CURRICULUM VITAE ET STUDIORUM

ELISA CALABRIA

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Date of birth: Jan/11 /1971
Place of birth: Verona, Italy
Familial status: married, 1 child
Citizenship: Italian

ORCID ID: 0000-0001-6557-0379
Researcher ID : K-3849-2014

Education

2002 PhD in Molecular and Cellular Biology and Pathology – University of Padova.
Scientific supervisor Prof. Stefano Schiaffino.

1996 Degree in Biological Sciences (Molecular Biology) – University of Padova.

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1999 Practical course SIBBM "Signal transduction: from the receptor to the nucleus" at the Zoological Station Anton Dhorn in Naples.

1999 Course "Molecular Muscle Biology" at the Copenhagen Muscle Research Centre.

2000 IUBMB course "Intracellular Calcium Signaling" at the University of Padova.

2009 EMBO Practical Course on Analysis and Informatics of Microarray Data Workshop.

2014 OROBOROS O2k-Workshop on high-resolution respirometry and O2k-Fluorometry.

Experiences

2016 Vice Chair of the COST Action MITOEAGLE

2016 Italian Management Committee Member for the MITOEAGLE COST action coordinated by E. Gnaiger

2014-now Post-Doc Fellow at the Department of Neurosciences, Biomedicine and Movement Sciences, University of Verona

2011-2014 Research assistant, Department of Neurosciences, Biomedicine and Movement Sciences, University of Verona.

2010-now Member of the teaching board of the PhD Course in Physical and Movement Sciencesof the University of Verona

2010-2014 Teacher of the PhD School in Sciences of Physical Exercise and Human Movement University of Verona.

2011 Adjunct Professor for the pre-course of General Biology - Sciences and Technologies of Bio- and Nano-Materials, Ca' Foscari University of Venice.

2010-2011 Adjunct Professor for the course of Cellular and General Biology - School of Biotechnology, University of Verona

2009-2010 Post-Doc Fellow at the Faculty of Sport and Exercise Sciences, University of Verona.

2006-2009 Research contract in the "Mouse RNAi Gene attenuation Platform" - Department of Biomedical and Experimental Sciences, University of Padova.

2002-2006 Research contract, Department of Biomedical and Experimental Sciences, University of Padova.

2002 - CNR Fellow, CNR Insitute of Neurosciences, Padova

Scientific Responsibilities

Local Organizer of the COST Action Meeting "A roadmap for MITOEAGLE and first steps. COST Action MITOEAGLE" held in Verona Nov 15-17th 2016.

Stages abroad

1992-93 Université Paris XI Orsay – France (Erasmus fellow).

2004 Harvard Medical School - CBR Institute for Biomedical Research, Boston. Research activity in collaboration with Prof. Anjana Rao . Comparative analysis to identify regulatory regions conserved among human, mouse and rat species at the locus of MyHC-slow gene (coll. With Dr Julie Nardone for the Bioinformatic analysis).

2015 March-August Visiting Scientist at Ouroboros Instruments laboratories - University of Innsbruck/Oroboros Instruments.

Research activity

Characterization of changes of mitochondrial patterns of activity associated with aging in blood cells (PBMCs).

Central and peripheral adaptations to physical exercise programs in healthy elderly.

Effects of physical exercise on blood cells gene regulation in the elderly.

RNAi mediated gene silencing in adult skeletal muscles.

Identification of activity-dependent signaling pathways involved in muscle plasticity, with particular regard to muscle fiber type regulation and hypertrophy.

Characterization of the expression profile of transcription factors, of their functional role by in vivo transfection of adult skeletal muscles.

Characterization and analysis of DNA regulatory regions.

Editorial activities

JSAMS - Journal of Science and Medicine in Sport.

Scientific Reviewer for The Wellcome Trust.

COSt External Expert Evaluator

Informatics

Use of softwares in Windows and MacOsX environments.

Use of software for text writing/editing, datasheets, and presentations.

Software for qualitative and functional analysis of microarray data: Biocuductor packages in R language, GSEA - BroadInsistute.

Software for the acquisition and processing of images (microscope associated software from Leica - Leica Viwer; Photoshop; ImageJ tools).

Common use of softwares for DNA sequences retrival, analysis and comparison (Genome browser, Emboss –Applications, NCBI – Blast tools, Vista Tools, Genomatix);

Analysis of gene sequences for RNAi oligos design.

Research Grant Participation

Joint Project 2015 (University of Verona and Oroboros Instruments)
Identification of functional biomarkers of frailty by measures of mitochondrial respiration and ROS

production in blood cells.
Role: Co-Investigator.

ESA Afit Project 2012 (May2012-May2014)
Cardiovascular and skeletal muscle responses to chronic concurrent exercise using flywheel technology in old men.
Role: Co-Investigator.

PRIN 2004 (Jan2005-Dec2006)
The Akt-FoxO and calcineurin-NFAT pathways as targets of therapies for muscular dystrophies.
Role: Co-Investigator

PRIN 2006 (Jan2007-Dec2008)
Role of the Akt-FoxO and calcineurin-NFAT pahways in the regulation of muscle phenotype. Role: Co-Investigator

Certifications

IRC BLSD - Basic Life Support and Defibrillation

Publications

Calabria E*, Pogliaghi S, Mazza ME, Dyar K, Morandi C, Salvagno G, Gelati M.,Guidi GC, Bicciato S, Schiaffino S, Schena F, Capelli C. Aging: a portrait from a blood cells microarray. ***Corresponding author**

Moretti I, Ciciliot S, Dyar KA, Abraham R, Murgia M, Agatea L, Akimbo T, Bicciato S, Format M, Pierre P, Uhlenhaut NH, Rigby PWJ, Carvajal JJ, Blaauw B, **Calabria E***, and Stefano Schiaffino (2016) MRF4 negatively regulates adult skeletal muscle growth by repressing MEF2 activity. Nature Communications DOI 10.1038/NCOMMS12397. *** co-corresponding author**

Capelli C, Rittveger J, Bruseghini P, **Calabria E**, Tam E. (2016) Maximal aerobic power and anaerobic capacity in cycling across the age spectrum in male master athletes. *Eur J Appl Physiol.* Jul; 116(7):1395-410

Tam E, Bruseghini P, **Calabria E**, Dal Sacco L, Doria C, Grassi B, Pietrangelo T, Pogliaghi S, Reggiani C, Salvadego D, Schena F, Toniolo L, Verratti V, Vernillo G, Capelli C. (2016) Gokyo Khumbu/Ama Dablam Trek 2012: effects of physical training and high-altitude exposure on oxidative metabolism, muscle composition, and metabolic cost of walking in women. *Eur J Appl Physiol.* Jan; 116(1):129-44

Bruseghini P, **Calabria E,** Tam E, Milanese C, Oliboni E, Pezzato A, Pogliaghi S, Salvagno GL, Schena F, Mucelli RP, Capelli C. (2015) Effects of eight weeks of aerobic interval training and of

isoinertial resistance training on risk factors of cardiometabolic diseases and exercise capacity in healthy elderly subjects. *Oncotarget* 10;6(19):16998-7015.

Venturelli M, Saggin P, Muti E, Naro F, Cancellara L, Toniolo L, Tarperi C, **Calabria E**, Richardson RS, Reggiani C, and Schena F (2015) *In vivo* and *in vitro* evidence that in oldest-old humans intrinsic upper- and lower-limb skeletal muscle function is unaffected by ageing and disuse. *Acta Physiol 215(1):58-71.*

Schena F., Pellegrini B., Tarperi C., **Calabria E**., Salvagno G.L., Capelli C. (2014) Running economy during a simulated 60-km trial. I*nt J Sports Physiol Perform.* 9(4):604-609.

Bellotti C, **Calabria E**, Capelli C, Pogliaghi S. Anaerobic threshold determination in healthy adults: can NIRS help? (2013) *Med Sci Sports Exerc*. 45(6):1208-16.

Calabria E, Ciciliot S, Moretti I, Garcia M, Picard A, Pallafacchina G, Tothova J, Kenneth AD, Schiaffino S e Murgia M. (2009) NFAT isoforms control activity-dependent muscle fiber type specification. *Proc Natl Acad Sci U S A 1*1;106(32):13335-40.

Furlan S, RoncaroliI F, Forner F, Vitiello L, **Calabria E**., Piquer-Sirerol S, Valle G, Perez-Tur J, Michelucci R, Nobile C. (2006) The LGI1/Epitempin gene encodes two protein isoforms differentially expressed in human brain. *Journal of Neurochemistry*, 98:985-991

Nobile C, Furlan S, Roncaroli F, **Calabria E**., Piquer-Sirerol S, Vitiello L, Gabellini N, Perez-Tur J, Michelucci R. (2005) LGI1/epitempin: Differential protein expression in human brain regions. *Epilepsia*, 46: 366

Kalhovde JM, Jerkovic R, Sefland I, Cordonnier C, **Calabria E**, Schiaffino S and Lømo T. (2005) 'Fast' and 'slow' muscle fibers in hindlimb muscles of adult rats regenerate from intrinsically different satellite cells. *J Physiol*, 562:847-857.

McCullagh KJA, **Calabria E**, Pallafacchina G, Ciciliot S, Serrano AL, Argentini C, Kalhovde JM, Lømo T, Schiaffino S. (2004) NFAT is a nerve activity sensor in skeletal muscle and controls activity-dependent myosin switching. *Proc Natl Acad Sci U S A,* 101:10590-10595.

Sandri M, Sandri C, Gilbert A, Skurk C, **Calabria E**, Picard A, Walsh K, Schiaffino S, Lecker SH, Goldberg AL. (2004) Foxo transcription factors induce the atrophy-related ubiquitin ligase atrogin-1 and cause skeletal muscle atrophy. *Cell*, 117:399-412.

Sandri C, Di Lisi R, Picard A, Argentini C, **Calabria E**, Myklak K, Scartezzini P, Schiaffino S (2004) Heart morphogenesis is not affected by overexpression of the *Sh3bgr* gene mapping to the Down syndrome heart critical region. *Human Genet*, 114:517-519.

Calabria E*, Pallafacchina G*, Serrano AL, Kalhovde JM, Schiaffino S. (2002) A protein kinase B-dependent and rapamycin-sensitive pathway controls skeletal muscle growth but not fiber type specification. *Proc. Nat. Acad. Sci. USA*, 99:9213-18. (* uguale contributo)

Serrano AL, Murgia M, Pallafacchina G, **Calabria E**, Coniglio P, Lømo T, Schiaffino S. (2001) Calcineurin controls nerve activity-dependent specification of slow skeletal muscle fibers but not muscle growth. *Proc. Nat. Acad. Sci. USA*, 98:13108-13.

Murgia M, Serrano AL, **Calabria E**, Pallafacchina G, Lømo T, Schiaffino S. (2000) Ras is involved in nerve-activity-dependent regulation of muscle genes. *Nature Cell Biol*, 2:142-147.

Pandolfini T, Storlazzi A, **Calabria E**, Defez R, Spena A. (2000) The spliceosomal intron of the rolA gene of agrobacterium rhizogenes is a prokaryotic promoter. *Mol Microbiol*,35(6):1326-34.

Schiaffino S, Murgia M, Serrano AL, **Calabria E**, Pallafacchina G. (1999) How is the muscle phenotype controlled by nerve activity? *Ital. J. Neurol. Sci*., 20: 409-412.

Schiaffino S, Ausoni S, Millino C, **Calabria E**, Sandri C, Di Lisi R. (1999) A cardiac-specific troponin I promoter. Distinctive patterns of regulation in cultured fetal cardiomyocytes, adult heart

and transgenic mice. In *"Cardiovascular specific gene Expression",* P.A. Doevendans, R.S. Reneman and M. van Bilsen, eds., Kluwer, Dordrecht, p. 17-25.
Di Lisi R, C. Millino, **Calabria E**, Altruda S, Schiaffino S, Ausoni S. (1998) Combinatorial cis- acting elements control tissue-specific activation of the cardiac troponin I gene in vitro and in vivo. *J. Biol. Chem.,* 273: 25371-25380.

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Presentations at congresses

E. Calabria, I. Scambi, F. Schena, R. Mariotti, Mitochondrial metabolic biomarkers linked to the G93A mutation of the SOD1 protein. XXVI National Congress of the Italian Group for the study of neuromorphology (GRUPPO ITALIANO PER LO STUDIO DELLA NEUROMORFOLOGIA -G.I.S.N.). Verona, 24-25 Novembre 2016

Calabria E., Tarperi C., Venturelli M., Capelli C., Schena F., ”Blood cells mitochondrial activity in aging and frailty”. At the meeting "A roadmap for MITOEAGLE and first steps COST Action MITOEAGLE" - Verona IT', 2016 Nov 15-17.

Calabria E., Dal Sacco L., Schena F , Capelli C., Tam E. Effect of beetroot juice supplementation on mitochondrial fitness in healthy eldelry men. 21st annual Congrass of the European Congress of Sport Sciences 2016.

Sumbalova Z, Droescher S, Hiller E, Chang S, Garcia L, **Calabria E**, Volani C, Krumschnabel G, Gnaiger E Human blood cells: isolation and HRR. MitoFit Science Camp 2016

Hoppel F, **Calabria E**, Pesta D, Burtscher M, Gnaiger E Effects of ultramarathon performance on mitochondrial respiration in human platelets. 11th MiPconference on Mitochondrial Physiology 2015.

Bruseghini P, Capelli C, Tam E, Pogliaghi S, **Calabria E**, Schena F, Annoni I, Galvani C, (2014) Physical Activity Accumulation in Bouts and Nonbouts and Relation to Cardiorespiratory Fitness in Older Adults. Medicine and Science in Sports and Exercise 46 (5) Supplement: 1 Pages: 236-236.

Tam E, Bruseghini P, **Calabria E,** Milanese C, Pogliaghi S, Schena F, Capelli C (2014) Effects Of High-intensity-interval-training (HIT) on Cardiovascular Fitness And Cardiometabolic Risk In The Elderly. Medicine and Science in Sports and Exercise 46 (5) Supplement: 1 Pages: 269-269.

Calabria E., Pogliaghi S., Mazza ME., Dyar K., Bellotti C., Salvagno G., Mottes M., Guidi GC., Schiaffino S., Schena F., Capelli C.. Immunosenescence and physical exercise: search for healthy

ageing. 63rd National Congress of the Italian Society of Physiology, Verona, Sep 22-23 2012. (Oral Communication).

Calabria E. Pogliaghi S., Morandi C. Salvagno G., Guidi GC., Schiaffino S., Schena F., Capelli C.. Physical exercise and immunosenescence: can we play for healthy ageing? 59th ACSM Annual Meeting, 3rd Exercise is Medicine, San Francisco, CA, USA, May 29 - June 2 2012 (Poster presentation)

Calabria E., Pallafacchina G., McCullagh K.J.A., Ciciliot S., Schiaffino S.. NFAT signaling and fiber type specification in skeletal muscle. *Molecular Biology of Muscle Development and Regeneration*, May 30 - June 4, 2003 The Banff Centre, Banff, Alberta, Canada. (Oral Communication).