



The Chief Scientist

The Agency stays on top of science and technology through the vital contributions of the chief scientist and his office. This position was initially established by the Director in 1983 because of the growing impact of science and technology at the Agency.

Chief Scientist K. Speierman oversees general technical and scientific problems at the Agency. Currently, his staff consists of three mathematicians, a linguist, and a computer scientist. They pick different areas to work on and represent different talents and skills.

According to Speierman, it is like having a "slice of the real Agency with me all the time." These people understand the real problems. "We don't get stagnant because we are always bringing in new people to see the problems at the Agency."

Because Speierman's staff is small, he can do things quickly and easily. This greatly facilitates finding topics and evaluating them. The staff also has extensive contacts on the outside--in industry, academia, and other government research--keeping the Agency abreast of new trends. Reading also helps the office keep knowledgeable about science and technology areas, says Speierman. "We try to be a place where our technical work force can come and talk about ideas and encourage further study. Some of the best ideas come from our technical work force," says Speierman.

Science and Technology

The Chief Scientist's role, according to Speierman, is to look farther out and consider some ideas that are not currently being developed, such as artificial neural nets, a concept which has significant potential. "We look at things where there is a very high payoff but a high probability of failure. If it does work out it can have extreme significance. Things like this can arise from the universities and government labs. We might seize on these new breakthroughs and study

further. Then we assess the practical utility and impact these technologies may have on NSA. At that time they can be transferred to another area at NSA," says Speierman.

Speierman is also responsible for the NSA Scientific Advisory Board, a staff of outside experts in science and technology who provide an independent perspective on NSA problems. The board is another mechanism to bring outside expertise into the Agency--"some of the best minds in the country," Speierman says.

Success Sweet Success

The Chief Scientist's office has had a number of successes: it has played a role in artificial intelligence and helped justify the importance of microelectronics and the Special Processing Lab. The staff also developed the plans for the Supercomputing Research Center, based on the fact that massively parallel processing will become an essential discipline for high performance computing. This group has also worked with Operations, the Research and Engineering Organization, and the National Cryptologic School to introduce special courses.

"I depend on a lot of people to supplement me," says Speierman. About the Agency work force he says, "They are really dedicated and bright people. They have a long-term knowledge of the problems. The opportunities here exceed anything that I've seen anywhere else. This Agency has the most challenging problems that I have ever seen. I have never seen people get bored here. I think we are doing well."

How About the Future?

NSA is going to have to do better, says Speierman. Science and technology are accelerating faster than they did in the past; computers and microelectronics are fast paced. Creating reliable software and trustworthy hardware is going to provide great opportunity and challenges.

Discovery, evaluation, and judgment--according to Speierman, these are fundamental to his work; he makes an impossible job seem simple. He concludes, "I love my job; it is ab-

olutely fascinating. I have surrounded myself with people who are far smarter than I and it makes things very stimulating."



Chief Scientist K. Speierman

A Personal Look

K. Speierman spent 3 years in the Army prior to college. He received his degree in mathematics from the University of Southern California and went on to do graduate work at the University of California at Berkeley. From there he went to work for Consolidated Engineering Corporation in Pasadena, CA. He also worked for Burroughs in Paoli Research Lab in Pennsylvania and at Babcock/Wilcox in Lynchburg, VA. Since 1965, he has been at the Agency; after 24 years here, Speierman is a respected science leader.

Speierman and his wife Doris have a daughter, Gail, and a son, Brad. He is a resident of Silver Spring, MD. In his spare time, he enjoys reading, studying, hiking, jogging, automobile repair, gardening, and fishing.

RETIREMENTS

41 Years

Cameron Murchison

37 Years

Louis J. Bonanni
Douglas A. Pooley
William L. Reed
John R. Sleeman

35 Years

George Brookins
Joseph F. McGraw, Jr.