

U.S. Department of State



PROFESSIONAL SCIENCE AND ENGINEERING SOCIETY FELLOWS PROGRAM

Where Diplomacy and Technology Engage...



Under the auspices of the Science and Technology Adviser to the Secretary of State, the Professional Science and Engineering Society Fellows Program helps address the needs of the international diplomatic agenda.

This growing program attracts bright, inquisitive scientists and engineers who are members of professional societies with an interest in policy and diplomatic affairs. Sponsoring societies currently include the **American Institute of Physics (AIP)** and the **Institute of Electrical and Electronics Engineers, Inc. (IEEE)**.

Guided by the Office of the Science and Technology Adviser to the Secretary (STAS), there are currently 40 Fellows on assignments throughout the State Department under eight fellowship programs, including those sponsored by professional science and engineering societies.

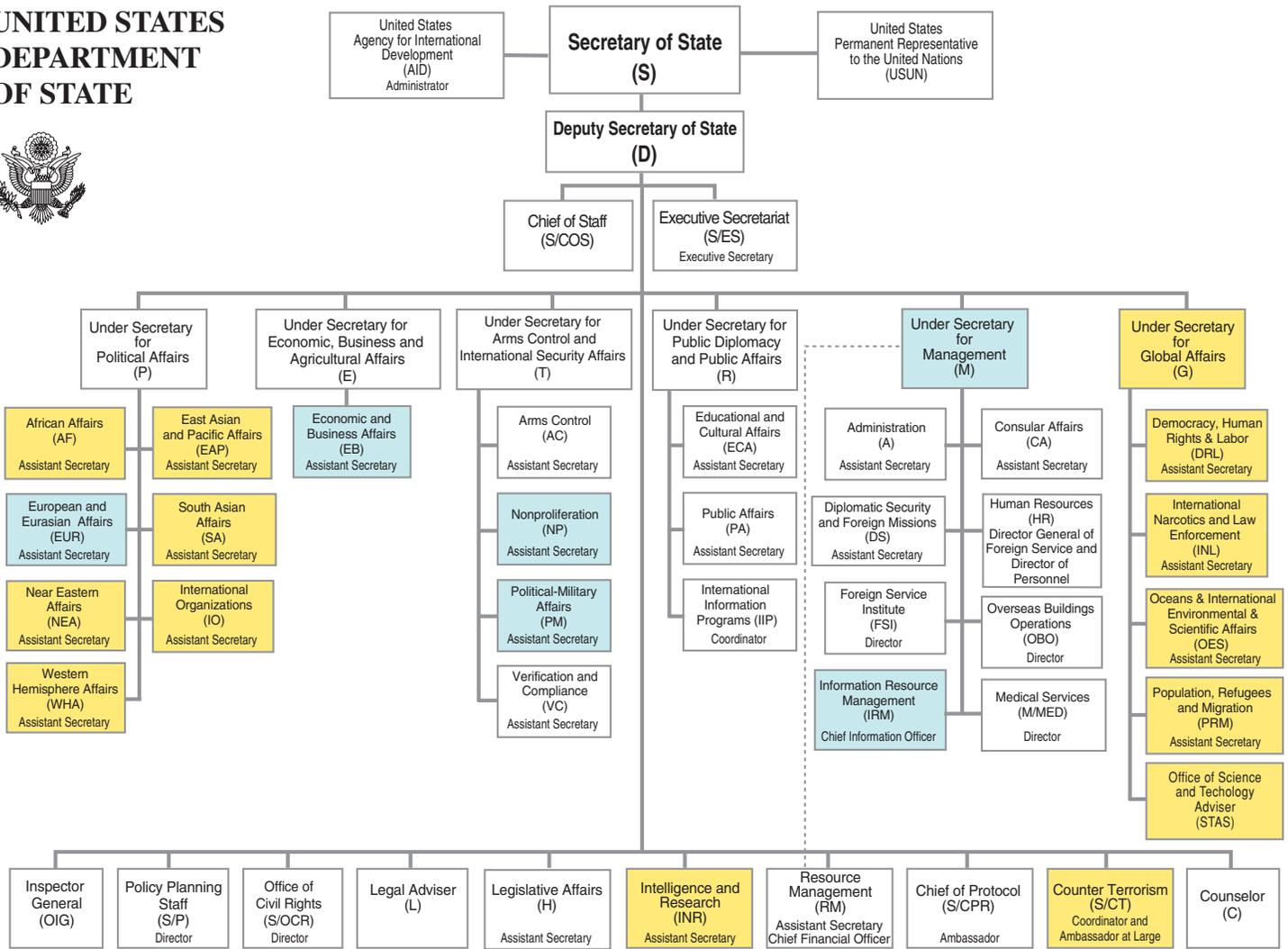
“THE STATE DEPARTMENT NEEDS THOSE WHO CAN DEAL WITH COMPLEX SCIENTIFIC ISSUES AND EXPLAIN THEM TO POLICYMAKERS AND NON-SCIENTISTS.”

—George Atkinson,
Science and Technology Adviser to the
Secretary of State



2003 and 2004 Professional Science and Engineering Society Fellows [l-r, D. Silversmith, C. Christian, R. Lamb, E. Whittaker, E. Sopensky]

**UNITED STATES
DEPARTMENT
OF STATE**



Professional Science & Engineering Fellows
 American Association for the Advancement of Science (AAAS) Science and Diplomacy Fellows

Professional Science & Engineering Fellows

The State Department is a vast, worldwide complex with almost 50,000 employees, including 30,000 foreign service nationals. The Department has 164 embassies and 83 consulate generals and consulates. Organizationally, State Department comprises six undersecretariats and over two dozen major bureaus whose responsibilities range from bilateral economic, political and military affairs to protection of the oceans, environment and public health.



The Department is the lead foreign affairs agency for the U.S., and the Secretary of State is the President's principal foreign policy adviser. The Department also supports the foreign affairs activities of other U.S. Government entities including the Departments of Agriculture, Commerce, Energy, and Health and Human Services, the National Science Foundation, and the Agency for International Development. State also provides an array of important services to U.S. citizens and to foreigners seeking to visit or immigrate to the U.S.

The opportunities for scientists, engineers and technologists are many. From trade issues on technology products; to policies on treaties and negotiations that address counterterrorism, environmental protection, and biotechnology; to protecting and assisting U.S. citizens traveling or living abroad, the Professional Science and Engineering Society Fellow can be in a pivotal position of providing information and advice that influences decisions.

WHAT PROFESSIONAL SOCIETY FELLOWS DO

Fellow assignments, or “portfolios,” are never mundane. Each Fellow takes a direct role in developing assignments that are tailored to his or her expertise of Science and Technology (S&T) or interests.

George Atkinson, the current Science & Technology Adviser, was the first **AIP** Science Fellow at the U.S. Department of State. This program was introduced in September 2001 by the first Science and Technology Adviser, Dr. Norman Neureiter.

A professor of chemistry and optical sciences at the University of Arizona (Tucson, AZ), Dr. Atkinson focused on identifying future Science and Technology directions of importance to U.S. foreign policy while working in the *Bureau for European and Eurasian Affairs*. These efforts included the following:

- Extended reviews of U.S. bilateral S&T policies during visits to France, the United Kingdom, Italy, Germany, Belgium, and Sweden
- A new generation of U.S./E.U. dialogues on science and technology topics for foreign policymakers designed to identify those “at-the-horizon” research areas meriting international attention and eventually mutual support
- An expanded analysis of U.S./Russian S&T research under non-proliferation programs resulting in a new public-private partnership
- A new initiative that brings tenured American academic scientists and engineers to the Department for one-year assignments and five years of consultancy after they return to their academic careers. A three-year pilot program was launched in the fall of 2003.

Dr. Atkinson was so effective in his role as a Fellow and in advising on advancements in technology, that Secretary of State Powell asked him to succeed Dr. Neureiter when his appointment ended in September, 2003.

Based on the success of the AIP Fellowship, Dr. Neureiter encouraged the U.S. branch of the Institute of Electrical and Electronic Engineers (**IEEE-USA**) to establish a similar program.



CURRENT FELLOWS SHARE EXPERIENCES



IEEE-USA selected **Dr. Donald J. Silversmith**, a professor of electrical and computer engineering of Wayne State University (Detroit, MI), to be the Institute's first **IEEE Engineering & Diplomacy Fellow**, beginning in January 2003. Dr. Silversmith explains his assignment:

I am attached to the Office of Export Control and Conventional Arms Nonproliferation Policy, where my portfolio includes providing engineering support and technical advice related to the establishment of a U.S. Government policy on the Wassenaar Agreement. I represent the Department of State on technical issues in the inter-agency process that devises the U.S. negotiating position. The Wassenaar Agreement is a multilateral international forum on the harmonization of national export controls for "dual-use" items, those state-of-the-art commercial, and manufacturing machine products, and technologies that also have significant military utilization. I also am spending considerable time vetting visa applications from foreign individuals whose travel to the U.S.A. raise technology transfer concerns.

One of the highlights of my year at State was to travel to Vienna for two seven-day multi-lateral discussion/negotiating sessions as part of the U.S. Delegation to the Wassenaar Expert Group. The opportunity to engage in intense interaction with representatives of other States and other members of the U.S. Delegation was a special experience, and nothing like anything I was familiar with in my academic career.

The skills and interests that Professional Society Fellows bring to the State Department are broad and diverse. The following Professional Society Fellows were serving at the end of 2003:

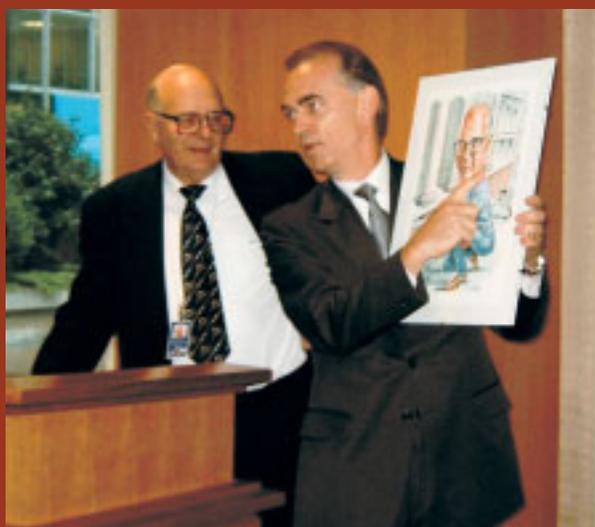
- Under the **IEEE-USA Engineering & Diplomacy Fellow** program, **Emily Sopensky** is participating in two new technology-based, Department-wide initiatives. The State Messaging and Archive Retrieval Toolset, or **SMART**, is a fast-track project directed by the *Under Secretary for Management* that is designed to bring the Department's antiquated, WWII-based messaging system ("cables" is the term still used here) into the 21st Century. She is chronicling the extraordinary experiment. The other program, in the *Office of eDiplomacy* in the *Bureau of Information Resource Management*, is also IT-related. Its role is to advocate the efficient use of technology. One activity is to assist a global task force in expanding the physical presence of embassies through the use of virtual consulates and locally supported websites.
- **IEEE** member **Dr. Richard Lamb** couldn't be happier to have the opportunity to work with the remarkably intelligent, seasoned personnel at State, particularly in his "home office" the *International Communications and Information Policy Office* within the *Economic Bureau*. Drawing on his upbringing as a geek and his entrepreneurial awakening in the information technology and electrical engineering fields, Dr. Lamb works on a wide range of technologies and with the organizations that oversee them. For example, representing State on panels concerning Open Source Software, ensuring innovation in maritime security and safety programs (with the Coast Guard) such as Long Range Tracking of Ships, raising awareness in the International Maritime Satellite Organization, leading a delegation to

the International Telecommunication Satellite Organization, sparking entrepreneurship in developing countries with technologies, such as WiFi, broadband, and micropayments through the Digital Freedom Initiative (with Commerce, FCC, USAID), tracking Voice Over IP, IPV6, Trustworthy Computing, wireless standards, and cybersecurity issues.

- Another **IEEE** member, **Dr. Saj Durrani** is a “repeat offender.” Having taught in academia for 10 years, Dr. Durrani worked for industry for another 10 years, and then for NASA for 18 years. Consulting since retirement in 1998, he was an IEEE Executive Fellow with the Federal Communications Commission under the IEEE-USA Government Fellows Program, 2000–2001. He enjoyed his experience so much that he will be applying his expertise on international telecommunications issues while assigned to the *Economic Bureau*.
- **Dr. Carol Christian** is an astronomer with the Space Telescope Science Institute, where the Hubble telescope resides. A Fellow sponsored by the **AIP**, Dr. Christian is spending her sabbatical expanding the State Department’s use of commercial remote sensing earth-looking imagery and geographic information systems, or GIS, for all State users. She is also working on a myriad of information technology challenges aimed at improving State productivity and knowledge sharing. She chose to work in the new *Office of eDiplomacy* in the *Bureau of Information Resource Management*.
- Completing her second year as an **AIP** Fellow, **Dr. Stefi Baum** is also from the Space Telescope Science Institute. Appropriate to the U.S. and State’s vested interest in agriculture and new technologies such as biotechnology for addressing world food needs, Dr. Baum’s work in plant genetic resources and international food safety standards has provided her an invaluable insight into the workings of government. Assigned to the *Economic Bureau*, she has contributed to managing emerging risks and new technologies, improving the relevance of risk-related scientific biotechnology research, improving transparency into and public understanding of the U.S. Government approach to biotechnology through development of a U.S. regulatory database/webpage, and participating in capacity building for other countries to do the same.
- A professor of physics at Stevens Institute of Technology, Hoboken, New Jersey, **Dr. Edward A. Whittaker** began his one-year assignment as an AIP Fellow at State in September 2003. Dr. Whittaker provides technical advice to the *Directorate of Defense Trade Controls Policy* office, and has been concerned with a number of technology issues related to the export of items controlled by the International Trafficking in Arms Regulations. He says, “I am providing technology advice to the State Department policy group charged with controlling the export of military goods and services. My work involves clearly articulating complex technology issues to a non-technical audience.”



SCIENCE AND ENGINEERING FELLOWS ARE INTRODUCED TO THE U.S. DEPARTMENT OF STATE



SCIENCE AND TECHNOLOGY ADVISER DR. NORMAN NEUREITER AND DEPUTY ANDREW W. REYNOLDS



DR. NORMAN NEUREITER AND DR. GEORGE ATKINSON

HOW THE PROFESSIONAL FELLOWS PROGRAM WORKS

For at least one year, the scientist, engineer or academician works in Washington, D.C. at the State Department providing technical guidance and advice.

Typically, the annual selection process starts with an application made to the Society's selection committee, subject to the Society's requirements and deadlines. Finalists are interviewed by the committee and the Science & Technology Adviser or other representatives from the STAS office.

Once selected, the Fellow then explores possible assignments, often meeting with Department of State officials to determine where there is a good fit for both the Fellow and the State organization. Simultaneously, the Fellow starts the process of obtaining a security clearance by completing SF-86 and other forms. An interviewer usually schedules an appointment about a month or two after the completed forms have been submitted to STAS. Fellows have typically claimed one or more assignments in three to six months.

"We still have far too few officers with strong science backgrounds, but thanks to the National Academies and others in the scientific community such as the American Association for the Advancement of Science and the American Institute of Physics and the Institute of Electrical and Electronics Engineers, a small group of scientific fellows have joined our ranks, and their number will grow...

Scientists, volunteers have graciously put their own research on hold, stopped their own work, their own life, to perform tours of duty in many of the State Department's bureaus, and they are making a real difference. And we look forward to welcoming more scientists on to our State Department team, either as fellows or as career Foreign Service Officers or Civil Service Officers."

— Secretary of State Colin Powell, speech to the National Academy of Sciences

To learn more about the Professional Science and Engineering Society Fellows Program:

U.S. State Department Science & Technology Adviser at stas@state.gov or 202-647-9352.
<http://www.state.gov/g/stas/>

AIP

For additional information, please contact Audrey T. Leath at aleath@aip.org or 301-209-3094.
<http://www.aip.org/mgr/sdf.html>

IEEE-USA

For additional information, please contact Chris Brantley at c.brantley@ieee.org or 202-785-0017.
<http://www.ieeeusa.org/forum/GOVFEL/state.html>

