

## PERSONAL INFORMATION

## Martino Vladimiro Franchi



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Sex M | Date of birth | Nationality Italian

## SUMMARY

**Assistant Professor in skeletal muscle physiology**Department of Biomedical Sciences, *University of Padova*, Italy.Former**Research Fellow in skeletal muscle plasticity**<sup>1</sup> Laboratory for Muscle Plasticity and <sup>2</sup> Sports Medicine Research group, Balgrist, University Hospital, *University of Zurich*, Switzerland (2017-2019).**Postdoctoral Fellow in skeletal muscle physiology**Clinical, Metabolic and Molecular Physiology group, MRC-ARUK Centre for Musculoskeletal Ageing, *University of Nottingham*, Nottingham, UK (2013-2017).**Masters by Research and PhD** in skeletal muscle physiologyIRM, former Institute for biomedical research into human movement and health, *Manchester Metropolitan University*, Manchester, UK.

## Main job-related skills:

- Integrative physiology approach: “from the macro to the micro”, from function to structure, to molecules and back. Willing to translate basic physiology onto clinical and health matters.
- 12 years of experience in working with skeletal muscle imaging techniques (Ultrasound, Shear Wave Elastography, MRI, DEXA) for the assessment of skeletal muscle (and tendon) structural and functional properties (mass, size, architecture, mechanical properties).
- 9 years of experience in muscle biology: focusing of the cell-signalling mechanisms regulating adaptations of skeletal muscle to loading, unloading and ageing (phenotype, muscle structure, architecture, functional properties).

A total **35 publications** in peer reviewed international journals.A total of **636 citations from 2014**, with an **h-index** of **13** and i10 index of 13 (according to Scopus).A total of **1 successful research grant** awarded by Uniklinik Balgrist stiftung (CH) (240'000 CHF) (– Principal Investigator: Dr J Spörri, I was the only co-investigator).Finalist (**Top 20**) of the Acta Physiologica Award 2020 -best manuscript (Franchi et al. *Acta Physiol* 2018).**Invited speaker** at 13 international conferences/seminars (Berlin Autumn School '19 being the personal highlight).

30+ abstracts accepted for international conferences.

Editor for “Biology” journal (mdpi) – section of Physiology.

Guest associate editor of *Frontiers in Physiology* journal.Reviewer Editor for *Frontiers in Physiology* and *Frontiers in Sports and Active living* journals.

Invited reviewer for 41 international journals.

Fellow of the *European College of Sports Science* (FECSS). Networking Secretary of the *Strength and Conditioning Society* (July 2018-present).Faculty Member of the *Football Science Institute* (January 2020-present).

JOB POSITIONS, EDUCATION  
AND TRAINING

June 2019 – present



## Assistant Professor in skeletal muscle physiology

Department of Biomedical Sciences, University of Padova, Padua, Italy.  
Working in Professor Marco Narici's neuromuscular physiology lab. Participated in a bed rest campaign in Koper, Slovenia (Aug-Sept 2019) as main responsible of the whole muscle imaging and function data collection. The data are currently in analysis.

June 2019



## Visiting Scientist

Clark Center, Interdisciplinary research in biological sciences.  
Took part in a project collaboration with Professor Scott Delp (James H. Clark Professor of Bioengineering, Mechanical Engineering and Orthopaedics) and Dr Glen Lichtwark (School of Human Movement, University of Queensland -Australia) on the role of sarcomerogenesis in muscle adaptations to exercise.

June 2017– May 2019

University of  
Zurich<sup>UZH</sup>

## Research Fellow in skeletal muscle plasticity

Uniklinik Balgrist, Balgrist University Hospital, Department of Orthopedics, Zurich, Switzerland. Affiliated to University of Zurich and ETH.

- 1) Laboratory for Muscle Plasticity, University of Zurich, Zurich, Switzerland.
- 2) Sports Medicine Research Group, University of Zurich, Zurich, Switzerland (from April 2018 to June 2019).

Working in Professor Martin Flück's lab.

Working in Dr Jörg Spörri's Sports Medicine group.

Co-investigator with Professor Flück in different projects (two human investigations and one on mice) looking at the effect of different training regimes (eccentric vs. concentric in humans, high vs. low load in mice) on molecular responses of mechanotransductor pathways and the interaction with distinct gene polymorphisms involved in muscle adaptations in phenotype and structure in clinical and exercise scenarios.

Working in Dr Jörg Spörri's Sports Medicine group for the development of Shear Wave Elastography Ultrasound technique on a project in conjunction with (and partially funded by) the Swiss Ski National Team (injury screening and prevention for muscular and tendon injuries). **One successful research grant awarded** from Uniklinik Balgrist stiftung (CH) (240'000 CHF) (co-investigator) to investigate novel possibilities of clinical assessment of muscle and tendons through Supersonic Shear Wave Elastography.

Nov 2014 – May 2017



### Postdoctoral Research Fellow

MRC/Arthritis Research UK Centre for Musculoskeletal Ageing Research  
 University of Nottingham (*Clinical, Metabolic and Molecular Physiology Research Group*)  
 (Nottingham, UK)

Holder of the post-doctoral position of the Biotechnology and Biological Science Research Council (BBSRC) U.K funded project "*Structural and metabolic determinants of sarcopenia and efficacy of concentric vs. eccentric exercise training: a novel temporospatial approach*", (project code: BB/ K019104/1), under the supervision of Prof Marco Narici, Prof Paul Greenhaff, Prof Costantinos Maganaris and Prof Philip Atherton.

Co-investigator of the project "*Neuroprotective effects of ball-room dancing in old age*" and co-investigator and project manager of the project "*Functional, morphological, and molecular changes in response to plyometric resistance exercise training protocol in young and older healthy men*" under supervision of Chief Investigator Prof Marco Narici.

Nov 2013 – Nov 2014



### Postdoctoral Research Associate

MRC/Arthritis Research UK Centre for Musculoskeletal Ageing Research  
 University of Nottingham (*Clinical, Metabolic and Molecular Physiology Research Group*)  
 (Nottingham, UK)

Role of Research Associate working 50/50 on two different projects: "*Structural and metabolic determinants of sarcopenia and efficacy of concentric vs. eccentric exercise training: a novel temporospatial approach*", (project code: BB/ K019104/1) and "*Application of deuterated water (D<sub>2</sub>O) to define the etiology of musculoskeletal decline in ageing and the efficacy of nutritional supplementation*" funded by Dunhill Medical Trust and under the supervision of Prof Kenneth Smith.

Oct 2010 – May 2014



### PhD in skeletal muscle physiology

Manchester Metropolitan University (Manchester, UK)  
 University of Nottingham (*visiting student from May 2012 to May 2014*) (Nottingham, UK)

PhD project has been carried out in collaboration between MMU and UoN  
 Supervisory Team: Professor Marco Narici (Director of Studies, University of Nottingham), Professor Neil Reeves (Manchester Metropolitan University), Professor Martin Flück (University of Zurich – Balgrist Hospital), Prof Philip Atherton (University of Nottingham)  
 Project title: "*Mechanisms of human skeletal muscle remodeling in response to concentric and eccentric loading paradigms*".

Sept 2008 – Apr 2010

**Master by Research (MRes) in skeletal muscle physiology**

Manchester Metropolitan University (Manchester, UK)

Master of Science by Research in skeletal muscle physiology achieved under the supervision of Professor Marco Narici (Director of Studies), Professor Costantinos Maganaris, Professor Martin Flück and Professor Neil Reeves (Supervisory Team).

Project title: “*Structural and functional adaptations of the human vastus lateralis muscle in response to pure concentric and eccentric training*”

Cooperated with Dr Robert Csapo in the data collection of his scientific project on effect of wearing high heels on muscle -tendon unit (Csapo R, Maganaris CN, Seynnes OR, Narici MV, 2010. *On Muscle, Tendon and High Heels*, J Exp Biol Aug 1:213:2582-8)

Sept 2006 – Sept 2008

**MSc in theory of adapted and preventive motor activities / rehabilitation sciences**

Università Cattolica del Sacro Cuore di Milano (Milan, Italy)

Covered the theory and practical aspects of motor activities for special populations (older adults, impaired people) by studying the physiological, psychological and anatomical adaptations to ageing, skeletal and muscular injuries, spinal cord lesions and other different conditions of impairment

Sept 2003 – Sept 2006

**BSc in Exercise and Sports Science**

Università Cattolica del Sacro Cuore di Milano (Milan, Italy)

Mother tongue(s)

Italian

Other languages

English: full professional efficiency

German: basic level

## Communication skills

Great communication skills gained through my experience as Master student, PhD student and during my post-doctoral positions and my current appointment of Assistant Professor.

Proficient communication skills gained through my experience as basketball player (captain of university and club teams, starting point guard of the teams) and junior and senior basketball teams head coach.

Effective team-working skills. I consider myself a passionate and enthusiastic team worker: putting synergies together is a must.

## Organisational / managerial skills

**Good managerial skills:** I have co-organised, run and supervised a total of **11 studies** during my MRes + PhD degrees and Post-doctoral positions (2 acute and 6 chronic interventions, from a minimum of 1-day study to a maximum of 10 weeks training protocol, and 3 cross-sectional design studies). I have co-supervised a total of **8 BSc projects** (Medical Physiology and Therapeutics degree, University of Nottingham; Sports Science degree, University of Padua).

**Leadership:**Work Environment

Supervisor of **4 MSc Students** between University of Nottingham, Balgrist Uniklinik, and University of Padua. Co-supervisor of **3 PhD students** (University of Nottingham and University of Padua).

I have personally come up with multiple ideas for scientific studies. Some are already published (Franchi et al., Physiological Reports 2015; Franchi et al. Acta Physiologica 2018, Franchi et al., SJMSS 2018), others have been submitted as grant proposals or are in the making.

I believe I have the leadership skills to profoundly motivate students and co-workers. The coaching skills help me to never despair, knowing that bouncing back together, with more motivation and passion, is key.

Other leadership roles

Captain of Manchester Metropolitan University Basketball 1<sup>st</sup> team 2010/2012 (starting point guard).

Winner of best Manchester Metropolitan University Sport Team of the year (2010 -2011).

Captain of Nottingham Hoods Basketball 2<sup>nd</sup> team 2016/2017 (starting point guard).

Head Coach of U14 Nottingham Junior Hoods (2015-2017) basketball team, England National Premier League. Nottinghamshire County U13 and U15 Male team Head Coach (2016-2017).

Assistant Coach for the Senior team of Turicum Lions Basketball Club (CH) – Winner of Herren 3 Swiss Local Division (2018-2019)

**Good team worker:** I very much appreciate working within a team in order to achieve mutual and personal goals. Based on their skills and potential beneficial contribution, I like to get different people involved in working projects. I consider myself a very enthusiastic hard worker.

## Job-related skills

**EXERCISE PHYSIOLOGY / SPORT SCIENCE related skills**

Excellent knowledge of theory and methodology of training and exercise with both young and older populations.

Excellent expertise in standard isotonic machines / exercise equipment.

**MUSCLE/TENDON PROPERTIES ASSESSMENT**

10+ years expertise in the investigation of skeletal muscle structure, function, architecture, plasticity and adaptation to exercise.

Excellent knowledge of Isokinetic dynamometer machines, assessment of maximum voluntary contraction torque, Isokinetic dynamic force and power peak.

Good knowledge of surface electromyography technique (EMG, signal acquisition and analysis).

Good knowledge of electrical stimulation (i.e. Interpolated Twitch Technique, M-wave assessment).

Good knowledge of force plate measurements.

Excellent knowledge of tendon morphological and mechanical properties (CSA, Elongation, Stiffness, Young's Modulus) assessment via Ultrasound and/or MRI techniques.

Excellent knowledge of rate of torque/force development assessment and analysis.

**MUSCLE IMAGING – MUSCLE MORPHOLOGY AND ARCHITECTURE ASSESSEMENT**

Expert in skeletal muscle architecture.

Excellent knowledge of ultrasound techniques for muscle-tendon morphological mechanical properties.

Excellent skills in the use of Extended Field of View (EFOV, i.e., panoramic) ultrasonography technique.

Solid knowledge of Shear Wave Elastography ultrasound technique.

Good knowledge of Magnetic resonance imaging techniques.

Excellent knowledge of MRI techniques related to muscle CSA and Volume assessment.

Excellent knowledge of Dual-energy X-ray absorptiometry (DXA) technique.

**MOLECULAR BIOLOGY / LABORATORY-BASED SKILLS**

Expertise in cell-signalling events in muscles and tendons during loading and unloading scenarios.

Good knowledge of molecular biology of the skeletal muscle cell.

Knowledge of tendon-related molecular signalling / tendon remodelling.

Excellent expertise in how to support clinical and senior researchers during muscle and tendon biopsies collection and treatment and blood samples handling.

Good knowledge of molecular biology analyses of human tissue, e.g. protein extraction, quantification and Western Blot techniques. Knowledge of immune-precipitation technique.

Good knowledge of muscle tissue cryo-sectioning technique for histological and histo-immuno-chemistry analyses.

Knowledge of RNA extraction from human muscle samples and RT-qPCR technique.

Knowledge in human tissue and body fluids analyses e.g. stable isotope analyses of tissue and saliva by mass spectrometry.

Good knowledge of recently newly developed deuterium-oxide stable isotope tracing techniques.

Knowledge of immunofluorescence-based techniques for microscopy and histological analyses.

Knowledge of single fibre work for human skeletal muscle.

Previous basic experience of rat-muscle based work.

**SCIENTIFIC WRITING AND PRESENTATION SKILLS**

Excellent scientific writing up skills for publication.

Excellent presentation skills.

**TEACHING EXPERIENCE**

Responsible for the teaching of the Physiology II course (Systems Physiology) for the degree of Sports Science, University of Padua, Italy. (2019-present)

Assistant Teacher in the course of *Medical Physiology and Therapeutics*, University of Nottingham: “Methods to assess body composition and Muscle structure” and “Methods to quantify skeletal muscle function” (2014-2017).

Experience of teaching for the course in *Tissue Engineering for skeletal muscle*, University of Zurich: “Phenotypic adaptations of skeletal muscle to different training stimuli” and practical on “Concentric vs. Eccentric exercise modalities” (2017 & 2018).

Guest Lecturer for the MSc in human performance of Saarland University, Saarbrücken, Germany (2019).

Guest Lecturer for the PhD course in Neuromechanics of Human Movement, University of Aalborg, Denmark (2018).

Guest Lecturer for *Exercise and Sports Science* course, Università Cattolica del Sacro Cuore, Milan: Theory and Methodology of Training (2012-2013).

**Computer skills**

Excellent command of Microsoft Office™ tools.

Excellent command of Osirix™ DICOM software.

Excellent command of Image J software.

Good command of FIJI software.

Excellent command of Graphpad Prism software.

Good command of SPSS software.

Excellent command of Mendeley software.

Good command of Acqknowledge Acquisition software.

Basic command of MATLAB software.

Basic command of 3-D Slicer software.

Basic command of Stradwin software.

## Other skills

Head of Sports Science and S&C (Strength and Conditioning, skills, agility and athletic training) of Nottingham Wildcats basketball club (WBBL UK, 1st British division) (2015-2016)

Basketball coach (Italian License, from Minibasket to amateur to semi-pro level since 2005, UK level 2 license). Coached Athletics, Basketball and Volleyball in Italy (2004-2008).

Basketball player (1990 to present). Played for Men's University team in Milan (UCSC) and Manchester (MMU, also being the captain of the team) Played for Derby Rolls Royce Raptors (2013-2014 Sherwood league). Played for Nottingham Hoods Basketball Club (2014-2017), BBL English National Divisions 2 and 4 (Team Captain). Players' MVP of 2014-2015 season for Nottingham Hoods Division 4 team. Player and Assistant coach for Turicum Lions Basketball Club, Zurich, Switzerland.

Football (soccer) Player (2010 to 2016 and 2017-2019).

Musician: Guitar player (Acoustic, Electric, Slide & Lap Steel and Bass guitar), Harmonica player and songwriter. Played in 2 bands when living in Italy (2000 – 2008).

## Driving licence

EU License Type B

## ADDITIONAL INFORMATION



Publications  
 Presentations  
 Projects  
 Conferences  
 Seminars  
 Honours and awards  
 Memberships  
 References

## PAPERS / PUBLICATIONS

**Latest Impact Factor (IF), and Citations Number (CN) are reported (according to Scopus)**

*Total Citations Number (according to Scopus): 532 (started in 2014)*

*h-Index (according to Scopus): 12*

*i-10 Index (according to Scopus): 13*

1. **FRANCHI MV**, ATHERTON PJ, REEVES ND, FLÜCK M, WILLIAMS J, MITCHELL WK, SELBY A, BELTRAN VALLS RM & NARICI MV, **2014**. Architectural, functional and molecular responses to concentric and eccentric loading in human skeletal muscle. *Acta Physiologica* (Oxford, England). 210(3), 642-54 (IF 5.54 – CN 120)
2. **FRANCHI MV**, RUOSS S, SMITH K, ATHERTON PJ, NARICI MV & FLÜCK M, **2018**. Regional regulation of focal adhesion kinase after concentric and eccentric loading is related to remodeling of human skeletal muscle. *Acta Physiologica* (IF 5.54 – CN 19)
3. **FRANCHI MV**, FITZE DP, HAHN D, RAITERI BJ, & SPÖRRI J, **2020**. Ultrasound-derived biceps femoris fascicle length: Extrapolation Pitfalls. *Medicine and Science in Sports and Exercises* (IF 4.45 – CN 6)
4. **FRANCHI MV**, LONGO S, MALLINSON J, QUINLAN JI, TAYLOR T, GREENHAFF P & NARICI MV, **2018**. Muscle thickness correlates to muscle cross sectional area in the assessment of strength training induced hypertrophy, *Scandinavian Journal of Medicine & Science in Sports* (IF 3.63 – CN 55)
5. **FRANCHI MV**, REEVES ND & NARICI MV, **2017**. Skeletal muscle remodelling in response to eccentric vs. concentric loading: morphological, molecular and metabolic adaptations. *Frontiers in Physiology (for the Research Topic "Physiology and Clinical Potential of Eccentric Exercise"* – IF 3.36 – CN 63)
6. WILKINSON DJ \*, **FRANCHI MV** \*, BROOK MS, NARICI MV, WILLIAMS JP, MITCHELL WK, SZEWCZYK NJ, GREENHAFF PL, ATHERTON PJ & SMITH K, **2014**. A validation of the application of D2O stable isotope tracer techniques for monitoring day-to-day changes in muscle protein sub-fraction synthesis in humans. *American Journal of Physiology-Endocrinology and Metabolism* 306 (5), E571-E579 (\* = equal first co-authorship; IF 4.12 – CN 84)
7. MANFERDELLI G, BISHOP DJ, **FRANCHI MV**, SARTO F, GIRARD O, PORCELLI S, **2020**. Recommendations for altitude training programming to preserve athletes' health after COVID-19 pandemic. *British Journal of Sports Medicine* (IF 12.02)
8. DIN USU, BROOK MS, SELBY A, QUINLAN JI, BOEREBOOM C, ABDULLAH H, **FRANCHI MV**, NARICI MV, PHILLIPS BE, WILLIAMS JP, RATAMACHER JA, WILKINSON DJ, ATHERTON PJ & SMITH K, **2018**. A double-blind placebo controlled trial into the impact of HMB supplementation and exercise on free-living muscle protein synthesis, muscle mass and function, in older adults, *Clinical Nutrition* (IF 6.4 – CN 3)
9. QUINLAN J, MAGANARIS CN, **FRANCHI MV**, SMITH K, ATHERTON P, SZEWCZYK N, GREENHAFF P, [...] & NARICI MV, **2017**. Muscle and tendon contributions to reduced rate of torque development in healthy older males. *J Gerontology Series A*, (IF. 4.71 – CN 19)
10. **FRANCHI MV** & MAFFIULETTI NA, **2019**. Distinct modalities of eccentric exercise: different recipes, not the same dish, *Journal of Applied Physiology* (IF 3.14 – CN 6)
11. **FRANCHI MV** & MAFFIULETTI NA, **2019**. Last word on viewpoint: Even more recipes to try, yet know what to put in the pan, as well as when and why, *Journal of Applied Physiology* (IF 3.14)
12. CONTE M, **FRANCHI MV** et al. **2015**. Differential expression of perilipin 2 and 5 in human skeletal muscle during aging and their association with atrophy- related genes, *Biogerontology* 16 (3) 329-340. (IF 3.8 – CN 13)

Publications  
 Presentations  
 Projects  
 Conferences  
 Seminars  
 Honours and awards  
 Memberships  
 References (2)

13. MITCHELL WK, TAVASSALO T, NARICI MV & **FRANCHI MV**, 2017. Eccentric exercise in the critically ill patient, *Frontiers in Physiology (for the Research Topic "Physiology and Clinical Potential of Eccentric Exercise"* – IF 3.36 – CN 13)
14. **FRANCHI MV**, MITCHELL WK, HOPPELER H & NARICI MV, 2017. Editorial: Physiology and clinical potential of eccentric exercise, *Frontiers in Physiology (for the Research Topic "Physiology and Clinical Potential of Eccentric Exercise"* - IF 3.36 – CN 2)
15. **FRANCHI MV**, MONTI E, CARTER A, QUINLAN JI, HERROD P, REEVES ND, & NARICI MV, 2019. Bouncing back! Counteracting muscle ageing with plyometric muscle loading *Frontiers in Physiology (IF 3.36 – CN 2)*
16. FLÜCK M, VIECELLI C, BAPST AM, KASPER S, VADLIVIESO P, **FRANCHI MV**, RUOSS S, LÜTHI JM, BÜHLER M, CLAASEN H, HOPPELER H & GERBER C, 2018. Knee extensors muscle plasticity over a 5-years rehabilitation process after open knee surgery, *Frontiers in Physiology (IF 3.02 – CN 2)*
17. **FRANCHI MV**, ELLENBERGER L, JAVET M, BRUHIN B, ROMANN M, FREY WO, & SPÖRRI J, 2019. Maximal eccentric hamstrings strength in competitive alpine skiers: cross-sectional observation from youth to elite level, *Frontiers in Physiology (IF 3.36 – CN 3)*
18. NARICI MV, **FRANCHI MV** & MAGANARIS CN, 2016. Muscle structural assembly and functional consequences, *J Exp Biol* 219 (2) 276-284. (IF 3.01 – CN 37)
19. **FRANCHI MV**, RAITERI BJ, LONGO S, SINHA S, NARICI MV & CSAPO R, 2018. Muscle Architecture Assessment: Strengths, Shortcomings and New Frontiers of in Vivo Imaging Techniques, *Ultrasound in Medicine and Biology*, (IF 2.2 – CN 16)
20. SCHOENFELD B, OGBORN D, VIGOTSKY A, **FRANCHI MV**, KRIEGER J, 2017. Hypertrophic effects of concentric versus eccentric muscle actions: A systematic review and meta-analysis, *Journal of Strength and Conditioning Research*, (IF 3.01 – CN 18)
21. **FRANCHI MV**, WILKINSON DJ, QUINLAN JI, MITCHELL WK, REEVES ND, SMITH K, ATHERTON PJ & NARICI MV, 2015. Early hypertrophic, architectural and metabolic adaptations of human skeletal muscle to eccentric and concentric loading, *Phys Reports*, Vol. 3 no. e12593 DOI: 10.14814/phy2.12593 (IF not available– CN 28)
22. **FRANCHI MV**, ATHERTON PJ, MAGANARIS CN AND NARICI MV, 2016. Fascicle length does increase in response to longitudinal resistance training and in a contraction-mode specific manner *SpringerPlus*, 5 (1) 1. (IF not available– CN 10)
23. VALDIVIESO P, **FRANCHI MV**, GERBER C, & FLÜCK M, 2018 Does a better perfusion of deconditioned muscle tissue may release chronic low back pain?, *Frontiers in Medicine*, section of Pathology (IF 3.9– CN 2)
24. FITZE DP \*, **FRANCHI MV** \*, POPP W, RUOSS S, CATUOGNO S, CAMENISH K, LEHMANN D, SCHMIED C, NIEDERSEER D, FREY WO & FLÜCK M, 2019. Concentric and eccentric pedalling-type exercise on a soft robot for stable coronary artery disease patients: a randomised protocol for enhancing cardiovascular and muscular adaptations, *Journal of Medical Internet Research*, Research Protocols (\* = equal first co-authorship; *JMIR Res Protoc*, IF not available)
25. QUINLAN JI, NARICI MV, REEVES ND, **FRANCHI MV**, 2019. Tendon adaptations to eccentric exercise and the implications for the older adults. *Journal of Functional Morphology and Kinesiology*.
26. FLÜCK M, KRAMER M, FITZE DP, KASPER S, **FRANCHI MV**, VADLIVIESO P, 2019. Cellular aspects of muscle specialisation demonstrate genotype-phenotype interaction effects in athletes. *Frontiers in Physiology (IF 3.36 – CN 2)*

27. SARTO F\*, **FRANCHI MV\***, RIGON PA, GRIGOLETTO D, ZOFFOLI L, ZANUSO S, NARICI MV, **2020**. Muscle activation during leg-press exercise with or without eccentric overload. *European Journal of Applied Physiology* (\* = equal first co-authorship, IF 2.58)
28. MONTI E\*, **FRANCHI MV\***, BADIALI F, QUINLAN JI, LONGO S, NARICI MV, **2020**. The time-course of changes in muscle mass, architecture and power during 6 weeks of plyometric training. *Frontiers in Physiology* (\* = equal first co-authorship, IF 3.36)
29. NARICI MV, DE VITO G, **FRANCHI MV**, PAOLI A, MORO T, MARCOLIN G, GRASSI B, ... DELA F, GREENHAFF PL, MAGANARIS CN, **2020**. Impact of sedentarism due to the COVID-19 home confinement on neuromuscular, cardiovascular and metabolic health: Physiological and pathophysiological implications and recommendations for physical and nutritional countermeasures. *European Journal of Sports Sciences*. (IF 2.78 – CN 6)
30. **FRANCHI MV**, GREENHAFF PL & NARICI MV, **2017**. [Response to the letter to the editor by Dankel et al. "Changes in Muscle Size via MRI and Ultrasound: Are they Equivalent?"](#) *Scandinavian Journal of Medicine & Science in Sports* (IF 3.63)
31. IMPELLIZZERI FM, **FRANCHI MV**, SARTO F, MEYER T, COUTTS AJ, **2020**. Sharing information is probably more helpful than providing generic training recommendations on return to play after COVID-19 home confinement. *Science and Medicine in Football* (CN 1)
32. SARTO F, IMPELLIZZERI FM, SPÖRRI J, PORCELLI S, ... MUJIKI I, MAFFIULETTI NA, **FRANCHI MV**, **2020**. Impact of physiological changes due to COVID-19 home confinement on athlete health protection in elite sports: a call for awareness in sports programming. *Sports Medicine* (IF 8.55 – CN 1)
33. MALLINSON JE, TARIQ T, CONSTANTIN-TEODOSIU D, BILLETER-CLARK R, CONSTANTIN D, **FRANCHI MV**, NARICI MV, AUER D, GREENHAFF PL, **2020**. Longitudinal hypertrophic and transcriptional responses to high-load eccentric-concentric vs concentric training in males. *Scandinavian Journal of Medicine & Science in Sports* (IF 3.63)
34. **FRANCHI MV**, FITZE DP, HANIMANN J, SARTO F, & SPÖRRI J, **2020**. Panoramic ultrasound vs. MRI for the assessment of hamstrings cross-sectional area and volume in a large athletic cohort. *Scientific Reports* (IF 3.99)
35. MONTI E, TONIOLO L, MARCUCCI L, MARTELLATO I, BONDI' M, **FRANCHI MV**, NARICI MV, REGGIANI C, **2020**. Large hypertrophy but un-modified specific tension of single fibres in body builders. *The FASEB Journal* (IF 4.96)
36. NARICI MV, MONTI E, **FRANCHI MV**, REGGIANI C, TONIOLO L, GIACOMELLO E, ZAMPIERI S, SIMUNIC B, PISOT R, **2020**. Early biomarkers of muscle atrophy and neuromuscular alterations during 10-day bed rest. *The FASEB Journal* (IF 4.96)

#### Sports Science Magazines Publications (Italian Magazines)

1. Narici MV & **Franchi MV**, *Adattamenti muscolo-scheletrici nell'allenamento della forza*, *Scienza & Sport* 16, 2012.
2. Ripamonti G & **Franchi MV**, *Principi metodologici per l'allenamento della forza in bambini e adolescenti*, *Scienza & Sport* 30, 2016.

#### INVITED TALKS

- Football Science Institute Online congress on High Performance in Football 2020 **FRANCHI MV**, *Different Modalities of eccentric loading: different recipes, not the same dish*. Granada, Spain, Webinar.
- Sports Map Network Online conference 2020 – Mastering Lower Limb Muscle Injuries **FRANCHI MV**, *Muscle architecture and its functional impact: theory and practice*. Web-Conference.
- Padua Muscle Days 2020 **FRANCHI MV**, *Advances in imaging techniques for the study of human skeletal muscle in-vivo*. Padova, Italy.
- Berlin Autumn School 2019 **FRANCHI MV**, *From molecules to morphology and function: an overview of skeletal muscle adaptations to eccentric loading*. Berlin, Germany.
- Saarland University MSc in high performance lecture 2019 **FRANCHI MV**, *Plasticity of skeletal muscle in responses to concentric vs. eccentric loading modalities*, Saarbrücken, Germany.
- Padua Muscle Days 2019 **FRANCHI MV**, FITZE DP, RAITERI BJ, & SPÖRRI J. *Regional Shear Wave Elastography of the human biceps femoris long head* (2019), Padua, Italy.
- MMU seminars series 2019 **FRANCHI MV**, *Human muscle adaptations to different loading modalities: from morphology to molecules. – A ten year journey from Manchester Metropolitan University*. Manchester, UK.
- Strength & Conditioning Society Conference 2018 **FRANCHI MV**, *Muscular adaptations to different modalities of eccentric exercise: not all roads lead to Rome*, Rome, Italy.
- The Neuromechanics of Human movement symposium, Aalborg University 2018 **FRANCHI MV**, *Pitfalls of using imaging methods to describe muscle architecture*, Aalborg, Denmark.
- Munich Muscle Meeting April 2018 **FRANCHI MV** *Skeletal Muscle adaptations to distinct contraction types: from molecules to whole muscle morphology*, Munich, Germany.
- Padua Muscle Days 2018 **FRANCHI MV**, RUOSS S, QUINLAN JI, NARICI MV, & FLÜCK M. *Regional muscle architectural adaptations to concentric and eccentric training reflect different activation of mechanosensitive focal adhesion kinase* (2018), Padua, Italy.
- Symposium on Muscle-tendon interaction 2017, University of Leuven, Belgium.
- Pint of Science Festival 2017 **FRANCHI MV** *Rolling with the times: how to adapt exercise as we age?* Nottingham, UK.

#### CONFERENCE PRESENTATIONS / ABSTRACTS

- **FRANCHI MV** et al. *In-vivo ultrasound assessment of biceps femoris long head fascicle length: so far, not so good*. European College of Sports Science Conference (2019), Prague, Czech Republic.
- **FRANCHI MV** et al. European College of Sports Science Conference (2018), Dublin, Ireland.
- **FRANCHI MV** et al. *The time course of muscle morphological adaptations to moderate-load concentric and eccentric training in young and older men*. H3 Symposium, Physiological Society UK, London, UK (2017)
- **FRANCHI MV** et al. European College of Sports Science Conference (2017), Essen, Germany.
- **FRANCHI MV**, RUOSS S, QUINLAN JI, FLÜCK M & NARICI MV, *Regional muscle architectural adaptations to concentric and eccentric training reflect different activation of mechanosensitive focal adhesion kinase*, University of Florida Myology Conference (2017), Oral Presentation and Poster, Gainesville, FL, USA.
- **FRANCHI MV**, RUOSS S, SMITH K, ATHERTON PJ, NARICI MV & FLÜCK M, *Load-induced tyrosine 397 phosphorylation of focal adhesion kinase with resistance training is muscle region and contraction-type dependent*, ECSS (2016) Oral presentation and participating to the Young

Investigator Award (YIA), Vienna, Austria.

- ELLIS R, **FRANCHI MV**, QUINLAN JI, MAGANARIS CN, PHILLIPS BE, GREENHAFF P, SZEWCZYK N, ATHERTON PJ, BATT M, SMITH K & NARICI MV, *The morphological adaptations of human skeletal muscle to eccentric and concentric resistive training are region-specific*, ECSS (2016) Mini-Oral presentation, Vienna, Austria.
- **FRANCHI MV**, ELLIS R, QUINLAN JI, MAGANARIS CN, PHILLIPS BE, GREENHAFF P, SZEWCZYK N, ATHERTON PJ, BATT M, SMITH K & NARICI MV, *The morphological adaptations of human skeletal muscle to eccentric and concentric resistive training are region-specific*, International conference of sarcopenia and frailty research, ICFSR (2016), Philadelphia, PA, USA.
- QUINLAN JI, **FRANCHI MV**, PHILLIPS BE, GREENHAFF P, SZEWCZYK N, ATHERTON PJ, SMITH K, MAGANARIS CN & NARICI MV, *The decline in rate of torque development with ageing is associated with a decrease in tendon stiffness*, International conference of sarcopenia and frailty research, ICFSR (2016), Philadelphia, PA, USA.
- **FRANCHI MV**, QUINLAN JI, PHILBROOKS L, HALE A, PHILLIPS BE, GREENHAFF P, SZEWCZYK N, ATHERTON PJ, FRANCIS S, SMITH K & NARICI MV, *Extended field of view ultrasound compared to MRI in assessing regional changes in skeletal muscle cross-sectional area and volume*, Biological Bases of Elite Performance conference, Physiological Society, March 2016, Nottingham, UK.
- **FRANCHI MV**, QUINLAN JI, MALLINSON J, TAYLOR T, ATHERTON PJ, GREENHAFF P & NARICI MV. *The relationship between muscle thickness and muscle volume: MT is a reliable indicator in assessing changes in skeletal muscle mass of the lower limbs in response to resistance training*, ECSS (2015) Mini-Oral Presentation, Malmo, Sweden.
- **FRANCHI, M.V.**, WILKINSON, DJ, MITCHELL, WK, QUINLAN, JI, SMITH, K, ATHERTON, PJ, NARICI, MV. *Eccentric vs. concentric exercise training in humans: relationships between contraction-specific muscle structural remodelling and chronic muscle protein synthesis*, ECSS (2014) oral presentation, Amsterdam, The Netherlands.
- CARTER, A.W., REEVES, N.D., **FRANCHI, M.V.**, NARICI, M.V. *Functional and architectural adaptations of skeletal muscle to a 6 weeks plyometric training intervention in young and older men*, ECSS (2014) oral presentation, Amsterdam, The Netherlands.
- BROOK, M.S., WILKINSON, D.J., **FRANCHI, M.V.**, NARICI, M.V., SZEWCZYK, N.S., GREENHAFF, P.L., SMITH, K., ATHERTON, P.J. *Relationships between long-term muscle protein synthesis and hypertrophy in response to resistance exercise training: a novel d2o tracer approach*, ECSS (2014) oral presentation, Amsterdam, The Netherlands.
- CONTE, M., VASURI, F., BELLAVISTA, E., **FRANCHI, M.V.**, DEGIOVANNI, A., ERRICO GRIGIONI, A., TRISOLINO, G., MARTUCCI, E., KOVANEN, V., BERTAGGIA, E., SANDRI, M., NARICI, M.V., FRANCESCHI, C., SALVIOLI, S. *Aging of skeletal muscle: a study on the role of intramuscular lipid deposition*, ECSS (2014) oral presentation, Amsterdam, The Netherlands.
- **FRANCHI MV**, *Overview di effetti di allenamento Eccentrico vs. Concentrico*, Principi e adattamenti dell'allenamento della forza: dalle molecole al movimento, (Oct 19<sup>th</sup> 2013), Milan - Italy, Invited Oral Presentation at Università Cattolica del Sacro Cuore of Milan, Milan, Italy.
- **FRANCHI MV**, Atherton PJ, Reeves ND, Flück M, Mitchell WK, Selby A, Beltran-Valls MR and Narici MV, *Architectural and molecular responses to eccentric vs. concentric training in human skeletal muscle: possible contraction-specific adaptations*, IIM X Annual meeting – Monteriggioni (Italy) (2013), Oral Presentation, Italy.
- **FRANCHI MV**, WILKINSON DJ, BROOK M, NARICI MV, MITCHELL WK, SMITH K, AND ATHERTON PJ, *Efficacy of the deuterium oxide (D2O) stable isotope tracer technique for monitoring the effects of short-term resistance exercise-training on muscle protein synthesis (MPS)*, IECS (2013), Poster Presentation, Birmingham, UK.
- **FRANCHI MV**, ATHERTON PJ, REEVES ND, FLÜCK M, MITCHELL WK, SELBY A, BELTRAN-VALLS MR AND NARICI MV, *Architectural and morphological adaptations to Eccentric vs. Concentric contractions: possible underlying mechanical and biochemical mechanisms*, ECSS (2013) Oral Presentation, Barcelona, Spain.



- NARICI MV, **FRANCHI MV**, REEVES ND, *Blunted anabolic response to strength training in older individuals*, VII EUROPEAN CONGRESS Healthy and Active Ageing For All Europeans "II" (2011)
- **FRANCHI MV**, REEVES ND, FLÜCK M AND NARICI MV, *Human skeletal muscle remodeling with eccentric and concentric training*, ECSS (2011), Poster presentation, Liverpool, UK.
- **FRANCHI MV**, REEVES ND, FLÜCK M AND NARICI MV, *Different human skeletal muscle architectural adaptations to eccentric and concentric training matched for neural activation*, EMC - European Muscle Conference XXXIX, (2010), Poster Presentation, Padua, Italy.

## EXTERNAL ROLES

- **Responsible for Muscle Ultrasound imaging collection and analysis** (also helping the Prof Ian McDonald's team from University of Nottingham, in the insulin/clamp measures) for the 2016-2018 bed-rest study at MEDES Institute for Space Medicine and Physiology, Toulouse, France (Jan 2017-April 2017).
- **Responsible for Muscle Ultrasound imaging collection, analyses and study design advisor** in collaboration with Prof Oliver Faude (University of Basel), Dr Jörg Spörri (Uniklinik Balgrist Zurich, University of Salzburg) and FC Basel Academy in a longitudinal study on injury prevention/ early detection in young elite football players (Sept 2017-present).
- **Networking Secretary of the Strength & Conditioning Society (SCS)** (June 2018-present).

## COLLABORATIONS

- Collaborative projects with Dr Geoffrey Power, University of Guelph, Canada
- Collaborative projects with Dr Glen Lichtwark (University of Queensland, Australia) and Professor Scott Delp (Stanford)
- Collaborative projects with Dr Jörg Spörri and Professor Jess Snedeker, Uniklinik Balgrist/University of Zurich, Switzerland
- Collaborative projects with Professor Martin Flück, University of Zurich, Switzerland
- Collaborative projects with Dr Brent Raiteri and Prof Daniel Hahn, University of Bochum, Germany
- Collaborative projects with Dr Alessandro Del Vecchio, Imperial College London, UK
- Collaborative projects with Prof Nicola Maffiuletti, Shulthess Klinik, Zurich, Switzerland
- Collaboration with Prof Neil Reeves, Manchester Metropolitan, University, UK
- Collaboration with Dr Simone Porcelli, University of Pavia, Italy
- Collaborative projects with Prof Paul Greenhaff, University of Nottingham, UK
- Collaboration with Dr Neil Cronin, University of Jyväskylä, Finland
- Collaboration with Professor Olivier Seynnes, Norwegian School of Sport, Norway

## ROLES/POSITIONS

**Football Science Institute (FSI) faculty member** (2020-present)

**European College of Sports Science Fellow (FECSS)** (2018-present), supporting the goals of the ECSS by distinguished activities. Fellows of ECSS have made a significant contribution to the development of sports science through research.

**Editorial Board member of BIOLOGY** (MDPI journal group) (2020-present)  
**Section of Physiology.**

<https://www.mdpi.com/journal/biology/sectioneditors/Physiology>

**Guest Associate Editor for FRONTIERS IN PHYSIOLOGY (2017-2019)**

**Section of Exercise Physiology**

Research Topic: “Physiology and Clinical Potential of Eccentric Exercise”

<http://journal.frontiersin.org/researchtopic/4576/physiology-and-clinical-potential-of-eccentric-exercise>

**Review Editor for FRONTIERS IN PHYSIOLOGY (2016-present)**

**Section of Exercise Physiology,**

**Section of Integrative Physiology,**

**Section of Environmental, Aviation, and Space Physiology**

**Review Editor for FRONTIERS IN SPORTS AND ACTIVE LIVING (2019-present)**

**Section of Sports Science, Technology and Engineering.**

**Invited Reviewer for the following 41 peer-reviewed scientific journals:**

*Journal of Cachexia, Sarcopenia and Muscle*

*Acta Physiologica*

*Clinical Nutrition*

*Scientific Reports*

*Medicine & Science in Sports & Exercise*

*Frontiers in Physiology*

*Scandinavian Journal of Medicine and Science in Sports*

*Journal of Applied Physiology*

*Journal of Experimental Biology*

*Journal of Sports and Health Science*

*Journal of Science in Medicine and Sports*

*Applied Physiology, Nutrition and Metabolism*

*Transactions on Neural Systems and Rehabilitation Engineering*

*International Journal of Sports Physiology and Performance*

*PLOS One*

*European Journal of Sport Science*

*American Journal of Physiology - Regulatory Integrative and Comparative Physiology*

*Experimental Physiology*

*European Journal of Applied Physiology*

*Computer Methods and Programs in Biomedicine*

*Ultrasound*

*Clinical Physiology and Functional Imaging Journal*

*Physiological Measurements*

*Peer J*

*Archives of Gerontology*

*Journal of Musculoskeletal and Neuronal Interactions*

*Journal of Electromyography and Kinesiology*

*Physiological Reports*

*Journal of Strength and Conditioning Research*

*Ultrasound in Medicine & Biology*

*Frontiers in Sports and Active Living*  
*Strength & Conditioning Journal*  
*Journal of Science in Sport & Exercise*  
*Life Sciences*  
*Nutrition and Health*  
*Journal of Sports Sciences*  
*Parkinson's Disease*  
*Biology of Sport*  
*Trials BMC*  
*Free Radical Research Journal*  
*Molecular & Cellular Probes Journal*

### **ROLES/POSITIONS (outside of work environment)**

Head of Sports Science (Strength and Conditioning, skills, agility and athletic training) of Nottingham Wildcats Basketball Club (WBBL UK, 1<sup>st</sup> British division CHAMPIONS) (2015-2016)

U14 Nottingham Junior Hoods basketball Head Coach (2015-2017), English National Premier League.

#### Basketball England roles:

U13 Male Nottinghamshire County (UK) basketball team Head Coach (2016)

U13 Male Nottinghamshire County (UK) basketball team Assistant Coach (2017)

U15 Male Nottinghamshire County (UK) basketball team Assistant Coach (2016)

U15 Male Nottinghamshire County (UK) basketball team Head Coach (2017)

### **MEMBERSHIPS**

Fellow of European College of Sport Science (FECSS)

Member of the American College of Sports Medicine (ACSM)

Member of UK Physiological Society

Member of the Italian Sports Sciences Society (SISMES)

Member of the Strength & Conditioning Society (SCS)

### **AWARDS**

1. Acta Physiologica Award 2020 Finalist (top 20 articles) for the article Franchi et al. Acta Physiol 2018 "Regional regulation of focal adhesion kinase after concentric and eccentric loading is related to remodeling of human skeletal muscle." – The winner is yet to be decided.

2. European College of Sports Science Fellow (FECSS), supporting the goals of the ECSS by distinguished activities. Fellows of ECSS have made a significant contribution to the development of sports science through research (2017)



3. Mognoni Prize 2013 (Premio Mognoni 2013): 1st place for young investigator in exercise physiology & sport science (1<sup>st</sup> Prize = 1500 €). 10th National Sports Medicine Conference "L'ambulatorio di medicina dello sport, oltre l'idoneita" (Saronno, ITALY)

#### **AWARDS (outside of work environment)**

1. WBBL (Women's British Basketball League) regular season champions 2015-2016 (as Head of Sports Science / Strength & Conditioning)
  2. WBBL (Women's British Basketball League) Betty Codona Classic tournament champions 2016 (as Head of Sports Science / Strength & Conditioning)
  3. England Basketball *Annual Volunteer Award Finalist* (September 2011)
  4. Nottingham Hoods Basketball Club National Division 4 *Players Most Valuable Player of the season Award* (May 2015)
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