Paul F. Cranefield Award to Toshinori Hoshi

Paul F. Cranefield, M.D., Ph.D., was editor of *The Journal of General Physiology* for 30 years, from 1966 to 1995. During this time he worked incessantly to further the mission of the journal: to promote and publish studies at the interface between biology, chemistry, and physics in order to obtain insights into the fundamental mechanisms that underlie biological functions at all levels.

When Dr. Cranefield stepped down as Editor, the Council of the Society of General Physiologists discussed how best to acknowledge his numerous contributions to *The Journal* and thus to the Society. In the end it was decided to institute a Paul F. Cranefield Award, which should go to a young investigator who in the preceding year had published an article of exceptional quality in *The Journal*. The award would be given at the Annual Meeting and Symposium of the Society, which takes place in Woods Hole, Massachusetts. It also was decided that the criteria for selecting the awardee should be so stringent that the award might not be given every year.

We are pleased to say that despite these high standards we were able to identify several outstanding candidates. One of these stood out, namely Toshinori Hoshi from the Department of Physiology and Biophysics at the University of Iowa School of Medicine. He accepted the Award at the September 1996 meeting of the Society.

Dr. Hoshi received his Ph.D. from Yale University, where he did his thesis research on calcium channels in bovine chromaffin cells under the direction of Stephen J Smith. His post-doctoral training was with Richard W. Aldrich at Stanford University School of Medicine. The results of this work were published in a number of outstanding articles in *The Journal*. Together with William Zagotta and Dr. Aldrich, Dr. Hoshi did an exhaustive kinetic analysis of Shaker potassium channels from *Drosophila*. One of the surprising conclusions of these studies was that potassium channel activation is much more voltage dependent than had been assumed to be the case ever since the work of Hodgkin and Huxley some 40 years earlier. The general validity of this result has been confirmed in a large number of studies, many of which were published in *The Journal*.

In order to understand the molecular basis for how 12 charges could move across the membrane, Dr. Hoshi turned to potassium channels from plant cells. He thus demonstrated that he truly is a general physiologist—having worked with mammalian, insect, and plant channels. More importantly, however, he began a detailed analysis of the regulation of the plant KAT1 potassium channel, which has the surprising behavior that it conducts in response to a hyperpolarization—as opposed to the depolarization that activates most other potassium channels. The results of this study on "The regulation of the voltage dependence of the KAT1 channel by intracellular factors" appeared in the March 1995 issue of *The Journal of General Physiology*. We were most pleased to publish this work.