

## PROFILE

# Bruce Alberts, *Science's* New Editor

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In March, the editorship of *Science* passes to Bruce Alberts, professor of biochemistry and biophysics at the University of California, San Francisco (UCSF). He will make the 5000-mile round trip to *Science* at least once a month and oversee the weekly publication of the most prominent journal in science worldwide. It is a position with immense influence on the conduct of science.

The expectations are high for the new editor to set the highest intellectual and ethical standards for publication, and at the same time produce a journal that makes science exciting for the public. *Science* is expected to publish meaningful original work that stands the test of time—as well as analyses and commentaries that influence the political process, expose misdeeds and misunderstandings, represent the profession of science, foster education, advocate for science, and represent science as a source of enlightenment and hope for all people—and to be so fascinating that geologists will order another cup of coffee to read about microRNA and molecular biologists will skip a meeting to catch the newest article on planetary evolution. No one is fully prepared for such a job. Yet Bruce Alberts has made contributions of such variety and quality that we can be reassured that this position is in the best of hands.

Bruce's stellar career of public service may have obscured the brilliance of his scientific accomplishments. He received his Ph.D. in 1965 from Harvard University, studying DNA structure with Paul Doty. During postdoctoral training with Alfred Tissières in Geneva, he developed DNA affinity chromatography and was the first to isolate a single strand-specific DNA binding protein. As a young faculty member at Princeton University, he went on to purify all seven proteins required for DNA synthesis in bacteriophage T4 and reconstitute the process—an extraordinary accomplishment. His experiments on DNA replication are a model of physical rigor and biological insight. Though a renowned professor, Bruce maintained an unassuming office, which doubled as a hallway, in the basement of the chemistry building. This would forever be his style, modest and self-deprecating. The department he helped build at Princeton University believed that everything in science was open to new understanding, and that chemistry, physics, and

biology could come together in new ways. For the beleaguered young faculty, Bruce was a friend and a stern taskmaster. He invited interesting people to visit and talk, offering the young faculty chances to learn. I remember Bruce inviting Barbara McClintock to lecture on cytogenetics. I understood little of what she said; yet the impact of her enthusiasm and tireless intellect is still with me.

The Princeton department imploded in the mid-70s and Bruce was lured to UCSF. His leadership helped establish the institution as a great research center known also for its humanity, collegiality, concern for education, and broad appreciation of science. To those who thought that humanity and excellence in science were, if not mutually exclusive, at least mildly incompatible, Bruce proved them wrong. He infused his values into the high-octane world of academic science, and UCSF was the richer for it.

Although Bruce refocused his research in new directions, it was apparent that no laboratory or department could contain his commitment to public service centered on science policy and education. In the 1980s, Bruce and colleagues produced a radically new cell biology textbook that transformed the teaching of that subject. "Alberts," as the book is generally called, emphasized biophysical understanding, current experiments, and bold graphics. He has continued the leadership of that remarkable volume through five editions.

Bruce developed a deep commitment to elementary and high-school science education. He had empathy for teachers who struggled with difficult working conditions and he fumed about curricula that stressed rote memory and failed to convey the excitement of discovery. He launched the Science and Health Education Partnership, which pairs UCSF students, postdoctoral fellows, and faculty with public-school teachers. After two decades, many hundreds of UCSF volunteers and 80 to 90% of San Francisco's public schools are involved.

Bruce began participating at the national level through the National Academy of Sciences (NAS) as chair of the Board on Biology. He chaired the NAS committee that strongly endorsed a human genome project, a



Highlights from Alberts's life as a citizen-scientist make it clear that he is well prepared to lead the journal.

task that seemed impossible to some and undesirable to others. This, among other important roles, eventually led to his nomination for NAS president in 1993. It was hard for Bruce to leave his laboratory and students and embark on a career that would end his role as an experimental scientist.

Bruce's time at the NAS was multifaceted but can be characterized by two foci: education and international cooperation. Both are difficult to influence, but there were substantial milestones, such as forging the first national science curriculum standards for K-12 education and establishing the InterAcademy Council to bring impartial and informed scientific opinion to less developed countries. Bruce has traveled throughout the world to promote science and science education. He learned to embrace small victories and to lead by example, no matter what the effort.

Two years ago, Bruce finished his second and final term as NAS president and, with his wife Betty, returned home to San Francisco, surrounded by friends, children, and grandchildren—a nice picture for the sunset of a great career. But Bruce, with his limitless energy and commitment to important causes, plunged into teaching and revising the UCSF graduate program. He continued chairing the InterAcademy Council and became president of the American Society for Cell Biology. And at the urging of fellow scientists, he now has taken on the editorship of *Science*.

I know that when Bruce reads this profile, he will feel uncomfortable that I've excluded the contributions of so many others. But I think I may have omitted Bruce's greatest talent—his ability to inspire people to devote time for public causes and adopt them as their own. That is why there are so many people to acknowledge, and why, even after stepping down from the NAS presidency, Bruce keeps traveling so much. He told me that he wants to pay back many people for their services while he was NAS president. This time around, it's our turn to give our services enthusiastically to help Bruce Alberts maintain and expand *Science's* role as a resource for science and a tool to promote the highest values of the profession.

10.1126/science.1155869