comfort zone too.*

*See the April 2005 and the April and August 2012 newsletters for previous articles on Gia’s concerts. See the August 2017 newsletter for Peter Weissshuhn’s account of his participation.*



*Fidenza opera house stage.*



*Fidenza opera house amphitheatre.*





A scene from *The Barber of Seville* (*Gia* in white blouse).



Front row, left to right: Pianist Jennifer Carter, Conductor Mary Hill, *Gia*, and Stage Director David Edwards take a bow.

<b>Puisqu'ici-bas toute âme</b>	
Puisqu'ici-bas toute âme Donne à quelqu'un Sa musique, sa flamme, Ou son parfum;	Since on this Earth every soul gives another its music, its passion, or its perfume;
Puisqu'ici toute chose Donne toujours Son épine ou sa rose A ses amours;	Since everyone always gives their thorn or rose to their loved ones;
Puisque l'air à la branche Donne l'oiseau, Que l'aube à la pervenche Donne un peu d'eau;	The air gives the bird to the branch, and the sunrise a drop of water to the periwinkle;
Puisque, lorsqu'elle arrive S'y reposer, L'onde amère à la rive Donne un baiser;	When she comes to the shore to rest, the bitter wave gives the shore a kiss;
Je te donne, à cette heure, Penché sur toi, La chose la meilleure Que j'aie en moi!	I give to you, at this moment, leaning over you, the best of me;
Reçois donc ma pensée, Triste d'ailleurs, Qui, comme une rosée, T'arrive en pleurs!	Receive my thoughts, though somewhat sad, and which in tears, like dew, fall upon you!
Reçois mes vœux sans nombre, Ô mes amours! Reçois la flamme ou l'ombre De tous mes jours!	Receive my infinite wishes, Oh my Love! Receive the flame or shadow of all my days!
Mes transports pleins d'ivresses, Purs de soupçons, Et toutes les caresses De mes chansons!	Receive my inebriated impulses, free from doubt, along with every caress of my songs!
Victor Hugo (1802-1885)	

## SRI's Decades-Long Research Program on Children and Youth with Disabilities

By Mary Wagner

For more than 30 years, research conducted by what is now SRI's Center for Learning and Development has helped shape federal policy and practice regarding services provided to children with disabilities. Although this research program has been something of a well-kept secret within SRI, its findings and products are nationally known and widely published in the form of many dozens of reports to the U.S. Department of Education, journal publications, and "practice guides" that address challenges in service delivery to children, youth, and families. Below, I describe the portfolio of projects that have made up this program and highlight the way findings have impacted policy.

### National Early Intervention Longitudinal Study (NEILS)



From 1996 to 2007, SRI conducted NEILS for the U.S. Department of Education's Office of Special Education Programs (OSEP). NEILS was the first national study of Part C of the Individuals with Disabilities Education

Act (IDEA), which supported the early intervention (EI) program for infants and toddlers with disabilities, or at risk for developmental delay, and their families.

The study included a nationally representative sample of 3,338 infants and toddlers and their families who began EI services for the first time between September 1997 and November 1998. The sample families were recruited in 3 to 7 counties in each of 20 states. NEILS followed children from entry into the EI service system through kindergarten. SRI developed a comprehensive conceptual framework for the study that involved data collection about children, families, programs, service providers, and communities to address research questions about the characteristics of EI service providers, the services that children and families received, and the outcomes they experienced.

The study involved designing and conducting annual parent telephone interviews with the sample (children ages 0-5). Special attention was paid to gathering data about indicators of children's school readiness from a broad perspective

(including social development, behavioral engagement, and health, as well as language and cognitive skills).

For example, NEILS documented that children who received Part C services experienced a range of outcomes, including a sizable percentage of children who were doing as well as their same-age peers without disabilities by kindergarten. The study also verified that some children with disabilities identified in the first 3 years of life were likely to experience significant challenges at every stage of their lives. Furthermore, NEILS reported that the great majority of parents were extremely pleased with their EI experiences. Families reported many positive outcomes, including being able to care for their children and advocate for them with professionals, both when the children were in EI and as they entered preschool special education and kindergarten.

Numerous reports and presentations were produced from NEILS data, including reports for OSEP that were included in annual reports to the U.S. Congress.

### Special Education Elementary Longitudinal Study (SEELS)



SEELS was a study of school-age students funded by the Office of Special Education Programs (OSEP) in the U.S. Department of Education that was part of the national assessment of the 1997 Individuals with Disabilities Education Act. From 2000 to 2006, SEELS documented the school experiences of a national sample of students as they moved from elementary to middle school and from middle to high school. One important feature of SEELS was that it did not look at students' educational, social, vocational, and personal development at a single point in time. Rather, it was designed to assess change in these areas over time.

SEELS collected data at three points in time through school staff and parent interviews as well as direct assessments of children's abilities. SEELS data covers a wide range of topics, including student and household characteristics, students' functional skills, parental involvement and expectations, school experiences, academic achievement, classroom instruction, social skills, self-concept, assessment, accommodations, and much more. For example, examining special education services received by elementary school students with disabilities demonstrated a notable decline

in the proportions of students who continued to receive special education services as they progressed through school. This finding largely reflected the fact that students with speech/language impairments were the largest category of students served and were the most likely to “outgrow” their impairment with age. The breadth of the SEELS data supported a wide range of analyses that illuminated this and many other relationships addressed in the analyses.

**National Longitudinal Transition Study of Special Education Students, 1987-1991 (NLTS)**

In 1983, the U.S. Congress mandated a national study of special education students’ experiences with the transition out of school



and into adult life. The resulting National Longitudinal Transition Study of Special Education Students (NLTS) provided information to practitioners, policymakers, researchers, and others in the special education community regarding the transition of youth with disabilities from secondary school to early adulthood. It also identified factors that contribute to youths’ effective transition from secondary school to employment, further training or education, and independent living. The Office of Special Education Programs (OSEP) of the U.S. Department of Education contracted with SRI to develop a research design, craft and field test data collection instruments, and select a sample of students for a study that would meet the congressional mandate.

NLTS, launched in 1987, involved more than 8,000 youth from the national population of special education students in the 1985-86 school year who were at least 13 years old. The sample was drawn so that findings generalized to students in secondary special education in 1985-86, both as a whole and separately for students in each of the 11 federal special education disability categories. Data were gathered in 1987 and again in 1990-91. The primary research questions involved identifying factors that contributed to the effective transition from secondary school to employment, further education, and independent living. Four data components were used to obtain the data specified by the conceptual framework that guided NLTS: (1) parent/guardian interviews, (2) data from school records, (3) a survey of secondary special education programs, and (4) a survey of nonrespondents. The combined database includes data from at least one source for 8,678 youth, 84% of the initial

sample. Complete data from the parent interviews, school records, and school survey were generated for 4,064 youth.

NLTS findings described trends in the employment, wages, postsecondary education, and residential independence of youth with disabilities in their first 5 years after high school. Data indicated strong gains in all four outcome areas over time. In all areas, however, youth with disabilities continued to lag behind their peers in the general population. Several differences between youth in certain disability categories were found regarding employment, postsecondary education, and movement toward independence over time. Longitudinal outcomes also differed widely by gender, ethnicity, and high school completion status.

**National Longitudinal Transition Study of Special Education Students-2 (NLTS2)**

Given the powerful analyses on wide-ranging aspects of youth with disabilities generated in NLTS, the U.S. Department of Education



committed to a “second generation” of that study, NLTS2. It provided an updated national picture of the experiences and achievements of students in special education during high school and as they transitioned from high school to adult life. NLTS2 involved a nationally representative sample of students who were 13 to 16 years old and receiving special education services in December 2000, when the study began. These students were followed until 2010 in an effort to understand their educational, vocational, social, and personal experiences as they transitioned from adolescence to early adulthood. Findings from NLTS2 generalize to special education students nationally as a group, to each of the 12 disability categories in use for students in the NLTS2 age range, and to each single-year age group.

NLTS-2 involved five waves of data collection that used three data collection components: (1) telephone interviews with parents and with youth who were capable of completing a phone interview, (2) direct assessments and in-person interviews with youth while they were in secondary school, and (3) collection of school data (e.g., surveys of teachers, special education teachers, principals). Data analyses were conducted as each wave of data was completed, with the final year being devoted to comprehensive analyses of the full longitudinal dataset. Key findings addressed the characteristics of secondary school students receiving

special education services and their households; students' secondary school experiences, including characteristics of their schools, school programs, related services, and extracurricular activities; experiences of students once they left secondary school, including adult programs and services, social activities, etc.; and the secondary school and postschool outcomes of students in the education, employment, social, and residential domains.

In addition to producing multiple research products addressing these outcomes, NLTS2 was one of the first projects to introduce a broader concept that entailed "productive engagement" in one or more of the individual domains studied. This contribution to an integrated understanding of postschool outcomes was incorporated by the U.S. Department of Education into its assessment of the progress made in serving youth with disabilities.

**Coming Up**

The next issue of this newsletter will include an article that focuses on the research methods and key findings from the NLTS/NLTS2 analyses. It also will describe SRI's current partnership with the Research Triangle Institute (RTI) in analyzing data from the third generation of NLTS, NLTS-2012. The high school experiences and post-high-school outcomes of this third generation of youth transitioning into young adulthood will be analyzed over the next 2 years and will include comparisons across the generations of the study.

*During her 37-year career at SRI, Dr. Wagner participated in all of the SRI longitudinal studies on children and youth with disabilities across the age range. Her particular focus has been on youth with disabilities and their experiences in secondary school and their early adult lives, especially youth with emotional disturbances, who experience unique challenges related to that disability.*

**CREDIT UNION NEWS**

**BECAUSE  
2.05% APY\*  
MAKES IT EASY  
TO COMMIT**

**What's your why?**  **SRI Federal Credit Union  
CERTIFICATES**

\*APY=Annual Percentage Yield, 2.05% APY for special 1 year CD with \$25k min.



**Plan to Attend the Spring Fling at the Apple Park Visitor Center in Cupertino on Wednesday, May 16, beginning at 10:30 AM**

Please join us for a visit to the Apple Park Visitor Center at 10600 North Tantau Avenue in Cupertino. Driving directions, along with a map, are included on the event flyer. If you need a ride, please let us know by emailing [steering-committee-alumni@sri.com](mailto:steering-committee-alumni@sri.com).

You will be able to explore all the details of Apple's new "spaceship" campus via supplied iPads running AR (augmented reality). Lunch will be enjoyed together on the Visitor Center Roof Terrace with a view to the actual "spaceship." You'll also be able to visit the onsite Apple Store offering exclusive Apple- and Apple-Park-branded merchandise.

There won't be an organized tour, so please explore on your own starting at 10:30 a.m. until lunchtime. A free lunch (box assortment) will be served on the tables located on the Visitor Center Roof Terrace starting at 11:30 a.m.

This is a free event for all alumni members and their guests. Please send in your completed reservation form, including the number of box lunches you'll require, to the SRI Alumni Association by the deadline of May 9. If you'd prefer, you can email the required information to [steering-committee-alumni@sri.com](mailto:steering-committee-alumni@sri.com). For questions, please contact Mike Ji at [hua\\_88@yahoo.com](mailto:hua_88@yahoo.com). We hope to see you there!

# HALL *of* FAME

## Who Do You Believe Made an Exceptional Contribution to the Success of SRI? Nominate That Person for the SRI Alumni Hall of Fame!

The SRI Alumni Hall of Fame honors former staff members who made exceptional contributions to the success of SRI. We are seeking nominations for Hall of Fame candidates by June 1.

All former staff members are eligible, but nominees should meet the following criteria:

- Significant, lasting contributions to the success of SRI
- Contributions recognized by staff, management, or clients
- Contributions in any area of research, management, or service, such as
  - Establishing a new laboratory or a new field of research
  - Performing an outstanding recognized service
  - Clearly demonstrating qualities of leadership, vision, and creativity
- What did the person leave behind?
  - Enhanced reputation for SRI
  - New or enhanced research, business, or support activity or facility.

Please prepare a write-up of about 300 words indicating how your nominee meets these criteria. If you have questions about the nomination process, members of the Steering Committee will be happy to answer them. Send the write-up or questions to [steering-committee-alumni@sri.com](mailto:steering-committee-alumni@sri.com) or SRI Alumni Association, 333 Ravenswood Avenue, AC-108, Menlo Park, CA 94025-3493. Again, the due date is June 1.

# Reunion 2018

## Save the Date: 2018 Annual SRI Alumni Reunion

The annual reunion will be held on Thursday, October 18, from 4:00 until 7:00 p.m. at SRI. More details will follow in the August newsletter along with the official invitation and sign-up sheet. We hope you can join your fellow alumni then.

*Mark your  
calendars for  
October 18!*



## We Need 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](mailto:steering-committee-alumni@sri.com).



The SRI Alumni Association welcomes new members:

- Desiree Champagne
- Britte Cheng
- David Erlich
- Scott Gulkil
- Charles Hart
- Joanne Hawkins
- David Huber
- Michelle Huynh
- Linda Jansen
- Takao Kobayashi
- Mark McHenry
- Carl Petersen
- Mauricio Pirir
- Mohsen Sanai
- Donald Shockey
- Lynise Smith

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

**SRI International Alumni Association**

**Cash Flow/Income and Expense**

Year ending December 31, 2017

<b>CASH BALANCE as of 01/01/17</b>		<b>\$12,103.60</b>
<b>INCOME</b>		
Cash income from membership dues and fees	\$8,376.00	
Dividend income from SRI Federal Credit Union account funds	\$7.10	
<b>TOTAL INCOME</b>	<b>\$8,383.10</b>	<b>\$8,383.10</b>
<b>EXPENSE</b>		
<b>Services provided by SRI International</b>		
Postage and mailing expense	\$42.50	
<b>Special events and awards</b>		
Annual reunion expense		
Recognition awards	\$230.56	
Spring Fling (Burgess Park)		
Entry fee/lunch	\$830.00	
<b>Other expenditures and costs</b>		
Office supplies	\$91.58	
<b>TOTAL EXPENSE</b>	<b>\$1,194.64</b>	<b>\$1,194.64</b>
<b>CASH BALANCE as of 12/31/17</b>		<b>\$19,292.06</b>

**Directory Addendum**

The enclosed directory addendum (covering the period December 8, 2017, to March 31, 2018) contains new members and corrections. Please add it to your 2018 Directory.



**Charles “Dave” Bender**



Dave Bender died at his home in Edgewater, Maryland, on March 9, 2017, at age 77. Born December 25, 1939, in Muncie, Indiana, he graduated from Culver Military Academy in 1958 and Cornell University in 1962. As Distinguished Military Graduate, he received a regular Army commission at graduation.

He also earned a master’s degree from Ball State University.

Dave served in the United States Army from 1962 to 1989 as an airborne infantry and military intelligence officer. When he retired with the rank of Colonel, he was head of intelligence for the Defense Nuclear Agency. He received numerous individual and unit citations and medals from U.S. and South Vietnamese military services. After retiring from the Army, Dave worked for SRI from July 1989 to February 2017. His positions at SRI included Director of Special Research and Development—Intelligence Programs and Director of Business Development.

Dave was a husband, father, friend, and counselor to all who knew him. He and his wife, Lesley, were active in the community, German Shepherd Rescue, and Cornell recruiting, and they sponsored numerous midshipmen at the U.S. Naval Academy. Dave was a PADI Divemaster, had a commercial pilot’s license, and was a member of the National Ski Patrol. He enjoyed golf and traveling the world with his family.

Dave is survived by his wife, Lesley; daughters Diana and Karen; stepson Dane; and grandchildren Tieran, Ashley, Anastasia, and Thomas.

*Based on an obituary published in The Washington Post on January 28, 2018.*

**Remembering Boyd Fair\***



As noted in Boyd’s obituary in the December 2017 newsletter, the SRI Golf Club ordered a commemorative brick in Boyd’s memory, to be placed at the entrance to the Northern California Golf Association offices at Poppy Hills Golf Course. The cost

of the brick supports the Youth on Course and First Tee youth programs. Boyd supported them by volunteering at a major tournament that included the junior players. Those programs have done a lot to give underprivileged children the opportunity to learn the game, as well as the etiquette and respect for others that go along with it. The brick is in place, as shown in these photos. Boyd’s brick is the fourth one down in the fourth column from the left.



Many thanks to Sandy Hinzmann for arranging to get these photos and to Jeff Clark, Director of Development for Youth on Course, for taking them.

\*Member of the SRI Alumni Association

*The SRI Alumni Newsletter is published three times a year (in April, August, and December) by the SRI Alumni Association.*

*Editorial committee: Mimi Campbell, Klaus Krause, Caren Rickhoff, and Mary Wagner  
Design & layout: Linda Hawke-Gerrans*