

## ASPB Pioneer Member

### Robert E. Cleland

Robert E. (Bob) Cleland grew up in a family of academics. His father, Ralph E. Cleland, was a cytogeneticist at Indiana University. Bob's mother, Elizabeth S. Cleland was an organic chemist at Goucher College prior to moving to Bloomington with her husband. Bob's older brother, William W. (Mo) Cleland was a biochemist at the University of Wisconsin, Madison, and his younger brother Charles F. (Rusty) Cleland is a plant physiologist at the Smithsonian Institution and USDA. For Bob, pursuing science and moving into academia seemed 'just natural.' When Bob was an undergraduate at Oberlin College, his father took him to professional meetings and introduced Bob to plant biologists. That is how he came to know scientists at Cal Tech, met James Bonner, and was attracted to applying to grad school. He developed the opinion that the field of plant biologists must be one 'full of nice people.'

As a grad student in the Bonner lab, Bob was encouraged in his thinking about how plant cells grow and regulate their rate of growth. The plant biologists working at Cal Tech at the time -- Fritz Went, Arthur Galston, James Bonner and others -- were a supportive, creative, and inclusive group. They fostered an environment of friends



and family, nurturing new ideas and a passion for science.

After postdocs in Lund, Sweden and London, England, and a period as an assistant professor at UC Berkeley, Bob moved to the University of Washington where once again he found friendly, supportive colleagues not only in Botany, but in Zoology, Genetics, Chemistry, and beyond. Bob considers his contribution to the field as his 'pushing the Acid Growth Theory' of how plant cells grow. He is considered the author of this theory, along with Dave Rayle who often collaborated with Bob during the most active days of forwarding and defending this theory. It is remarkable that the Acid Growth Theory has stood the test of time, for over 70 years if we count the days of its formation when

Bob was at Cal Tech. The hypothesis/theory has become the basis of understanding for how plants regulate growth at the physiological level.

When asked what he would say to novice scientists considering graduate school or further work in the field, he clearly states: 'Find something you really like doing and that excites you. If you can't get excited about it, it won't provide enough energy for you to do all the work, to get all the information, and to tell others about it.' And he adds: 'Don't be afraid to change direction if enthusiasm wanes on the old tack.'

Bob and his wife Molly Cleland supported many graduate students and were professional and social leaders at the University of Washington and in the American Society for Plant Physiology (now Plant Biology). Among many roles and honors, Bob served as President of the ASPP in 1974-75, on the Governing Board of the American Society of Gravitational and Space Biology (1984-87 and 1990-93), and is a Fellow of the AAAS. He was recognized as one of the most effective Biology teachers at the University of Washington, and was a co-founder of the interdisciplinary Biology Teaching Program where he influenced thousands of biology students, and his colleagues, by showing how exciting plant biology is, how special plants are, and how much fun one can have learning about them.