nuclear news

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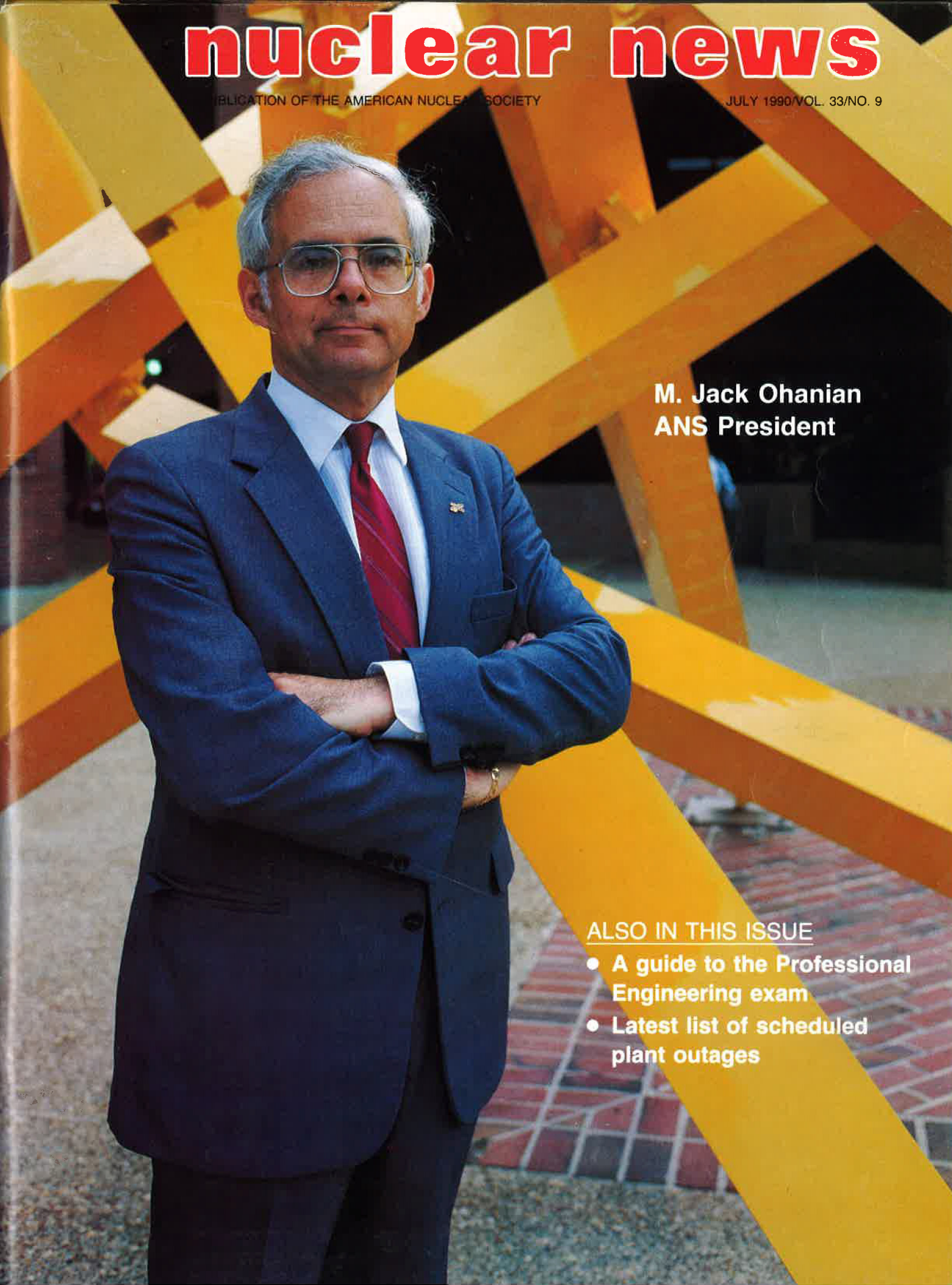

M. Jack Ohanian
ANS President

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Ohanian: Working for nuclear's future

ANS President M. Jack Ohanian's 1956 college yearbook notes that he was "tall and very wise," and was "a hard worker . . . always willing to help his fellow students." Those who have met him and worked with him in the 34 years since then can tell you that, really, he hasn't changed all that much.

Early years

Jack was born in Istanbul, Turkey, in a house located on the Bosphorus ("as far east as you can go in Europe and still be in Europe," he notes). Unlike the rest of us, he has two birthdates. "I was born on August 3 [1933], but I was born at home, and by the time they got to the officials, it was four days later. So, officially, in all my documents, my birthday is August 7. And I always have to remember that whenever I show my passport or any official document."

His parents, Mary Sayabalian and Mark Ohanian, were born in Asia Minor. His father and grandfather were fur merchants.

Being an Armenian in Turkey in the early years of the 20th century was somewhat perilous. The Ohanian family dealt with the difficulty by becoming, officially at least, Italian citizens. "At the turn of the century, when the Armenians were having so many problems with the Ottoman Turks, the Italians offered their citizenship to any Armenian who wanted it," Jack explains. "So my grandfather became an Italian citizen, as did my father. I had an Italian passport, though it wasn't really recognized by the Turkish government. Thus, my father was a foreign citizen in Turkey, which created some problems, but I think it might have helped him in his business."

From the beginning, Jack says, his family encouraged him to seek a career and life outside of Turkey. In his early years, he had a German governess, to prepare him for emigrating to Germany when he was an adult. ("At home, we spoke three languages," he recalls, "Armenian, Turkish, and German.") But with the start of World War II, the German high school in Istanbul was closed and the Germans were interned.

"Turkey was neutral during the war," Jack recalls, "so we didn't have many direct effects. We had blackouts and food rationing, but the only incident that I remember being scary was one night when bombs began dropping on Istanbul. It turned out to be a mistake, and I don't remember whether it was the Germans or the British that bombed us, but I remember waking up in the middle of the night, with all these bombs going off. But otherwise, it was pretty quiet there."

Jack attended a local Armenian grammar school, and then, after the war, attended the British high school in Istanbul. "That's where I learned English," he says. "My first year, I was just immersed in studying English and nothing else, no academic coursework." After graduation from the British high school, Jack attended Robert College, the American college in Istanbul, receiving a bachelor's degree, with high honors, in electrical engineering in 1956.

Jack as a small child

Coming to America

With his bachelor's degree in sight, Jack had begun the process of applying to various U.S. schools to do graduate work. Ultimately, he chose to attend the Rensselaer Polytechnic Institute, in Troy, N.Y. "RPI had a very good reputation overseas," he says. "Plus, a good friend from Robert College from the year before had ended up there. So when RPI offered me a graduate assistantship, I decided to go ahead." He left Turkey in September 1956.

He had never been to the States before. "My father had been in the States—my grandfather had sent him to New York in the 1920s to learn more about the fur business. But he didn't stay. He had made some friends while he was there, however, and one of them was very helpful to me when I came over.

"Coming here was a big production in those times," he continues. "This was before jet aircraft. I remember flying on a Scandinavian Airlines flight, and it took 24 hours. Somehow, someone had told my father that I shouldn't take a flight that made only one or two stops, and that it would be better for me to take a flight that made many stops."

He was 23 and alone. "I had 100 Turkish lire in my pocket, about $10—you couldn't get any money out of Turkey at the time. But my father's friend in New York helped me until I got settled. I never used the money, by the way. A couple of years later I sent it back."

In Troy, Jack met up with his friend from Robert College, David Ebeoglu, who had arranged housing for him. "My

first year, we roomed together with the family of an RPI management professor, and this helped me a lot, because though my English was very good, I didn't know American slang at all—I was completely out of it. But this family had five kids, and between them and television, it didn't take me long to pick it up.

"The year I came was the year Eisenhower was running for reelection, and I remember watching the elections and being somewhat surprised at the openness of the election process, and the criticism of the President, because we didn't have that in Turkey; you didn't criticize the government. Also, when I first came to the States, for the first year or so, I would not go near a policeman."

At RPI, Jack worked on his master's in electrical engineering. But he was already thinking about switching to another field, he says. "About this time, Larry Parsegian, who was the dean of engineering when I came to RPI, became very influential. He encouraged me to work summers at Brookhaven National Laboratory, which I began to do in 1958."

1950–51 prefects of the British high school. Jack is second from right, top row.

It was while he was at Brookhaven, where he worked as a research assistant in the Reactor Theory Group during the summers of 1958 and 1959, that he decided to switch from electrical to nuclear engineering. "I went there at the heyday of reactor physics," he notes. "I worked with Jack Chernich and John Simpson in a group that included Mel Levine, Noel Corngold, and Hank Honech. It was a young and exciting group, always looking at new concepts." While at Brookhaven, he worked on his master's thesis on circulating liquid-fueled reactors. "I was looking at the control problems, how you control the reactor when the fuel is in a pipe and circulating around. It was very interesting. My thesis project, even though it was in electrical engineering, was about understanding the control problems of this nuclear reactor."

Jack received his master's in electrical engineering in 1960, and began PhD work in RPI's very new Nuclear Engineering Department. "People there at the time included Erwin Gaerttner and Max Yeater, who were just beginning their work on the Linear Accelerator project. And my dissertation adviser was Paul Daitch, who unfortunately died at a rather young age." While pursuing doctoral work, Jack also taught part time at the Knolls Atomic Power Laboratory in Schenectady, N.Y. "They had a program for their employees to get degrees in nuclear, and there were about 25–30 of them. So instead of having them all come to Troy for classes, I went to Schenectady, where I taught a couple of master's level courses in reactor and nuclear physics. In fact, Richard Lahey, of RPI's Nuclear Engineering Department, was one of my students at Knolls."

In 1963, Jack received his PhD in nuclear engineering and science from RPI, one of the first three doctoral graduates of the school's nuclear program (the other two were David Ebeoglu and Armando Travelli).

The University of Florida

There was one complication in his life at this time that threatened to interfere with his choice of employer—his visa status. "I had left Turkey on an exchange visa, which meant that, as a student, once I finished up my work, I could stay for a little while longer, but then would have to leave for a couple of years before coming back as an immigrant. I wouldn't have to go back to my country of origin, but I would have to go someplace outside the United States."

Jack had been offered a position at Argonne National Laboratory, but the Atomic Energy Commission had a rule at that time that it could not help those with exchange visas. Thus, he was not able to accept the Argonne position. Just as Jack was deciding to go to Canada (to stay there for a few years before reentering the United States), Larry Parsegian came to the rescue and contacted the New York senator, Jacob Javits, who was able to intercede on Jack's behalf, so that he no longer needed to leave the country (he received U.S. citizenship in 1967). In the meantime, Paul Daitch had mentioned the new nuclear engineering program at the University of Florida at Gainesville, which was headed by Robert Uhrig. Jack made the decision to become a professor, and has been with the University ever since.

When he joined the Florida staff, the nuclear program was strictly a graduate program, with about 8 professors and some 40–45 graduate students. The Department had only recently received the okay to offer a PhD in nuclear. Jack started as an assistant professor, and, he says, he grew with the program. He became an associate professor in 1967, department chairman in 1969 ("before I was a full professor, which was sort of unusual," Jack notes), and full professor in 1970.

One specific project from those early years, Jack recalls, was a close-to-critical experimental facility the University operated for Phillips Petroleum, which at that time ran the government's Idaho Falls operations. "By close to critical, I mean one that had an effective multiplication factor of 0.99," Jack explains. "We built it, got it licensed, which we probably couldn't do today, and operated it for several years. And we did some very interesting experimental work in neutron wave and pulse propagation. In fact, Nils Diaz (who heads Florida's Innovative Nuclear Space Power Institute) did his PhD work at that facility. Interestingly, we're still storing the spent fuel from the facility, and we're trying to give it back to its owner—the Department of Energy—because it's taking up space."

In the late '60s, the Department began creating an undergraduate program in nuclear. "But the state had some major financial problems toward the mid-70s, and that stunted the University's growth some during that period," Jack recalls. Still, by the mid-70s, the program had grown to about 150 upper-division undergraduates and about 65–70 graduate students, with about 12 professors.

In 1976, Jack decided it was time to

Wedding day, April 22, 1962

take a sabbatical, since he had never had one. "After talking to Alvin Weinberg and Ernest Silver up at Oak Ridge, I decided to work with them for a year at the Institute for Energy Analysis," he says.

The mid-to-late '70s was the heyday of the Institute, Jack feels. At the time, a major effort at IEA had to do with the examination of the key elements of an acceptable nuclear energy system. This included the concept of a confined-siting policy, "where you put several of the power-generation facilities on one site rather than distributing them around. For nuclear, there were some significant benefits, for example, in terms of a concentrated cadre of professionals at the site. I was supposed to stay at IEA for one year, but it was too exciting to leave, and I stayed for an additional year, until the fall of 1978.

"I remember that our model for excellence at that time was the Tennessee Valley Authority," Jack continues. "They had made the decision to go with multiple plants at a given site, and we worked with them, just to get insights about the validity of our proposals. Now, of course, several countries—the French, the Japanese, the Canadians—are concentrating on this concept, but in the case of the United States, I guess we'll have to see what happens, though I don't see any significant change in the nuclear situation in this country for the next several years."

During his absence, the University had appointed an acting chairman for the Department, "but that may have been a mistake," Jack states. "I should have just resigned the chairmanship when I decided to stay the extra year in Oak Ridge, because shortly after I came back, I was moved up to the Dean's office." In 1979, Jack was named associate dean for research in the College of Engineering. He held this job until 1989, when he was appointed associate dean for administration and planning. "During the past 10 years, there has been much growth at the University," Jack notes, "in terms of both quality and quantity, and this is directly reflected in the College of Engineering as well. About 10 percent of the student population of 34 000 is in our College, and our research program has grown to the $37 million/year level."

One other University project Jack feels especially proud of is the nuclear department's research in the area of robotics for nuclear maintenance. "It was 1986, and we had just recruited Jim Tulenko to come from Babcock and Wilcox to the University to be the department head," Jack says. "And the day after he came on board, we found out about this DOE request-for-proposals in the area of robotics. Jim had not done anything like this at the university level, so he and I worked day and night for two weeks to put together a proposal for the program. And we did get the funding for what is now a rather large program, which includes the University of Michigan, the University of Tennessee, the University of Texas at Austin, and Oak Ridge National Laboratory." The program is now in its fourth year, with Jack on the Board of Governors (David Rossin is the chairman) overseeing the project.

But Jack sees reason for concern about the overall state of nuclear educational programs in the United States today. "At one time," he notes, "there were something like 60–70 nuclear engineering programs in this country. Now, about 25 programs produce 90 percent of all the degrees in nuclear. So, with the number of programs and degrees diminishing, when the turnaround comes in the next few years, the infrastructure may not be there to educate the needed manpower. And we'll be back where we were in the '50s and '60s. The ironic thing is that the people coming out of the nuclear engineering programs have no trouble finding jobs, and the salaries are among the highest for engineering graduates at the bachelor's level."

Jack is also concerned about the current levels of government funding for nuclear education research. "In the '60s," he recalls, "because the government wanted to encourage the production of nuclear scientists and engineers, they offered major graduate-level fellowships and traineeships. Then those programs disappeared, but lately they've come back at a modest level. The numbers are not very large—probably a total of about 100 DOE fellowships—but at least there's a modest effort to keep things going. But if it weren't for the programs within basic energy sciences in the DOE, there would really be very little funding for nuclear engineering programs at universities. I think our Society needs to become more active in making sure that the government puts enough funding into nuclear science and technology research, not just at universities, but also at the national laboratories and other research-oriented enterprises. Other professional societies are much more active in trying to do that for their own disciplines. We

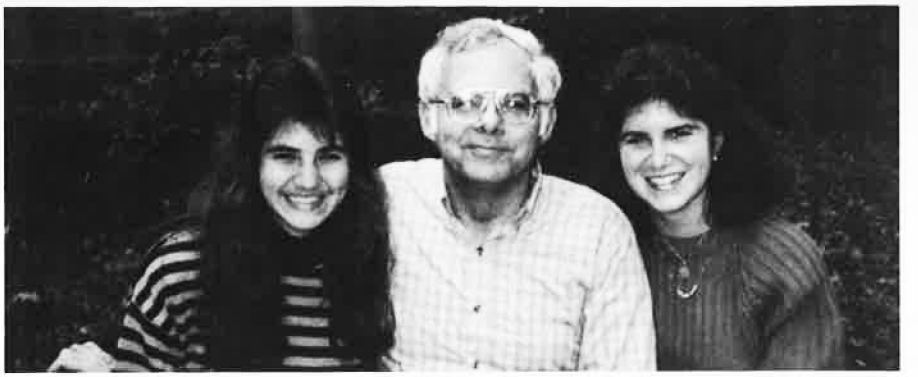
need to provide sufficient objective information to the powers that be so that they can make the right decisions. We just haven't been putting enough effort into doing that."

While Jack's university responsibilities have become broadly based, he has still kept up a high level of nuclear involvement, not only through ANS, but also through service on several advisory committees, involving the Argonne and Oak Ridge national laboratories as well as Florida Power Corporation, operator of the Crystal River nuclear power plant. Most recently, he served a two-year term on the Secretary of Energy's Advisory Committee on Nuclear Facility Safety, chaired by John Ahearne. "I had not had much experience in the defense-related programs; thus, this assignment provided me with some strong insights into an important facet of the nuclear business," he notes.

Family life

Jack and his wife, Sandy, live in Gainesville, Fla. They met in 1957 on the ski slopes in Pittsfield, Mass. ("both of us new skiers," Jack notes). At the time, Sandy (née Blair) was an art education student at Skidmore. (Incidentally, later that winter, Jack broke his leg skiing on Whiteface Mountain, was in traction for two months, and was in a cast for a year, including his first summer at Brookhaven. He has not skied since.)

They married on April 22, 1962, and Sandy taught while Jack finished up his PhD work. They moved to Florida in November 1963 ("on November 22, the day President Kennedy was shot, so we've never forgotten it," Jack says). They have two daughters. The older, Heather, graduated this May from Stetson University, in DeLand, Fla., with a degree in sociology. The younger daughter, Holly, attends Clemson University, studying computer engineering under IBM's cooperative education program.



Holly, Jack, and Heather

Sandy received a master's degree in art education from the University of Florida in 1965. After the girls were born, she stayed home and created batiks, which she sold at local art shows. During that period, she also kept busy as a charter member of a local artisans' cooperative, as a girl scout leader, and as the treasurer for the band parents group. Wanting a career change, she studied computer programming at the local community college. Today, Sandy works as a computer programmer for the University's Alumni Association.

For recreation, they enjoy weekends at their lake home near Gainesville, and like to take Caribbean vacations, particularly to the British Virgin Islands, because, Jack says, those islands are more remote, less touristy, and have maintained their friendly, low-key atmosphere. Jack also likes to swim and read spy novels.

Jack's father died a few years ago, but his mother still lives in Istanbul, with Jack's sister and an uncle. Jack has never been back to Turkey ("Because I have never fulfilled my military duties," he explains).

Jack and a companion, 1964

ANS activities

Jack has been a member of the American Nuclear Society since he became interested in nuclear engineering and science. "When [1989–90 ANS President] Walt Loewenstein was here at the local section/student branch banquet earlier this year," Jack recalls, "he gave me my 25-year certificate, and I was kind of surprised, because I thought I had been a member longer than that, but then I realized that I had been a student member for several years before becoming a regular member."

He started getting active in the Society at the national level in 1971, when he became involved in the 1971 winter ANS meeting in Miami. Robert Uhrig was the technical program chair, and enlisted Jack's help, appointing him technical program cochair. Jack also served as ANS student branch adviser at the University in the early years. "The Florida student branch held one of the first ANS student conferences, in 1968," Jack notes. "I also remember that I fought the formation of a Florida section, because I thought we didn't need one since we had such an active student branch. I was wrong, of course."

Jack has served on and chaired numerous committees within ANS, worked as an officer of several national and topical meetings, and was made a Fellow in 1979. In addition, he has been elected to three terms on the Board of Directors: one term in the mid-70s and two terms in the '80s. His experience on the Board of Directors has convinced him of one thing: "We don't use our board members enough. We have this pool of talented, well-recognized people, and yet we just don't utilize them as effectively as we should. I'm trying to figure out ways of doing that by giving them some special assignments."

One of his primary goals as ANS president, he says, is to create some continuity in presidential terms. "I am really looking forward to working with [vice president/president-elect] Bob Long, because we have worked together and known each other for years, starting when he was chairman of the Nuclear and Chemical Engineering Department at the University of New Mexico. In the early to mid-70s, over a period of about four years, one or the other of us was chairman of the Education Division or chairman of the Nuclear Engineering Department Heads, so we did quite a bit of work together on behalf of the education community. I'm looking forward to getting back into that—on a much broader scale, of course." Continuity is important, Jack feels, to accomplish some of the goals ANS has developed for the longer term—for instance, putting more emphasis on membership development, continuing the emphasis on technical excellence, further strengthening the Society's multidisciplinary image, and finding ways to better serve the noncommercial technology sector.

A major focus of Jack's term will be ANS local sections. "It's very important

to try to get more of the local section members to participate at the national level," he says. "I hear there are something like 6000 local section members that are not part of national. That represents a major increase in membership. But those people will have to see more benefits of being an ANS member, so we need to do some work there. They should want to become a national member to enhance their professional goals, and, in turn, to provide ANS with a larger base by belonging to this well-recognized and internationally based nuclear science and technology society. We need to focus especially on our colleagues in the utility industry. Also, some of the local sections are not as healthy as we thought—we need to help them along to become stronger."

Jack and Sandy today

Public policy is another area that needs work, Jack feels. "We need to be able to respond quickly to major issues in the nuclear business," he points out. "Right now, we just don't do a very good job of it, because it takes such a long time for our process to go from beginning to end. But the Public Policy Task Force, which Walt Loewenstein appointed and which consists of some immediate past presidents and other society members, is working to get us out of this logjam. For example, as I mentioned earlier, I would like to see us get into a position where we can provide factual and timely information to the powers that be about the need for adequate research funding in nuclear. We should also be able to provide objective and timely information about the importance of nuclear energy to maintaining a cleaner environment, reducing global warming, etc."

Two other key issues must be faced this year, Jack says. One is completing the transition from Octave Du Temple to Joe Braun as executive director. The other is finances. "We must keep very close tabs on that," Jack says. "This year it looks like we may have a deficit from operating expenses. It's probably less than 2 percent of our budget, but we must pay very close attention to it. Of course, we also need to recognize that this is sort of an unusual year, with the transition.

"Needless to say," Jack concludes, "I am honored to have been selected by my peers, and am excited about the year ahead and about helping to address some of the challenges and opportunities facing our Society."—*Nancy Zacha* □