**CURRICULUM VITAE: Cecilia Paolini**

**Position**
*from Nov 2008*
Researcher – 05/D1 - SSD: BIO/09 – Phyisiology
School of Medicine, University "G. d'Annunzio" of Chieti-Pescara (Italy)
Researcher unique identifier (ORCID): 0000-0002-5720-7577

**Personal Information**
Date of birth: 17 Maggio 1973
Place of birth: Pescara (PE)
Nationality: Italian
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University G. D'Annunzio,
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**Education**

*Jan. 2006*
PhD SSD BIO/09 (Fisiologia)
Muscle physiopathology (Supervisor: Prof. Feliciano Protasi)
Institute of Cell Physiology
University G. d'Annunzio of Chieti (Italy)
Thesis DHPR-RyR interaction: structural and molecular bases of the skeletal muscle E-C coupling.

*Nov. 1999*
Laurea (Bachelor Degree) in Farmacia (Magna cum Laude).
University G. d'Annunzio of Chieti (Italy)
Thesis: GL15 cells: a model for studying the receptors dynamics (Supervisor: Prof. G. Fano')

**Postgraduate training**

*April 2006 – Oct. 2008*
Post-doctoral fellowship (Supervisor: Prof. Feliciano Protasi)
University G. d'Annunzio of Chieti (Italy)
CeSI, Center for Research on Aging

*Nov. 2001 – Nov. 2005*
PhD Student (Supervisor: Prof. F. Protasi) in Muscle Physiopathology
Institute of Cell Physiology
University G. d'Annunzio of Chieti (Italy)
Project: Studies on the role of CSQ in the excitation-contraction coupling mechanism through morphological and functional analysis of the variations in a knock-out model for the skeletal isoform of calsequestrin.

*Jan. 2000 – Jun. 2003*
Visiting Researcher (Supervisor: Dr. Clara Franzini-Armstrong)
Dept. of Cell and Developmental Biology
University of Pennsylvania School of Medicine, Philadelphia, PA (USA)
Projects: a) Morphological analysis of the two main proteins (RyR and DHPR) involved in the e-c coupling mechanism in skeletal muscle, their structural interaction in the calcium release units, and their relative positioning. b) Analysis of the expression and interaction of different RyR1 and sDHPR chimerae expressed in a transgenic cell line, knockout for both calcium channels.

*Feb. 1999 – Jul. 1999*
Socrates-Erasmus programme
Universidad de Barcelona, Barcellona (Spagna)

*Sept. 1998 – Nov. 1999*
Bachelor degree senior year student (Supervisor: Prof. Giorgio Fano')
Institute of Cell Physiology. Dept. Of Pharmacological Sciences
University G. d'Annunzio of Chieti (Italy)

**Other Courses**

*July 2003*
EMBO/EU practical course on Electron microscopy and stereology in molecular biology of cells and tissues.
Theoretical and practical course on advanced technology in electron microscopy (ultramicrotomy of resin sections; cryo-ultramicrotomy; staining of thin resin- and cryo-sections with antibodies for immunofluorescence and immunogold; etc).

*November 2004*
University of Padua, Padua (Italy)
Dept. of Anatomy and Physiology
School of Physiology and Biophysics 2004– Italian Society of Physiology
Title: "Eterogeneità e plasticità del muscolo scheletrico. Metodiche fisiologiche e molecolari per lo studio della eterogeneità e plasticità del muscolo scheletrico" Supervisor Prof. C. Reggiani
Theoretical-practical corse on: elettrophoresis; RNA and PCR; histochemistry and immuno-histochemistry; muscle mechanics; isolations of fibers for physiological studies; muscle elettrophysiology in vitro; primary cultures and fibers.

**Professional Society involvement**

| | |
|---|---|
| *2003-present* | Member of the Biophysical Society. |
| *2004-present* | Member of the Interuniversitary Institute of Myology (IIM). |
| *2009-present* | Member of the Italian Society of Physiology (SIF). |

**Scopus Parameters (up to 31/03/2020)**

H-index 17
Citations 928

**Basic Research**

Research Interests:
A – Excitation-contraction (EC) coupling in skeletal muscle.
B – Morphological-functional alterations of skeletal muscle in a mouse knockout for the skeletal isoform of calsequestrin (CSQ).

**Funded Projects (peer-reviewed competitive funding)**

2009YHXJ85_003 (PI: Vincenzo Sorrentino) € 30.320/year
PRIN - Italian Ministry of Instruction, University and Research 17/10/11 – 17/10/13
Role: Co-Investigator

Title: Role of Ankyrin 1.5 in the organization of calcium stores in skeletal muscle: un-masking its potential role in anchoring sarcoplasmic reticulum to the sarcomere.

The overall goal of this project is to investigate the role of Ankyrin 1.5 in anchoring specific SR sub-domains to the sarcomere.

CALL 2011-2012 FINALIZED RESEARCH
GR- 2011- 02350912 (PI: Cecilia Paolini) € 202.247,76
Ministry of Health - Young Researchers Category - Area Metabolism disorders and cardiovascular disease 15/05/2015 – 15/05/2018
Role: Scientific Coordinator

Title: Malignant Hyperthermia, from anesthesia to heat- and exertion- induced episodes: understand the molecular mechanisms to develop innovative therapeutic interventions.

The overall goal of this project was to lay the groundwork for the development of new effective treatments in humans affected by malignant hyperthermia and other clinical areas dealing with diseases caused by $Ca^{2+}$ dysregulation.

**10 Most Significant Publications (all career)**

1 – Paolini, C., J. D. Fessenden, I. N. Pessah, and C. Franzini-Armstrong. 2004. Evidence for conformational coupling between two calcium channels. Proc. Natl. Acad. Sci. USA. 101(34):12748-52. I.F. = 10.583.

2 – Paolini, C., F. Protasi, and C. Franzini-Armstrong. 2004 The relative position of RyR feet and DHPR tetrads in skeletal muscle. J. Mol. Biol. 2004 342(1):145-153. I.F. = 3.888.

3 – Paolini, C., M. Quarta, A. Nori, S. Boncompagni, M. Canato, P. Volpe, C. Reggiani, P. D. Allen, and F. Protasi. 2007. Re-organized stores and impaired calcium handling in skeletal muscle of mice lacking calsequestrin-1. J. Physiol. 583:767-784. I.F. = 4.834.

4 – Dainese, M., M. Quarta, A. D. Lyfenko, C. Paolini, M. Canato, C. Reggiani, R. T. Dirksen, and F. Protasi. 2009. Anesthetic- and heat induced sudden death in calsequestrin-1 knockout mice. FASEB J. 23:1710-1720. I.F. = 6.222.

5 – Tomasi M., M. Canato, C. Paolini, M. Dainese, C. Reggiani, P. Volpe, F. Protasi and A. Nori. 2012. Calsequestrin (CASQ1) rescues function and structure of calcium release units in skeletal muscles of CASQ1-null mice. Am J Physiol Cell Physiol 302(3): C575-86. I.F. = 3.980

6 – Mosca B., O. Delbono, M.L. Messi, L. Bergamelli, Z.-M. Wang, M. Vukcevic, R. Lopez, S. Treves, M. Nishi, H. Takeshima, C. Paolini, M. Martini, G. Rispoli, F. Protasi, F. Zorzato. 2013. Enhanced dihydropyridine receptor calcium channel activity restores muscle strength in JP45/CASQ1 double knock-out mice. Nature Communications. 4: 1541. I.F. 10.020

7 – Nemazanyy I., B. Blaauw, C. Paolini, C. Caillaud, F. Protasi, A. Mueller, T. Proikas-Cezanne, R.C. Russell, K.-L. Guan, I. Nishino, M. Sandri, M. Pende, G. Panasyuk. 2013. Defects of Vps15 in skeletal muscles lead to autophagic vacuolar myopathy and lysosomal disease. EMBO Molecular Medicine 5(6): 870-890. I.F. 9.390

8 – Rossi, D., B. Vezzani, L. Galli, C. Paolini, L. Toniolo, E. Pierantozzi, S. Spinozzi, V. Barone, E. Pegoraro, L. Bello, G. Cenacchi, G. Vattemi, G. Tomelleri, G. Ricci, G. Siciliano, F. Protasi, C. Reggiani, and V. Sorrentino. 2014. A Mutation in the CASQ1 Gene Causes a Vacuolar Myopathy with Accumulation of Sarcoplasmic Reticulum Protein Aggregates. Hum Mutat. 35:1163-1170. I.F. = 5.416

9 – Michelucci, A., C. Paolini C, S. Boncompagni, M. Canato, C. Reggiani and F. Protasi. 2017. Strenuous exercise triggers a life-threatening response in mice susceptible to malignant hyperthermia. FASEB J. 31(8):3649-3662. doi: 10.1096/fj.201601292R. I.F. = 5.498

10 – Rashid, T., I. Nemazanyy, C. Paolini, T. Tatsuta, P. Crespin, A. S. Armand, O. Agbulut, A. Olivier-Bandini, F. Protasi, T. Langer, R. Chrast, P. de Lonlay, H. de Foucauld, B. Blaauw and M. Pende. 2019. Lipin 1 deficiency in skeletal muscle causes sarcoplasmic reticulum stress and a myopathy responsive to chaperons. The EMBO Journal. Accepted for publication. EMBOJ-2018-99576R1. I.F. = 9.792

**Peer-Reviewed Publications (last 10 years)**

1 – Kern H., U. Carraro, N. Adami, D. Biral, C. Hofer, C. Forstner, M. Mödlin, M. Vogelauer, A. Pond, S. Boncompagni, C. Paolini, W. Mayr, F. Protasi, S. Zampieri. 2010. The longitudinal prospective clinical study EU-RISE demonstrates that home-based Functional Electrical Stimulation recovers function and mass of denervated muscles in paraplegic patients with complete lower motor neuron injury. Neurorehabil Neural Repair 24(8):709-721. I.F. = 4.877

2 – Iannitelli A., G. Rossella, A. Di Stefano, M. Di Giulio, P. Sozio, L. Janete Bessa, S. Laserra, C. Paolini, F. Protasi and L. Cellini. 2011. Potential Antibacterial Activity of Carvacrol-Loaded Poly (DL-lactide-co-glycolide) (PLGA) Nanoparticles against Microbial Biofilm. Int. J. Mol. Sci. 12(8): 5039-5051. I.F. = 2.732

3 – Paolini C., M. Quarta, L. D'Onofrio, C. Reggiani and F. Protasi. 2011. Differential effect of calsequestrin ablation on structure and function of fast and slow skeletal muscle fibers. J Biomed and Biotech. doi:10.1155/2011/634075 I.F. = 2.687

4 – Tomasi M., M. Canato, C. Paolini, M. Dainese, C. Reggiani, P. Volpe, F. Protasi and A. Nori. 2012. Calsequestrin (CASQ1) rescues function and structure of calcium release units in skeletal muscles of CASQ1-null mice. Am J Physiol Cell Physiol 302(3): C575-86. I.F. = 3.980

5 – Guarnieri, S., Morabito, C., Paolini, C., Boncompagni, S., Pilla, R., Fanò-Illic, G., Mariggiò, M.A. 2013. Growth Associated Protein 43 Is Expressed in Skeletal Muscle Fibers and Is Localized in Proximity of Mitochondria and Calcium Release Units. PLoS ONE 8(1): e53267. I.F. 4.244

6 – Mosca B., O. Delbono, M.L. Messi, L. Bergamelli, Z.-M. Wang, M. Vukcevic, R. Lopez, S. Treves, M. Nishi, H. Takeshima, C. Paolini, M. Martini, G. Rispoli, F. Protasi, F. Zorzato. 2013. Enhanced dihydropyridine receptor calcium channel activity restores muscle strength in JP45/CASQ1 double knock-out mice. Nature Communications. 4: 1541. I.F. 10.020

7 – Nemazanyy I., B. Blaauw, C. Paolini, C. Caillaud, F. Protasi, A. Mueller, T. Proikas-Cezanne, R.C. Russell, K.-L. Guan, I. Nishino, M. Sandri, M. Pende, G. Panasyuk. 2013. Defects of Vps15 in skeletal muscles lead to autophagic vacuolar myopathy and lysosomal disease. EMBO Molecular Medicine 5(6): 870-890. I.F. 9.390

8 – Scorzeto, M., M. Giacomello, L. Toniolo, M. Canato, B. Blaauw, C. Paolini, F. Protasi, C. Reggiani, G.J.M. Stienen. 2013. Mitochondrial Ca2+-Handling in Fast Skeletal Muscle Fibers from Wild Type and Calsequestrin-Null Mice. PLoS ONE 8(10) doi: 10.1371/journal.pone.0074919 I.F. 4.244

9 – Rossi D, C. Bencini,M. Maritati, F. Benini, S. Lorenzini, E. Pierantozzi, A.M. Scarcella, C. Paolini, F. Protasi, V. Sorrentino. 2014. Distinct regions of triadin are required for targeting and retention at the junctional domain of the sarcoplasmic reticulum. Biochem J. 458(2):407-17. I.F. 5.017

10 – Rossi, D., B. Vezzani, L. Galli, C. Paolini, L. Toniolo, E. Pierantozzi, S. Spinozzi, V. Barone, E. Pegoraro, L. Bello, G. Cenacchi, G. Vattemi, G. Tomelleri, G. Ricci, G. Siciliano, F. Protasi, C. Reggiani, and V. Sorrentino. 2014. A Mutation in the CASQ1 Gene Causes a Vacuolar Myopathy with Accumulation of Sarcoplasmic Reticulum Protein Aggregates. Hum Mutat. 35:1163-1170. I.F. = 5.416

11 – Giacomello, E., M. Quarta, C. Paolini, R. Squecco, P. Fusco, L. Toniolo, B. Blaauw, L. Formoso, D. Rossi, C. Birkenmeier, L. Peters, F. Francini, F. Protasi, C. Reggiani, and V. Sorrentino. 2015. Deletion of small ankyrin 1 (sAnk1) isoforms results in structural and functional alterations in aging skeletal muscles fiber. Am J Physiol Cell Physiol. 308(2):C123-38. doi: 10.1152/ajpcell.00090.2014. I.F. = 3.952

12 – Paolini, C., M. Quarta, L. Wei-Lapierre, A. Michelucci, A. Nori, C. Reggiani, R.T. Dirksen and F. Protasi. 2015. Oxidative stress, mitochondrial damage, and cores in muscle from calsequestrin-1 knockout mice. Skeletal Muscle. 5:10. doi: 10.1186/s13395-015-0035-9. I.F. = 5.14

13 – Michelucci, A., C. Paolini, M. Canato, L. Wei-Lapierre, L. Pietrangelo, A. De Marco, C. Reggiani, R.T. Dirksen, and F. Protasi. 2015. Antioxidants protects calsequestrin-1 knockout mice from halothane- and heat- induced sudden death. Anesthesiology. 123(3):603-17. I.F. = 6.168

14 – Di Blasi, S., S. Sansanelli, A. Ruggeri, M. Moriggi, M. Vasso, A.P. D'Adamo, F. Blasevich, S. Zanotti, C. Paolini, F. Protasi, F. Tezzon, C. Gelfi, L. Morandi, M. Pessia and M. Mora. 2015. A CASQ1 founder mutation in 3 Italian families with protein aggregate myopathy and hyperCKaemia. Journal of Medical Genetics. 52(9):617-26. doi: 10.1136/jmedgenet-2014-102882. I.F. = 5.636

15 – Randazzo D., B. Blaauw, C. Paolini, E. Pierantozzi, S. Spinozzi, S. Lange, J. Chen, F. Protasi, C. Reggiani and V. Sorrentino. 2016. Exercise-induced alterations and loss of sarcomeric M-line organization in the diaphragm muscle of obscurin knockout mice. Am J Physiol Cell Physiol. 312(1):C16-C28. doi: 10.1152/ajpcell.00098.2016. I.F. = 3.395

16 – Michelucci, A., C. Paolini C, S. Boncompagni, M. Canato, C. Reggiani and F. Protasi. 2017. Strenuous exercise triggers a life-threatening response in mice susceptible to malignant hyperthermia. FASEB J. 31(8):3649-3662. doi: 10.1096/fj.201601292R. I.F. = 5.498

17 – Rashid, T., I. Nemazanyy, C. Paolini, T. Tatsuta, P. Crespin, A. S. Armand, O. Agbulut, A. Olivier-Bandini, F. Protasi, T. Langer, R. Chrast, P. de Lonlay, H. de Foucauld, B. Blaauw and M. Pende. 2019. Lipin 1 deficiency in skeletal muscle causes sarcoplasmic reticulum stress and a myopathy responsive to chaperons. The EMBO Journal. Accepted for publication. EMBOJ-2018-99576R1. I.F. = 9.792