
BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors in the order listed on Form Page 2. Follow this format for each person. **DO NOT EXCEED FOUR PAGES.**

NAME R. John Solaro	POSITION TITLE Distinguished University Professor		
eRA COMMONS USER NAME SOLARORJ			
EDUCATION/TRAINING (<i>Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable.</i>)			
INSTITUTION AND LOCATION	DEGREE (if applicable)	MM/YY	FIELD OF STUDY
University of Cincinnati, Cincinnati, OH	BSc	06/65	Pharmacy
University of Pittsburgh, Pittsburgh, PA	PhD	11/71	Physiology
University of Birmingham, Birmingham, UK	-	07/76	Biochemistry

A. Positions and Honors

1. POSITIONS

Instructor (1972-73); Assistant Professor (1973-77), Dept of Physiology, Med College of Virginia.

British-American Heart Fellow (1975-76), Dept of Biochemistry, University of Birmingham, England.

Associate Professor (1977); Professor (1981), Department of Physiology and Biophysics, University of Cincinnati, College of Medicine, Cincinnati, OH.

Senior International Fellow of the Fogarty Foundation (1987), Department of Physiology, University College, London, UK.

Professor and Head (1988-present), Department of Physiology and Biophysics, University of Illinois at Chicago (UIC), College of Medicine at Chicago, Chicago, IL.

Co-Director of the UIC Center for Cardiovascular Research (2003-2010);

Distinguished University Professor (1998-present), University of Illinois.

2. ADVISORY COMMITTEES AND HONORS

Advisory Committees

Full Member and Chair Skeletal Muscle Exercise Physiol Study Section (2007-)

Full Member and Chair, NIH, Experimental Cardiology Study Section (1988-92)

Full Member, NIH, Physiology Study Section (1983-7); NIH, Clin Sciences Study Section (1980-2)

Associate Editor *J Mol Cell Card* (2008-)

Associate Editor, *Am J Physiol:Heart* (2005-2010) (1990-98); Consulting Editor (2011-)

Editorial Boards, *J. Biol Chem* (2004-2010) *Circ Research* (1982-88; 1994-); *J Mol Cell Card* (1993-2008); *J Clin Invest* (1998-2002); Molecular and Cellular Biochemistry (1992-)

Guest Editor: *Circulation Research* Special Series: Reg Signaling by Thin Filament Proteins (2004)

Guest Editor: *Basic Research in Cardiology* Review Focus Series on the Sarcomere (2008)

Guest Editor: *J Mol Cell Cardiol* Special issue on the Cardiac Sarcomere (2010)

Guest Editor. *J Biol Chem* Focused Minireview Series: Signaling in Cardiac Sarcomeres (2011)

Board of Directors, Proteomics and Informatics Section: Chicago Biomedical Consortium

Honors

NIH MERIT Award R37 HL 22231 (12/01/96 – 11/30/06)

The 1994 Distinguished Faculty Award - UIC College of Medicine

2008 University of Illinois Mentor of the Year Award

Appointed Distinguished University Professor in the U of I system

Intern Acad Cardiovasc Sciences Nagano Award for Excellence in Cardiovasc Ed (2006)

Research Career Development Award of the NIH, 1977-82; AHA Established Invest Award

Biophysical Society (Chair, Public Affairs Committee 2008-2010)
Biophysical Society, Council (2005-2008); Co-Chairman, Contractility Subgroup (1983-84)
ISHR American Section: (Council 2006-2012; Secretary 1994; Council 1985-94;)
Cardiac Muscle Society (Secretary/Treasurer, 1983-84; President, 1985-86)
International Society for Heart Research (ISHR) Secretary General 1995-8;
Association of Chairs of Departments of Physiology (Sec/Treas 1994-97; President 1999).

C. Peer-reviewed Publications in 2010-11 (Out of 306 papers).

- Egom EE, Ke Y, Musa H, Mohamed TM, Wang T, Cartwright E, Solaro RJ, Lei M. FTY720 prevents ischemia/reperfusion injury-associated arrhythmias in an ex vivo rat heart model via activation of Pak1/Akt signaling. *J Mol Cell Cardiol.* 2010 Feb;48(2):406-14. Epub 2009 Oct 21. PubMed PMID: 19852968.
- Rajan S, Jagatheesan G, Karam CN, Alves ML, Bodi I, Schwartz A, Bulcao CF, D'Souza KM, Akhter SA, Boivin GP, Dube DK, Petrashevskaya N, Herr AB, Hullin R, Liggett SB, Wolska BM, Solaro RJ, Wieczorek DF. Molecular and functional characterization of a novel cardiac-specific human tropomyosin isoform. *Circulation.* 2010 Jan 26;121(3):410-8. Epub 2010 Jan 11. PubMed PMID: 20065163; PubMed Central PMCID: PMC2822663.
- Egom EE, Ke Y, Solaro RJ, Lei M. Cardioprotection in ischemia/reperfusion injury: Spotlight on sphingosine-1-phosphate and bradykinin signalling. *Prog Biophys Mol Biol.* 2010 Sep;103(1):142-7. Epub 2010 Jan 18. PubMed PMID: 200801232:
- Lee DI, Vahebi S, Tocchetti CG, Barouch LA, Solaro RJ, Takimoto E, Kass DA. PDE5A suppression of acute beta-adrenergic activation requires modulation of myocyte beta-3 signaling coupled to PKG-mediated troponin I phosphorylation. *Basic Res Cardiol.* 2010 May;105(3):337-47. Epub 2010 Jan 27. PMID: 20107996 PMCID: PMC2878662
- Solaro RJ. Guest editor's introduction. The activity of cardiac myocytes reflects a confluence of a multitude of electrical and chemical signals that promote and control the ability of the myocytes to shorten and develop force. *J Mol Cell Cardiol.* 2010; 48:809 Feb 10. [Epub ahead of print] PubMed PMID: 20152840
- Ke Y, Sheehan KA, Egom EE, Lei M, Solaro RJ. Novel bradykinin signaling in adult rat cardiac myocytes through activation of p21 activated kinase. *Am J Physiol Heart Circ Physiol.* 2010 Apr;298(4):H1283-9. Epub 2010 Feb 12. PMID: 20154261. PMCID: PMC2853422
- Lu QW, Hinken AC, Patrick SE, Solaro RJ, Kobayashi T. Phosphorylation of cardiac troponin I at protein kinase C site threonine-144 depresses cooperative activation of thin filaments. *J Biol Chem.* 2010 Apr 16;285(16):11810-7. Epub 2010 Feb 17. PMID: 20164197 PMCID: PMC2852917
- Solaro RJ, van der Velden J. Why does troponin I have so many phosphorylation sites? Fact and Fancy. *J Mol Cell Cardiol.* 2010; 48: 810-816. Feb 25. [Epub ahead of print] PMID: 20188739 PMCID: PMC2854207
- Warren CM, Geenen DL, Helseth DL, Xu H, Solaro RJ. Sub-Proteomic fractionation, iTRAQ, and OFFGEL-LC-MS/MS approaches to cardiac proteomics. *J Proteomics.* 2010 Jun 16;73(8):1551-61. Epub 2010 Apr 12. PMID: 20394843 PMCID: PMC2885575
- Biesiadecki. BK. Tachampa K, Yuan C, Jin J-P, de Tombe PP, Solaro RJ. (2010) Removal of the N-terminal extension of cardiac troponin I improves cardiac function during aging. *J Biol Chem* Jun 18;285(25):19688-98. Epub 2010 Apr 21. PMID: 20410305 PMCID: PMC2885247
- Scruggs SC, Reisdorph R, Armstrong ML, Warren CM, Reisdorph N, Solaro RJ, Buttrick PM. A novel, in solution separation of endogenous cardiac sarcomeric proteins and identification of distinct charged variants of regulatory light chain. *Mol Cell Prot* 2010 Sep;9(9):1804-18. Epub 2010 May 5. PMID: 20445002 PMCID: PMC2938104
- Solaro RJ, (2010) *J Biomed Biotech.* Special Issue on Muscle Physiology and Pathophysiology: Sarcomere Control Mechanisms and the Dynamics of the Cardiac Cycle. 2010:105648. Epub 2010 May 10. PMID: 20467475 PMCID: PMC2866969
- Solaro RJ, Warren CM, Scruggs SB. Why is it important to analyze the cardiac sarcomere subproteome? *Expert Rev Proteomics.* 2010 Jun;7(3):311-4. PMID: 20536300
- Avner BS, Hinken AC, Yuan C, Solaro RJ. Hydrogen peroxide alters rat cardiac sarcomere function and protein phosphorylation through redox signaling. *Am J Physiol Heart Circ Physiol* 2010 Sep;299(3):H723-30. Epub 2010 Jun 18. 2010 PMID: 20562337
- Solaro RJ, deTombe PP. Reply to Smith Letter. Controversy persists after over 100 years of the Frank-
-

Starling mechanism. *J Mol Cell Cardiol* 2010 PMID: 20624396.

Solaro RJ, Sheehan KA, Lei M, Ke Y. The curious role of sarcomeric proteins in control of diverse processes in cardiac myocytes. *J Gen Physiol* 2010;136:3-9. PMID: 20584888 PMCID: PMC2894547

Jagatheesan G, Rajan S, Ahmed RP, Petrashevskaya N, Boivin G, Arteaga GM, Tae HJ, Liggett SB, Solaro RJ, Wieczorek DF. *J Muscle Res Cell Motil.* 2010 Sep;31(3):227-39. Epub 2010 Aug 28. (2010) *J Muscle Res Cell Motil* [Epub ahead of print] PMID: 20803058 PMCID: PMC2944474

Force T, Bonow RO, Houser SR, Solaro RJ, Hershberger RE, Adhikari B, Anderson ME, Boineau R, Byrne BJ, Cappola TP, Kalluri R, LeWinter MM, Maron MS, Molkentin JD, Ommen SR, Regnier M, Tang WH, Tian R, Konstam MA, Maron BJ, Seidman CE. Research priorities in hypertrophic cardiomyopathy: report of a Working Group of the National Heart, Lung, and Blood Institute. *Circulation.* 2010 Sep 14;122(11):1130-3. PMID: 20837938

Peña JR, Szkudlarek, AC, Warren CM, Gaffin RD, Heinrich LS, Jagathessen G, del Monte F, Hajjar RJ, Goldspink PH, Solaro RJ, Wieczorek DF, Wolska BM. Neonatal Gene Transfer of Serca2a Delays Onset of Hypertrophic Remodeling and Improves Function in Familial Hypertrophic Cardiomyopathy. *J Mol Cell Cardiol.* 2010 Dec;49(6):993-1002. Epub 2010 Sep 18. PMID: 20854827

Sheehan KA, Arteaga GM, Hinken AC, Dias FA, Ribeiro C, Wieczorek DF, Solaro RJ, Wolska BM. Functional effects of a tropomyosin mutation linked to FHC contribute to maladaptation during acidosis. *J Mol Cell Cardiol.* 2011 Mar;50(3):442-50. Epub 2010 Nov 1 PMID: 21047515.

Shioura K, Farjah M, Geenen D, Solaro RJ, and Paul Goldspink P. Myofilament calcium sensitization delays decompensated hypertrophy differently between the sexes following myocardial infarction. *Am J Physiol Regul Integr Comp Physiol.* 2011 Feb;300(2):R361-8. Epub 2010 Nov 24. 2010 PMID: 21106909.

Karam CN, Warren CM, de Tombe PP, Rajan S, Wieczorek DF, Solaro RJ. Expression of a novel tropomyosin isoform, tropomyosin-kappa, induces dilated cardiomyopathy and depresses cardiac myofilament tension by mechanisms involving cross-bridge dependent activation and altered tropomyosin phosphorylation. *J Mus Res Cell Mot* 2011 Jan 9. [Epub ahead of print] PMID: 21221740

Stull JT, Solaro RJ. Thematic minireview series: Signaling in cardiac sarcomeres in health and disease. *J Biol Chem.* 2011 Jan 21. [Epub ahead of print] PMID: 21257756.

Solaro RJ, Kobayashi T. Protein phosphorylation and signal transduction in cardiac thin filaments. *J Biol Chem.* 2011 Jan 21. [Epub ahead of print] PMID: 21257760

D. Current SUPPORT

RO1 HL 22231 (29-32) (PI Solaro) NIH/NHLBI Modulation of Ca Control of Cardiac Myofibrils (Renewal Years 33-36 score 12 th percentile)	12/01/06-11/30/11 \$218,000/yr	2.40 cal
T32 HL 07692-(21-25) (PI Solaro) 07/01/10-06/30/15 NIH/NHLBI Training Grant: Cellular Signaling in the Cardiovascular System	\$ 664, 942/yr	0.60 cal
PO1 HL 62426 (11-15) (PI Solaro) NIH/NHLBI PPG Integrated Mechanisms of Cardiac Maladaptation	06/01/10-05/31/15 Core A: \$77,614/yr Project 1: \$250,000/yr	3.00 cal
NIH R01 HL64035 (11-14) (Multi PI: Solaro/Wolska) NIH/NHLBI Troponin Modulation in Heart Failure	01/01/10-12/31/13 \$250,000/yr	2.4 cal
NIH RO1 Subcontract (Solaro) to RO1 HL 081680 NIH/NHLBI (PI Wieczorek) Regulation of Sarcomeric Function by Tropomyosin	07/07-06/11 \$87,000/yr	1.2 cal