

Generally Physiological

Friends of Physiology: An interview with Clara Franzini-Armstrong and Clay Armstrong



In early September, I took a trip to Woods Hole, where Incoming Editor-in-Chief Sharona Gordon and I attended the 67th Annual Meeting of the Society of General Physiologists. This year's meeting saw the unveiling of the Society's Friends of Physiology Lecture Series Honoring Clara Franzini-Armstrong and Clay Armstrong. Clay, who has devoted many years to investigating ion channel permeability mechanisms and gating processes, and Clara, who has spent many years investigating the structural bases of excitation-contraction coupling, were gracious enough to allow Sharona and me to record a conversation in which we discussed some of their work. In this month's installment of *Generally Physiological*, we're delighted to present a condensed version of that conversation in what will be the first of an occasional series of audio presentations of conversations with notable physiologists.

"But mostly I've been quite happy with what I've done. I have enjoyed it because the structures are so beautiful."

—Clara Franzini-Armstrong

The interview and transcript are available here: <http://www.jgp.org/cgi/content/full/jgp.201311115/DC1>. Listeners inspired to learn more about the studies Clara and Clay spoke about may wish to explore some of their pertinent *JCB* and *JGP* articles.

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"All of the neurophysiological community, as best I could tell, was in enormous shock because of the Hodgkin and Huxley papers ... There was a great desire to add something to change—or perhaps overthrow—the Hodgkin and Huxley formulation."

—Clay Armstrong

Franzini-Armstrong, C., and K.R. Porter. 1964. Sarcolemmal invaginations constituting the T system in fish muscle fibers. *J. Cell Biol.* 22:675–696. <http://dx.doi.org/10.1083/jcb.22.3.675>

Block, B.A., T. Imagawa, K.P. Campbell, and C. Franzini-Armstrong. 1988. Structural evidence for direct interaction between the molecular components of the transverse tubule/sarcoplasmic reticulum junction in skeletal muscle. *J. Cell Biol.* 107:2587–2600. <http://dx.doi.org/10.1083/jcb.107.6.2587>

Sun, X.H., F. Protasi, M. Takahashi, H. Takeshima, D.G. Ferguson, and C. Franzini-Armstrong. 1995. Molecular architecture of membranes involved in excitation-contraction coupling of cardiac muscle. *J. Cell Biol.* 129:659–671. <http://dx.doi.org/10.1083/jcb.129.3.659>

Protasi, F., C. Franzini-Armstrong, and P.D. Allen. 1998. Role of ryanodine receptors in the assembly of calcium release units in skeletal muscle. *J. Cell Biol.* 140:831–842. <http://dx.doi.org/10.1083/jcb.140.4.831>

Di Biase, V., and C. Franzini-Armstrong. 2005. Evolution of skeletal type e-c coupling: a novel means of controlling calcium delivery. *J. Cell Biol.* 171:695–704. <http://dx.doi.org/10.1083/jcb.200503077>

Armstrong, C.M., and L. Binstock. 1965. Anomalous rectification in the squid giant axon injected with tetraethylammonium chloride. *J. Gen. Physiol.* 48:859–872. <http://dx.doi.org/10.1085/jgp.48.5.859>

Armstrong, C.M.. 1966. Time course of TEA⁺-induced anomalous rectification in squid giant axons. *J. Gen. Physiol.* 50:491–503. <http://dx.doi.org/10.1085/jgp.50.2.491>

Armstrong, C.M. 1969. Inactivation of the potassium conductance and related phenomena caused by quaternary ammonium ion injection in squid axons. *J. Gen. Physiol.* 54:553–575. <http://dx.doi.org/10.1085/jgp.54.5.553>

Armstrong, C.M. 1971. Interaction of tetraethylammonium ion derivatives with the potassium channels of giant axons. *J. Gen. Physiol.* 58:413–437. <http://dx.doi.org/10.1085/jgp.58.4.413>

Armstrong, C.M., F. Bezanilla, and E. Rojas. 1973. Destruction of sodium conductance inactivation in squid axons perfused with pronase. *J. Gen. Physiol.* 62:375–391. <http://dx.doi.org/10.1085/jgp.62.4.375>

