Jingsong Zhou, **Ph.D.**

Associate Professor
Dept. of Molecular Biophysics and Physiology
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Scientific research area

Ca^{2+} signaling and mitochondrial function in health and disease.

Education

***Ph.D.** (Physiology and Biophysics), Rush University, Chicago, IL. July 1997.

Advisor: **Eduardo Rios**, **Ph.D.**

Ph.D. Thesis: "Molecular Cloning and Functional Expression of a Skeletal Muscle Dihydropyridine Receptor form *Rana Catesbieana*"

***Diploma of Medicine**, Hunan Medical University (Xiangya School of Medicine), China. July 1986.

Postdoctoral training

Division of Clinical Pharmacology, Dept. of Pharmacology, Vanderbilt University.

Nov. 1997 ~ Nov. 2000.

Advisor: **Katherine Murray, M.D.**

Position held

* **Associate Professor**, Dept. of Molecular Physiology and Biophysics, Rush University.

Chairman: **Robert Eisenberg, Ph.D.** 06/10 ~.

***Assistant Professor**, Dept. of Molecular Physiology and Biophysics, Rush University.

Chairman: **Robert Eisenberg, Ph.D.** 11/00 ~ 06/10.

* **Research Associate**, Department of Pharmacology, Vanderbilt University. 1997 ~ 2000.

***Teaching and Research Assistant**, Dept. of Physiology, Hunan Medical University (China).

Chairwoman: **Xiuhong Sun, Ph.D.** 08/86 ~ 09/91.

Honors

"Graduate with Honors", Hunan Medical University, 1986.

"Outstanding Research", Sigma Xi Scientific Research Society, 1997.

"Medical Staff Award", Rush University, 1997.

"American Heart Association Fellowship", 2000-2002

Scientific societies

Member of Biophysical Society, since 1993.

Member of Basic CV Science Council of American Heart Association, 2002.

Teaching

* Lectures on Physiology (PHY551). Rush University. (2003-present).

* Lectures on Physiology. Hunan Medical University (1986-1991).

(Previous) and current research associates in the lab

(Monika Sztretye)
Carolina Figueroa
Carlo Manno
Changling Ma
Chehade Karame
Guo Luo

(Previous) and current graduate students in the lab

(Yan Li)
(Jia Qi) (Thesis Committee member)
Yajuan Xiao
Yi Ai

Summer students

Sibo Sun

Presentations

* Seminar presentation. 1997. Department of Pharmacology, Vanderbilt University.

* Seminar presentation. 2000, Department of Molecular Biophysics and Physiology, Rush University.

* Presentation. 2002. 46th Biophysical Society Annual Meeting, in San Francisco, CA.

* Presentation. 2003. Rush Research Forum, Rush University.

* Seminar presentation. 2004. Department of Pharmacology, Rush University.

* Presentation. 2007. 51th annual meeting of the Biophysical Society, Baltimore, MD.

* Seminar presentation. 2008. Institute of Molecular Medicine, Peking University. China.

* Seminar presentation. 2008. Institute of Molecular Medicine, Peking University. Beijing, China.

* Seminar presentation. 2008. Zunyi Medical University, Zunyi, China.

* Seminar presentation. 2010. Zunyi Medical University, Zunyi, China.
* Seminar presentation. 2010. Institute of Biophysics of Chinese Academy of Sciences
* Symposium presentation. 2010. Frontiers of Cellular Imaging for Research and Education, Marquette University
* Presentation. 2010. FASEB Summer Research Conferences on "Calcium and Cell Function", Steamboat Springs, Colorado.
* Seminar presentation 2010. Department of Physiology and Biophysics, Robert Wood Johnson Medical School
* Seminar presentation. 2010. Department of Molecular Physiology and Biophysics, Baylor College of Medicine.
* Presentation: BIT's 1st Annual Tetra-Congress of MelMed-2010, Theme: From Molecular structure to Functions; Shanghai, China
  Track B1-4: Neurological Disease Biomarkers and Healthcare
  Co-Chair of the section and presentation: "Fluorescent Probes for Revelation of Dynamic Cellular Signaling in Muscle"
* Seminar presentation: 2010. Third Xiangya Hospital, Xiangya Medical College. Changsha, China.
* Invited presentation: 2011. Rush Translational Science Consortium Scientific Leadership Council Meeting. Rush University, Chicago
* Seminar presentation: 2011. Xiangya Medical College. Changsha, China.
* Presentation: 2011. The 17th International Symposium on Ca^{2+}-Binding Proteins and Ca^{2+} Function in Health and Disease. Beijing, China.
* Presentation: 2011. Society of General Physiology, Woods Hole Meeting on Mitochondrial Physiology and Medicine. Marine Biological Laboratory, Woods Hole, MA.
*Seminar presentaiton: 2012. Department of Pharmacology, Rush University.

Administration services

* Seminar coordinator of the Dept. of Molecular Biophysics and Physiology. 2005~
* Committee member of Women Advisory Group at Rush University. 2005.

Peer-review activities

Manuscript Reviewer for the following Peer-Reviewed Journals:

* Cell Calcium

* Human Molecular Genetics
* Journal of Biological Chemistry
* Molecular Pharmacology
* Neuroscience
* Journal of Visualized Experiments (Peer Review Board)

Grant proposal review activities

* NIH SMEP (**S**keletal **M**uscle & **E**xercise **P**hysiology) Study Section (ad hoc reviewer, 2012)
* Motor Neuron Disease Association, UK
* National Centre for the Replacement, Refinement and Reduction of Animals in Research (NC3Rs), UK
* Rush University Pilot Project Study Section
* Hungarian Scientific Research Fund (OTKA)

Research grant supports

(**PI**) "Trafficking of the human cardiac Na^+ channel: Modulation by protein kinase A". American Heart Association Fellowship. 2000 ~ 2002.

(**PI**) "Molecular tools to study Ca^{2+} signaling across two muscle membranes." Grant-In-Aid UCR (University Committee on Research, Rush University). 2001 ~ 2003.

(**Co-PI**) "Calcium Movements in Excitation-Contraction Coupling." (**P.I. Eduardo Rios**) NIH:NIAMSD, R37 AR32808-24. 2001-2006

(**Co-PI**) "Skeletal Muscle. Ca^{2+} Release Control inside the SR." (**P.I. Eduardo Rios**) NIH:NIAMSD, R01 AR04918-05 A1. 2003-2008

(**PI**) "Abnormal interactions of mitochondria and sarcoplasmic reticulum in ALS muscle" Research Grant, MDA (Muscular Dystrophy Association), MDA-4351. 2007 ~ 2010.

(**PI**) "Ca^{2+} signaling in progression of amyotrophic lateral sclerosis in skeletal muscle", NIH:NIAMSD, RO1 AR057404, 2010 ~ 2015.

Selected peer-reviewed publications

26. Figueroa L, Shkryl VM, Zhou J, Manno C, Momotake A, Brum G, Blatter LA, Ellis-Davies G CR, and Rios E. (2012). Synthetic localized calcium transients directly probe signaling mechanisms in skeletal muscle. ***J Phyisol***, 590:1389-411.

25. Tjondrokoesoemo A, Park KH, Ferrante C, Komazaki S, Lesniak S, Brotto M, Ko JK, Zhou J, Weisleder N, Ma J. (2011). Disrupted membrane structure and intracellular Ca signaling in adult skeletal muscle with acute knockdown of bin1. ***PLoS One***. 6(9):e25740.

24. Yi J, Ma C, Li Y, Weisleder N, Ríos E, Ma J, Zhou J. (2011). Mitochondrial Calcium Uptake Regulates Rapid Calcium Transients in Skeletal Muscle during Excitation-Contraction (E-C) Coupling. ***J Biol Chem***. 286:32436-43.

23. Weisleder N, Zhou J, and Ma J. (2012). Detection of Calcium Sparks in Intact and Permeabilized Skeletal Muscle Fibers. Book Chapter in Myogenesis. 1st Edition. Series of "***Methods in Molecular Biology***". Vol. 798. *Springer,* Editor: DiMario, Joseph X.

22. Sztretye M, Yi J, Figueroa L, Zhou J, Royer L, Allen P, Brum G and Ríos E. (2011). Measurement of RyR permeability reveals a role of calsequestrin in termination of SR Ca^{2+} release in skeletal muscle. ***J Gen Physiol***. 138:231-47.

21. Sztretye M, Yi J, Figueroa L, Zhou J, Royer L, Ríos E. (2011). D4cpv-calsequestrin: a sensitive ratiometric biosensor accurately targeted to the calcium store of skeletal muscle. ***J Gen Physiol***. 138:211-29.

20. Fang H, Chen M, Ding Y, Shang W, Xu J, Zhang X, Zhang W, Li K, Xiao Y, Gao F, Shang S, Li J-C, Tian X-L, Wang S-Q, Zhou J, Weisleder N, Ma J, Ouyang K, Chen J, Wang X, Zheng M, Wang W, Zhang X, Cheng H. (2011). Imaging superoxide flash and metabolism-coupled mitochondrial permeability transition in living animals. ***Cell Research*** (2011):1-10.

19. Royer L, Sztretye M, Manno C, Pouvreau S, Zhou J, Knollmann BC, Protasi F, Allen PD, Ríos E. (2010). Paradoxical buffering of calcium by calsequestrin demonstrated for the calcium store of skeletal muscle. ***J Gen Physiol***. 136(3):325-38

18. Zhou J, Yi J, Fu R, Liu R, Siddique T, Ríos E, Deng HX. (2010). Hyperactive intracellular calcium signaling associated with localized mitochondrial defects in skeletal muscle of an animal model of amyotrophic lateral sclerosis. ***J Biol Chem***. 285: 705-712.

17. Ríos E, Zhou J, Brum G, Launikonis BS, Stern MD. (2008). Calcium-dependent inactivation terminates calcium release in skeletal muscle of amphibians. ***J Gen Physiol***. 131:335-348.

16. Pouvreau S, Royer L, Yi J, Brum G, Meissner G, Ríos E, and Zhou J. (2007). Voltage-operated Ca^{2+}sparks require isoform 3 RyR channels in muscle. ***Proc Natl Acad Sci U S A***. 104:5235-5240.

15. Rios E, Launikonis BS, Royer L, Brum G, Zhou J. (2006). The elusive role of store depletion in the control of intracellular calcium release. **(Review)** ***J Muscle Res Cell Motil***. 27:337-50.

14. Launikonis BS., Zhou J, Santiago D, Brum G, Rios E. (2006). The Changes in Ca^{2+} Sparks Associated with Measured Modifications of Intra-store Ca^{2+} Concentration in Skeletal Muscle. ***J Gen Physiol***. 128:45-54.

13. Launikonis BS, Zhou J, Royer L, Shannon TR, Brum G, and Rios E. (2006). Depletion "skraps" and dynamic buffering inside the cellular calcium store. 2006. ***Proc Natl Acad Sci U S A***. 103(8):2982-7.

12. Zhou J, Yi J, Royer L, Launikonis BS, González A, García J, and Ríos E. (2006). A probable role of dihydropyridine receptors in repression of Ca^{2+} sparks, demonstrated in cultured mammalian muscle. ***Am J Physiol Cell Physiol***. 290:C549-C553.

11. Hallaq H, Yang Z, Viswanathan PC, Fukuda K, Shen W, Wang DW, Wells KS, Zhou J, Yi J, Murray KT. (2006). Quantitation of protein kinase A-mediated trafficking of cardiac sodium channels in living cells.

Cardiovasc Res. 72:250-61.

10. Zhou J, Brum G, González A, Launikonis BS, Stern MD, and Rios E. (2005). Concerted vs. Sequential. Two Activation Patterns of Vast Arrays of Intracellular Ca^{2+} Channels in Muscle. ***J Gen Physiol***. 126:301-309.

9. Launikonis BS, Zhou J, Royer L, Shannon TR, Brum G, and Ríos, E. (2005). Confocal imaging of [Ca^{2+}] in cellular organelles by SEER, shifted excitation and emission ratioing of fluorescence. ***J Physiol***. 567:523-543.

8. Wang X, Weisleder N, Collet C, Zhou J, Chu Y, Hirata Y, Zhao X, Pan Z, Brotto M, Cheng H, Ma J. (2005). Uncontrolled calcium sparks act as a dystrophic signal for mammalian skeletal muscle. ***Nature Cell Biology***. 7(5):525-30.

7. Zhou J, Launikonis BS, Rios E, and Brum G. (2004). Regulation of Ca^{2+} sparks by Ca^{2+} and Mg^{2+} in mammalian and amphibian muscle. An RyR isoform-specific role in EC coupling? ***J. Gen. Physiol***. 124: 409-428.

6. Rios E, and Zhou J. (2004). Control of dual isoforms of Ca^{2+} release channels in muscle. ***(Review) Biol. Res***. 37:583-591.

5. Csernoch L, Zhou J, Stern MD, Brum G, and Rios E. (2004). The elementary events of Ca^{2+} release elicited by membrane depolarization in mammalian muscle. ***J. Physiol***. 557:43-58.

4. Zhou J, Brum G, Gonzalez A, Launikonis BB, Stern MD, Rios E. (2003). Ca^{2+} sparks and embers of mammalian muscle. Properties of the source. ***J. Gen. Physiol***. 122 (1): 95-114.

3. Zhou J, Shin HG, Yi J, Shen W, Williams CM, and Murray KT. (2002). Phosphorylation and putative ER retention signals are required for protein kinase A-mediated potentiation of cardiac sodium current. ***Circ. Res***. 91: 540-546.

2. Zhou J, Yi J, Hu N, George A, and Murray KT. (2000). Activation of protein kinase A modulates trafficking of the human cardiac sodium channel in *Xenopus* oocytes. ***Circ. Res***. 87: 33-38.

1. Zhou J, Cribbs L, Yi J, Shirokov R, Perez-Reyes E, and Rios E. (1998). Molecular cloning and functional expression of a skeletal muscle dihydropyridine receptor form *Rana catesbeiana*. ***J Biol Chem***. 273(39): 25503-25509.

Abstracts

51. Ma C, Yi J, Ríos E, Zhou J. (2012). Reduced mitochondrial dynamics in skeletal muscle of an amyotrophic lateral sclerosis mouse model. ***Biophys. J***. 56th annual meeting of the Biophysical Society, San Diego, CA, USA.

50. Sztretye M, Manno C, Yi J, Zhou J, Allen P and Ríos E. (2012). Direct quantification of calsequestrin-dependent buffering in the Ca^{2+} store of skeletal muscle. ***Biophys. J***. 56th annual meeting of the Biophysical

Society, San Diego, CA, USA.

49. Yi J, Ma C, Li Y, Ríos E, Weislede N, Ma J, and Zhou J. (2011). Deficit in mitochondrial calcium uptake compromises the rapid calcium transient in ALS skeletal muscle during EC-coupling. ***17th International Symposium on Ca^{2+}-Binding Proteins and Ca^{2+} Function in Health and Disease***. Oral presentation.

48. Yi J, Ma C, Li Y, Ríos E, Weislede N, Ma J, and Zhou J. (2011). Mitochondrial contribution to skeletal muscle Ca^{2+} signaling. ***The Society of General Physiologists 65th Annual Meeting and Symposium on "Mitochondrial Physiology and Medicine***. Invited presentaiton.

47. Yi J, Li Y, Ríos E, Ma C, Zhou J. (2011). Quantification of mitochondrial calcium dynamic changes during voltage-induced calcium release in mammalian skeletal muscle. ***Biophys. J***. 55th annual meeting of the Biophysical Society, Baltimore, MD, USA.

46. Sztretye M, Yi J, Royer L, Zhou J, Figueroa L, Allen P, Rios E. (2011). Measurement of intra-SR [Ca^{2+}] reveals changes in SR Ca^{2+} permeability during intracellular Ca^{2+} release in skeletal muscle. ***Biophys. J***. 55th annual meeting of the Biophysical Society, Baltimore, MD, USA.

45. Yi J, Li Y, Ríos E, Zhou J. (2010). Mitochondrial Ca uptake during EC-coupling in skeletal muscle. ***FASEB Summer Research Conferences***, Steamboat, CO, USA.

44. Zhou J. (2010). Fluorescent probes for revelation of dynamic cellular signaling in muscle. Neurological disease biomarkers and healthcare. ***BIT's 1st Annual World Congress of Biomarkers***. Shanghai, China. (invited speaker and co-chair).

43. Zhou J, Yi J, Ríos E, Deng HD. (2010). Deficit in mitochondrial Ca uptake leads to increased calcium responses in skeletal muscle cells of a transgenic model of amyotrophic lateral sclerosis. ***Cold Spring Harbor Asia Symposium, Francis Crick Symposium on Neuroscience***, Suzhou, China.

42. Zhou J, Yi J and Rios E. (2010). Increased calcium response to depolarization in voltage clamped skeletal muscle cells of a transgenic model of amyotrophic lateral sclerosis. ***Biophys. J***. 54th annual meeting of the Biophysical Society, San Francisco, CA, USA.

41. Figueroa L, Zhou J, Momotake A, Ellis-Davies, Rios E and Brum G. (2010). CICR and Ca-dependent inactivation, quantified through the response to artificial Ca sparks in single muscle cells. ***Biophys. J***. 54th annual meeting of the Biophysical Society, San Francisco, CA, USA.

40. Figueroa L, Zhou J, Shkryl V, Li Y, Blatter L, Momotake A, Ellis-Davies G, Rios E and Brum G. (2010). Flux in artificial Ca sparks generated by 2-photon release from a novel cage confocally imaged at microsecond resolution. ***Biophys. J***. 54th annual meeting of the Biophysical Society, San Francisco, CA, USA.

39. Sztretye M, Royer L, Manno c, Zhou J, Knollmann B, Allen PD, Protasi F and Rios E. (2010). Chronic Ca depletion and ablation of calsequestrin similarly increase the evacuablility of the Ca store of skeletal muscle. ***Biophys. J***. 54th annual meeting of the Biophysical Society, San Francisco, CA, USA.

38. Sztretye M, Yi J, Royer L, Zhou J, Rios E. (2010). D4cpv-Csq1. A novel approach to targeting biosensors yields detailed dynamic imaging of calcium concentration inside the sarcoplasmic reticulum of living cells. ***Biophys. J***. 54th annual meeting of the Biophysical Society, San Francisco, CA, USA.

37. Sztretye M, Pouvreau S, Bannwarth M, Correa IR, Fellay C, Aebischer A, Royer L, Yi J, Zhou J, Johnsson K, Rios E. (2009). Indo-1 hybrid biosensors for calcium monitoring in cellular organelles. ***Biophys. J***. 53th annual meeting of the Biophysical Society, Boston, MA, USA. 2009. 541a.

36. Fang H, Zhang W, Wang X, Wang W, Li K, Wang Y, Zhang X, Shang S, Tian X, Zhou J, Weisleder N, Ma J, Zheng M, Cheng H. (2009). In vivo imaging of superoxide flashes in skeletal muscle. ***Biophys. J***. 53th annual meeting of the Biophysical Society, Boston, MA, USA. 2009. 530a.

35. Tjondrokoesoemo A, Komazaki S, Ferrante C, Zhou J, Ma J, Weisleder N. (2009). Bin1, a bar domain protein, is necessary for the maintenance of T-tubule structure and intracellular Ca2+ homeostasis in skeletal muscle. ***Biophys. J***. 53th annual meeting of the Biophysical Society, Boston, MA, USA. 2009. 280a.

34. Royer L, Pouvreau S, Wang Y, Meissner G, Zhou J, Volpe P, Nori A, Fitts R, Bain JW, Protasi F, Allen PD, Knollmann B, Riley DA, Rios E. (2009). Down and out. The functional effects of silencing calsequestrin 1 or deleting both calsequestrin genes in mammalian muscle. ***Biophys. J***. 53th annual meeting of the Biophysical Society, Boston, MA, USA. 2009. 280a.

33. Zhou J, Yi J, Fu R, Liu E, Siddique T, Ríos E, Deng H-X. (2008). Depolarized mitochondria lead to an uncontrolled Ca^{2+} signaling in the skeletal muscle of a murine model of amyotrophic lateral sclerosis. ***FASEB Summer Research Conferences***, Snowmass Village, CO.

32. Zhou J, Yi J, Fu R, Liu E, Royer L, Pouvreau S, Siddique T, Ríos E, Deng H-X. (2008). Abnormal mitochondria and Ca^{2+} signaling in the skeletal muscle of amyotrophic lateral sclerosis mice. ***Biophys. J***. 52th annual meeting of the Biophysical Society, Long Beach, CA,USA, 2008. 93a.

31. Zhou J, Yi J, Royer L, Pouvreau S, and Ríos E. (2008). Distribution, responses to Ca^{2+} transients and calibration of a mitochondria-targeted cameleon biosensor expressed in muscle of live mice. ***Biophys. J***. 52th annual meeting of the Biophysical Society, Long Beach, CA, USA, 2008. 253a.

30. Royer L, Pouvreau S, Wang Y, Meissner G, Zhou J, Nori A, Volpe P, Bain JW, Riley DA, Fitts R, and Rios E. (2008). The effects of severe knock-down of calsequestrin 1 in adult mammalian muscle. ***Biophys. J***. 52th annual meeting of the Biophysical Society, Long Beach, CA,USA, 2008. 538a.

29. Pouvreau S, Royer L, Zorzato F, Treves S, Zhou J, and Rios E. (2008). Transient expression of exogenous ryanodine receptor 1 and ryanodine receptor 3 generates different calcium release events in mouse skeletal muscle. ***Biophys. J***. 52th annual meeting of the Biophysical Society, Long Beach, CA,USA, 2008. 425a.

28. Pouvreau S, Royer L, Yi J, Meissner G, Brum G, Rios E, Zhou J. (2007) Properties of Ca^{2+} sparks and waves in mouse muscle transiently transfected with rabbit RyR3. ***Biophys. J***. (invited oral presentation, 51th annual meeting of the Biophysical Society, Baltimore, MD,USA, 2007. 80a.

27. Zhou J**,** Royer L, Pouvreau S, Yi J, Meissner G, Brum G, Rios E. (2007) Transient expression of RyR3 in mouse muscle reveals the roles of two channel isoforms in the production of voltage-dependent Ca^{2+} sparks. ***Biophys. J***. 51th annual meeting of the Biophysical Society, Baltimore, MD,USA, invited talk. 343a.

26. Royer L, Pouvreau S, Yi J, Rios E, Nori A, Volpe P, Brum G, Zhou J. (2007) Functional consequences of the transient overexpression of calsequestrin (CSQ) in adult mammalian muscle. 51th annual meeting of the Biophysical Society, Baltimore, MD,USA, Invited talk. 343a.

25. Zhou J, Launikonis BB, Royer L, Shannon T, Brum G, and Ríos E. (2006). Skraps of Ca^{2+} depletion suggest an alternative source for Ca^{2+} sparks and global Ca^{2+} release in muscle. ***Biophys. J***. 50th annual meeting of the Biophysical Society, Salt Lake City, Utah, USA, 2006. 68a.

24. Launikonis BB, Royer L**,** Zhou J, Shannon T, Brum G, and Ríos E. (2006). A Ca^{2+} transient inside the SR accompanies low [Mg^{2+}]-induced Ca^{2+} release from SR to Cytosol. ***Biophys. J***. 50th annual meeting of the Biophysical Society, Salt Lake City, Utah, USA, 2006. 68a.

23. Brum G, Launikonis BB, Royer L, Santiago D, Yi Y, Zhou J**,** and Ríos E. (2006). Depletion of SR upon Ca^{2+} release elicited by action potentials or voltage-clamp depolarization. ***Biophys. J***. 50th annual meeting of the Biophysical Society, Salt Lake City, Utah, USA, 2006. 68a.

22. Hallaq H, Yang Z, Viswanathan PC, Fukuda K, Shen W, Hu X, Wang Z, Brifkani Z, Wells KS, Zhou J, Yi J, and Murray KT. (2006). Quantitation of Protein Kinase A-Mediated Trafficking of Cardiac Na^{+} Channels in Living Cells. ***Biophys. J***. 50th annual meeting of the Biophysical Society, Salt Lake City, Utah, USA, 2006.

21. Zhou J, Launikonis BS, Royer L, Santiago DJ, Shannon TR, Pizarro G, Brum G, and Rios E. (2005). Control of calcium release by intra-store Ca^{2+}. ***Biophys. J***. 88(1); 13a (66-Symp). (Symposium presentation at 49th Biophysical Society Annual Meeting, in Long Beach, CA)

20. Royer L, Launikonis BS, Zhou J, Santiago DJ, Shannon T, Brum G, and Rios E. (2005). SEER (Shifted Excitation and Emission Ratioing) of mag-indo fluorescence. Description, calibration in situ and measure of [Ca^{2+}] and dye concentration inside the SR. ***Biophys. J***. 88(1); 89a (442-Pos).

19. Launikonis BS, Brum G, Rios E, and Zhou J. (2005). How the calcium-precipitating anions inorganic phosphate and SO_4^{2-} alter intra-SR calcium in skeletal muscle cells. ***Biophys. J***. 88(1); 89a (443-Pos).

18. Weisleder N, Wang X, Collet C, Zhou J, Chu Y, Hirata Y, Zhao X, Pan Z, Brotto M, Cheng H, and Ma J. (2005) Stress-induced uncontrolled calcium sparks as dystrophic signals in mammalian skeletal muscle. ***Biophys. J***. 88(1); 534a (2622-Plat). (*Abstract accepted for an oral presentation at 49th Biophysical Society Annual Meeting, in Long Beach, CA*)

17. Zhou J, Volpe P, Bortoloso E, Nori A, and Rios E. (2004). Overexpression of calsequestrin modulates Ca^{2+} sparks in adult mammalian skeletal muscle fibers. ***Biophys. J***. 86(1); 579a.

16. Zhou J, Brum G, and Rios E. (2004). Dynamic imaging of SR [Ca^{2+}] in single frog skeletal muscle fibers,

by excitation- and emission-shifted ratioing of mag-indo 1 fluorescence. ***Biophys. J***.86(1); 343a. (Abstract accepted for an oral presentation at 48th Biophysical Society Annual Meeting, in Baltimore, MD.)

15. Brum G, Zhou J, Launikonis B and Rios E. (2004). Differences in regulation of Ca^{2+} sparks by Mg^{2+} in mammals and amphibians may reflect different RyR isoform arrangement. ***Biophys. J***. 86(1); 577a.

14. Zhou J, Wang X, Hirata Y, Collet C, Takeshima H, Pan Z, and Ma J. (2004). Frequent and heterogeneous Ca sparks in muscle cells lacking the mg29 gene. ***Biophys. J***. 86(1); 20a. (Abstract accepted for an oral presentation at 48th Biophysical Society Annual Meeting, in Baltimore, MD.)

13. Rios E, Zhou J, Brum G, Pizzarro G, Gonzalez A, and Stern M. (2003). Supramolecular structure and local control of intracellular calcium signaling. 5th Ibero- American Congress of Biophysics. Page 19.

12. Zhou J, Csernoch L, Launikonis B, Brum G, Stern MD, Cheng H, and Rios, E. (2003). Concerted vs. sequential opening of vast arrays of channels in Ca^{2+} sparks of twitch muscle. ***Biophys. J***. 84(2); 9a. (Abstract accepted for an oral presentation at 47th Biophysical Society Annual Meeting, in San Antonio, TX.)

11. Zhou J, Csernoch L, Yi J, Launikonis B, Gonzalez A, Rios E, and Garcia J. (2003). Repression of Ca^{2+} sparks by voltage sensors or other T tubule structure in mammalian muscle. ***Biophys. J***. 84(2); 386a.

10. Csernoch L, Zhou J, Launikonis B, Gonzalez A, Stern MD, Brum G, and Rios, E. (2003). The effect of SO_4^{2-}, a Ca^{2+}-precipitating buffer, on Ca^{2+}sparks of mammalian and batrachian twitch muscle. ***Biophys. J***. 84(2); 386a.

9. Zhou J, Gonzalez A, Segura R, Rios E, Ferreira G, Yi J, and Brum G., (2002). Modulation by Ca^{2+} and Mg^{2+} of mammalian muscle Ca^{2+} sparks. ***Biophys. J***. 82(1):510a. (Abstract accepted for an oral presentation at 46th Biophysical Society Annual Meeting, in San Francisco, CA.)

8. Gonzalez A, Zhou J, Kirsch W, Uttenweiler D, Fink R, Rios E, and Brum G. (2002). Morphology of Ca^{2+} sparks of mammalian muscle ***Biophys. J***. 82(1):510a. (Abstract accepted for an oral presentation at 46th Biophysical Society Annual Meeting, in San Francisco, CA.)

7. Zhou J, Shin HG, Yi J, Shen W, and Murray KY. (2001). Structural requirements in the human cardiac sodium channel for regulated trafficking by protein kinase A. ***Circulation***. (Abstract accepted for an oral presentation at Scientific Sessions 2001, in Anaheim, CA., American Heart Association.)

6. Zhou J, Yi J, Hu N, George A, and Murray KT. (2000). Activation of protein kinase A modulates trafficking of the human cardiac Na^{2+} channel: Role of Serines 525 and 528 in the I-II interdomain loop. ***Circulation***. 102(18): II-263.

5. Zhou J, and KT Murray. (1999). Modulation of the human cardiac Na^{+} channel (hH1) by protein kinase A: multiple potential mechanisms. ***Biophys. J***. 76: A343.

4. Zhou J, Cribbs L, Yi J, Shirokov R, Perez-Reyes E, and Rios E. (1997) Cloning of an L-type Ca channel homolog from frog skeletal muscle and functional expression of a chimeric channel. ***Biophys. J***. 72: A146.

3. Shirokov R, Ferreira G, Yi J, Zhou J, Chien A, Hosey M, and Rios E. (1996). Similarity of biophysical properties of Ca currents in α_{1C} and α_{1C}/β_{2A} transfected mammalian cells. ***Biophys. J***. 70: A183.

2. Zhou J, Stavrovsky I, Ma J, and Rios E. (1994). Effects of free Ca, ATP and Mg on the equilibrium behavior of rabbit skeletal muscle Ca release channels in planar bilayer. ***Biophys. J***. 66 : A415.

1. Stavrovsky I, Zhou J, and Rios E. (1994). Models of simultaneous interactions of the skeletal muscle Ca release channel with Ca, Mg and ATP. ***Biophys. J***. 66 : A20.