

Post-graduate training and fellowship appointments

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| 1960-61 | Perfezionanda, Scuola Normale Superiore, Pisa. Italy |
| 1961-63 | Post-doctoral fellow, Biological Laboratories (advisor: Keith R. Porter) |
| 1963-64 | Research Assistant, NIH, NIAMD (advisor: Richard J. Podolsky) |
| 1964-66 | Hon. Research Assistant, University College, London. (advisor: Andrew F. Huxley) |

Appointments

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| 1960-62 | Assistant Professor in Pathology, University of Pisa, Italy |
| 1967-69 | Research Associate, Associate in Physiology, Duke Univ. Durham, NC |
| 1969-72 | Associate in Physiology, University of Rochester, Rochester, NY |
| 1972-75 | Assistant Professor in Physiology, Univ. of Rochester, Rochester, NY |
| 1975-81 | Associate Professor in Anatomy, University of Pennsylvania,
Philadelphia PA |
| 1981-2007 | Professor in Cell Developmental Biology (formerly Anatomy),
University of Pennsylvania, Philadelphia PA. |
| 1990-2006 | Director, Medical Histology Course |
| 2000-pres | Member, Collegio Docenti del Dottorato in Fisiopatologia del Muscolo
Universita' G. D'Annunzio, Chieti Italy |
| 2007- | Professor Emerita/Associate dept. Cell Developmental Biology,
University of Pennsylvania, Philadelphia PA. |

Membership in Professional and Scientific Societies

- 1962- American Society for Cell Biology
1983- Biophysical Society

Others

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| 1983-87 | Member, Molecular Cytology Study Section, NIH |
| 1988-91 | Member, Scientific Advisory Committee, Muscular Dystrophy Association, USA |
| 1988-91 | Council Member, Biophysical Society |
| 1997 | Member IUPS committee |
| 2003-2006 | Council Member, Biophysical Society |
| 2004-2006 | Advisory Board, Biophysical Society |
| 2002- | Editorial Board J. Molecular Cellular Cardiology |
| 2001- | Editorial Board J. Muscle Research Cell Motility |
| 2000-2004 | Board of Trustees, K.R. Porter Endowment for Cell Biology |
| 2002-2004 | Chair, Board of Trustees, K.R. Porter Endowment for Cell Biology |
| 2007 | Advisory Board, National Center for Macromolecular Imaging, Baylor |

College, Houston TX
2000-2013 Editorial Board FASEB J

Awards and Honors

1956-60	Fellow, Scuola Normale Superiore, Pisa, Italy
1960-61	Post-doctoral fellow, Scuola Normale Superiore, Pisa
1989	K.S. Cole Award, Biophysical Soc. (with Dr. W.K.Chandler)
1995-	Member, National Academy of Sciences, USA
1997	Honorary MD, University of Pisa, Italy
2001-	Foreign Member, Royal Society, London, UK
2003	NIH MERIT Award
2005-	Member, European Academy of Sciences
2007	Founder's Award, Biophysical Society
2011	Foreign Member, Accademia Nazionale dei Lincei, Roma, Italy

Publications

Pellegrino, C. and Franzini, C. An electron microscope study of denervation atrophy in red and white skeletal muscle fibres. *J. Cell Biol.* 17:327-349, 1963.

Franzini-Armstrong, C. Pores in the sarcoplasmic reticulum. *J. Cell Biol.* 19:637-641, 1963.

Franzini-Armstrong, C. and Porter, K.R. The Z disc of skeletal muscle fibrils. *Zeit fur Zellforsch.* 61:661-672, 1964.

Franzini, C. and Porter, K.R. Osservazioni sulle modificazioni della struttura del reticolo sarcoplasmico nel corso della contrazione. In From Molecule to Cell. Symposium on Electron Microscopy, Buffa, P., Ed., Modena, 1963 - Roma, C.N.R., pp 331-346, 1964.

Franzini-Armstrong, C. Fine structures of sarcoplasmic reticulum and transverse tubular system in muscle fibers. *Fed. Proc.* 23:887-895, 1964.

Franzini-Armstrong, C. and Porter, K.R. Sarcolemmal invaginations and the T-system in fish skeletal muscle. *Nature* 202:355-357, 1964.

Franzini-Armstrong, C. and Porter, K.R. Sarcolemmal invaginations constituting the T-system in fish muscle fibres. *J. Cell Biol.* 22:675-696, 1964.

Porter, K.R. and Franzini-Armstrong, C. The sarcoplasmic reticulum. *Scientific American* 212(3):72-82, 1965.

Constantin, L.L., Franzini-Armstrong, C. and Podolsky, R.J. Localization of calcium accumulating structures in striated muscle fibres. *Science* 147:158-160, 1965.

Pellegrino, C. and Franzini-Armstrong, C. Recent contributions of electron microscopy to the study of normal and pathological muscle. *Int. Rev. Exp. Pathol.* 7:139-226, 1969.

Franzini-Armstrong, C. Natural variability in the length of thin and thick filaments in single fibers from a crab Portunus depurator. *J. Cell Sci.* 6:559-592, 1970.

Franzini-Armstrong, C. Details of the I band structure as revealed by the localization of ferritin. *Tissue and Cell* 2:327-338, 1970.

Franzini-Armstrong, C. Studies of the triad: I structure of the junction in frog twitch fibers. *J. Cell Biol.* 47:488-499, 1970.

Franzini-Armstrong, C. Studies of the triad: II Penetration of tracers into the junctional gap. *J. Cell Biol.* 49:196-203, 1971.

Franzini-Armstrong, C. Studies of the triad: III Structure of the junction in fast twitch fiber. *Tissue and Cell* 4:469- 478, 1972.

Franzini-Armstrong, C. Studies of the triad: IV Structure of the junction in frog slow fibers. *J. Cell Biol.* 56:120-128, 1973.

Franzini-Armstrong, C. The structure of a simple Z line. *J. Cell Biol.* 58:630-642, 1973.

Franzini-Armstrong, C., R. Venosa and P. Horowicz. Morphology and accessibility of the "transverse" tubular system in frog sartorius muscle after glycerol treatment. *J. Membr. Biol.* 14:197-212, 1973.

Franzini-Armstrong, C. Membranous systems in muscle fibers. In The Structure and Function of Muscle. II ed., Vol. II, G.H. Bourne, Ed., Academic Press, New York, pp 532-618, 1973.

Franzini-Armstrong, C. Freeze-fracture of striated muscle from a spider. Structural differentiations of sarcoplasmic reticulum and transverse tubular system membranes. *J. Cell Biol.* 61:501-513, 1974.

Franzini-Armstrong, C., I. Landmesser and G. Pilar. The size and shape of transverse tubule openings in frog twitch muscle fibers. *J. Cell Biol.* 64:493-497, 1975.

Dulhunty, A.F. and C. Franzini-Armstrong. The relative contributions of folds and caveolae to the surface membrane of frog skeletal muscle fibre to different sarcomere lengths. *J. Physiol.* 250:513-539, 1975.

Franzini-Armstrong, C. Membrane particles and transmissions at the triad. Fed. Proc. 34:1382-1389, 1975.

Franzini-Armstrong, C. Freeze-fracture of excitatory and inhibitory synapses in crayfish neuromuscular junctions. J. Microscopie Biologie Cell. 25:217, 1976.

Franzini-Armstrong, C. The comparative structure of intracellular junctions in striated muscle fibers. In pathogenesis of human muscular Dystrophies. L.P. Rowland, Ed., Excerpta Medica, Amsterdam pp 612-625, 1976.

Dulhunty, A.F. and Franzini-Armstrong, C. The passive electrical properties of frog skeletal muscle fibers at different sarcomere lengths. J. Physiol. 266:687-711, 1977.

Franzini-Armstrong, C., Somlyo, A..Heuser, J., Reese, T.S. and Somylo, A.P. Swelling of T-tubules in hypertonic solutions. A freeze substitution study. J. Physiol. 283:133-140, 1978.

Castillo de Maruenda, E. and Franzini-Armstrong, C. Satellite and invasive cells in frog sartorius muscle. Tissue and Cell 10:749-772, 1978.

Franzini-Armstrong, C. Satellite and invasive cells. In Muscle Regeneration. A. Mauro, Ed., Raven Press, pp. 233-238, 1978.

Franzini-Armstrong, C. Aggregates of particles on the plasmalemma of striated muscle from a spider. Tissue and Cell 11:209-215, 1979.

Campbell, K.R., Franzini-Armstrong, C. and Shampoo, A.E. Further characterization of light and heavy sarcoplasmic reticulum vesicles. Identification of the 'sarcoplasmic reticulum feet' associated with heavy sarcoplasmic reticulum vesicles. Biochem. Biophys. Acta. 602:97-116, 1980.

Nunzi, G. and Franzini-Armstrong, C. Trabecular network in adult skeletal muscle. J. Ultrastructure Res.73:21-26, 1980.

Franzini-Armstrong, C. Structure of sarcoplasmic reticulum. Federation Proc. 39:2403-2409, 1980.

Franzini-Armstrong, C. and L.D. Peachey. Striated muscle-contractile and control mechanisms. J. Cell Biol. 91 (3,part 2): 166-186, 1981.

Nunzi, M.G. and Franzini-Armstrong, C. The structure of smooth and striated portions of the adductor muscle of the valves in a scallop. J. Ultr. Res. 76: 134-148, 1981.

Franzini-Armstrong, C. and L.D. Peachey. A modified Golgi black reaction method for light and electron microscopy. J. Histochem. Cytochem. 30: 99-105, 1982.

Mazanet, R. and Franzini-Armstrong, C. SEM of pericytes in rat red muscle. *Microvascular Res.* 23:361-369, 1982.

Eastwood, A.B., Franzini-Armstrong, C. and Peracchia, C. Structure of membranes in crayfish muscle: comparison of phasic and tonic fibers. *J. Muscle Research Cell Motility.* 3:273-294, 1982.

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Franzini-Armstrong, C. and Nunzi, G. Junctional feet and membrane particles in the triads of a fast twitch muscle fiber. *J. Muscle Research Cell Motility.* 4:233-252, 1983.

Peachey, L. D. and Franzini-Armstrong, C. Structure and function of membrane systems of skeletal muscle. In Handbook of Physiology, Section 10: Skeletal Muscle. (eds.) L. D. Peachey, R. H. Adrian and S.R. Geiger, Amer. Physiol. Soc., Bethesda, MD. Chapter 2, pp 23-71, 1983.

Franzini-Armstrong, C. Morphologic approaches to the study of skeletal muscle fibers. *Anat. Rec.*, Suppl.1:67-84, 1983.

Franzini-Armstrong, C. Freeze-fracture of frog slow tonic fibers. Structure of surface and internal membranes. *Tissue and Cell.* 16(3):146-166, 1984.

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Ferguson, D.G. and Franzini-Armstrong, C. The Ca ATPase content of slow and fast twitch fibers of guinea pig. *Muscle and Nerve*, 11: 561-570, 1988.

Block, B. A. and Franzini-Armstrong, C. The structure of the membrane systems in a novel muscle cell modified for heat production. *J. Cell Biol.* 107: 1099-1112, 1988.

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Castellani, L., Hardwicke, P.M.D. and Franzini-Armstrong, C. Effect of Ca^{2+} on the dimeric structure of scallop sarcoplasmic reticulum. *J. Cell Biol.* 108: 511-520, 1989.

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Yiping, L., Appelt, D., Kelly, A.M. and Franzini-Armstrong, C. Differences in the histogenesis of EDL and diaphragm in rat. *Developmental Dynamics* 193:359-369, 1992.

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initiated by photolysis of caged Ca^{2+} . In "Mechanism of myofilament sliding in muscle contraction". H. Sugi, G. Pollack, eds. Plenum Press, pp. 475-487, 1993.

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Witcher D.R., De Waard, M., Sakamoto, J., Franzini-Armstrong, C., Pragnell, M., Kahl, S.D. and Campbell, K.P. Subunit identification and reconstitution of the N-type Ca^{2+} channel complex purified from rabbit brain. *Science* 261:486-489, 1993.

Takekura, H., Shuman H. and Franzini-Armstrong, C. Differentiation of membrane systems during development of slow and fast skeletal muscle fibres in chicken. *J. Muscle Res. Cell Motility*. 14:633-645, 1993.

Flucher, B.E., Takekura, H. and Franzini-Armstrong, C. Development of the excitation-contraction coupling apparatus in skeletal muscle: association of sarcoplasmic reticulum and transverse tubules with myofibrils in developing muscle fibers. *Dev. Biol.* 160: 135-147, 1993.

Hirose, K., Lenart, T.D. , Murray, J., Franzini-Armstrong, C. and Goldman, Y. Flash and Smash: rapid freezing of muscle fibers activated by photolysis of ATP. *Biophys. J.* 65:397-408, 1993.

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Takekura, H., Bennett, L., Tanabe, T., Beam, K.G. Franzini-Armstrong, C. Restoration of junctional tetrads in dysgenic myotubes by dihydropyridine receptor cDNA. *Biophys. J.* 67: 793-804, 1994.

Hirose, K., Franzini-Armstrong, C., Goldman, Y, and Murray, J. Structural changes in muscle cross-bridges accompanying force generation. *J. Cell Biol.* 127: 763-778, 1994.

Franzini-Armstrong, C. and Jorgensen, A.O. Structure and development of e-c coupling units in skeletal muscle. *Annu. Rev. Physiol.* 56:509-534, 1994.

Franzini-Armstrong, C. The sarcoplasmic reticulum and the transverse tubules. In "Myology", A.G. Engel and C. Franzini-Armstrong, eds. II Edition, Mc Graw-Hill, pp. 176-199, 1994.

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Takekura, H., Takeshima, H., Nishimura, S., Imoto, K., Takahashi, M., Tanabe, T., Flockerzi, V., Hofman, F. and Franzini-Armstrong, C. Co-expression in CHO cells of two muscle proteins involved in excitation contraction coupling. *J. Muscle Res. Cell Motility* 16:465-480, 1995.

Protasi, F., Sun, X-H. and Franzini-Armstrong, C. Formation and maturation of calcium release units in developing and adult avian myocardium. *Dev. Biol.* 173:265-278, 1996.

Flucher, B.E. and Franzini-Armstrong, C. Formation of junctions involved in excitation-contraction coupling in skeletal and cardiac muscle. *Procs. Natl. Acad. Sci.* 93:8101-8106, 1996.

73. Lenart, T.L., Murray, J.M., Franzini-Armstrong, C. and Goldman, Y.E. Structure and periodicities of cross-bridges in relaxation, rigor and during contractions initiated by photolysis of caged Ca²⁺. *Biophys. J.* 71:2289-2306, 1996.

Franzini-Armstrong, C. Ultrastructural studies on feet/ryanodine receptors. In "Ryanodine Receptors", V. Sorrentino, Ed. CRC Press, NY., pp. 1-16., 1996.

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