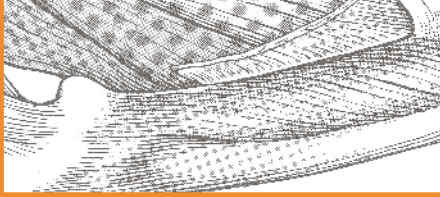




muscle tech network

**1st MuscleTech Network Workshop on Muscle and
Tendon: Research Strategies and Wellness Trends**
September, 21st and 22nd 2009 - Barcelona





Welcome!

Dear colleague,

I am pleased to welcome you to the 1st MuscleTech Network Workshop on Muscle and Tendon: Research Strategies and Wellness Trends.

This meeting is organized by Biocat together with Leitat Technological Center, in collaboration with the Fundació FC Barcelona and the General Secretariat for Sport of the Catalan Government with the support of Obra Social “la Caixa”.

By organizing this activity, Biocat, the biocluster organisation that dynamizes and promotes biotechnology and biomedicine in Catalonia, wishes to support the research on muscle and tendon both from international and local groups, by helping them to promote the technology transfer to the industry and creating synergies with international experts. Thus, we hope that this workshop is going to set the grounds for MuscleTech Network - a platform to conduct research on muscle and tendon with impact on industry and society.

We are proud to welcome you to Barcelona and wish you a fruitful stay.

Mr. Manel Balcells
*President of the Executive Committee,
Biocat.*



Combining ef

The General Secretariat for Sport of the Government of Catalonia is working towards the objective of transforming **sports** into a generator for change. Their actions are focused on the motto *L'esport mou Catalunya*, or *Sport moves Catalonia*. Sport as a movement for change towards a healthier life, a better education, a fuller integration, and equality between people.

In the same direction, the Fundació FC Barcelona aims to promote an emblematic social model through the development of solidarity, cultural, educational and research activities to enable the consolidation of Barça's social commitment to being *Més que un Club*, *More than a club* in Catalonia, Spain and the world.

Similar to the objectives of both institutions, Leitat Technological Center, founded in 1906 has service as its vocation. It strives to provide services, increase technological value and manage Research, Development and Innovation (R+D+I) under the maxim: *Managing your technologies*. Leitat has always lent a keen hand to the Catalan industry network.

forts

 L'esport *mou* Catalunya

 Generalitat de Catalunya
Departament de la Vicepresidència
Secretaria General de l'Esport


FUNDACIÓ FC BARCELONA



LEITAT
Technological Center
managing your technologies

The clear objectives and joint efforts of those three institutions have forged *MuscleTech Network* as a platform for conducting research on muscle and tendon, which aims to have an impact beyond the scientific community.

About Muscles



Tech Network



MuscleTech Network has the objective of generating improvements in the field of health and sports performance by achieving cutting edge research on skeletal muscle and tendons.

MuscleTech Network aims to build knowledge, achieve technological progress and scientific improvements by promoting state-of-the-art research amongst Catalan R&D groups and by coordinating cooperation and synergies amongst its members and the international scientific community.

The objectives **MuscleTech Network** strives for are to be achieved through an aggregated management model of the initiatives from the research groups involved; achieving a critical mass in research, greater international visibility and a higher impact of the results.





September 21st

8:30 Registration

8:45 – 9:00 Welcome

Ms Anna Pruna - *The General Secretariat for Sport, Government of Catalonia.*

Mr Manel Balcells - *President of the Executive Committee, Biocat, the BioRegion of Catalonia.*

Ms Marta Segú - *General Director, Fundació FC Barcelona.*

Mr Albert Matarodona - *Executive Director, Leitat Technological Centre.*

9:00 – 9:15 Presentation of MuscleTech Network

Mr Joan Parra - *Managing Director, Leitat Technological Centre.*

9:15 – 11:15 Keynote speeches

Muscles are still our movers!

Mr Ilkka Vuori

Changes in muscle morphology, neuromuscular capacity and tendon function with training: implications for athletic performance, patient rehabilitation and aging individuals.

Mr Per Aagaard

Stem cells: new tools for regenerative medicine.

Mr Agustín Zapata

11:15 - 11:30 Coffee break

11:30 - 12:45 Panel discussion

Muscle and tendon: Scientific knowledge - Clinical practice.

Chair: Mr Enric Càceres

Panel members: Mr Ramon Segura
Mr Ramon Cugat
Mr Xavier Mir
Mr Javier Valle
Mr Ricard Pruna

12:45 - 13:15 Visit to the workshop venue

13:15 - 14:00 Lunch

14:00 - 14:30 Research group 1:

The importance of human anatomy. Macro and microscopic anatomical studies.

Ms Isabel Miguel-Pérez



14:30 – 15:00 Research group 2:

Ultrasonography and magnetic resonance diagnostic tools: evaluation and treatment of musculotendinous pathologies and injuries.

Mr Ramon Balius

Overuse injuries in tendons - from basic science to rehabilitation.

Guest speaker: Mr Henning Langberg

15:00 – 15:30 Research group 3:

Determination of specific markers from muscle serum of athletes muscle fibres and injured tendons.

Ms Roser Cussó

Metabolic modulation of skeletal muscle Ca^{2+} handling and excitability.

Guest speaker: Mr Niels Ørtenblad

15.30 – 16:00 Research group 4:

Non direct muscle effects of nutritional factors on physical performance.

Mr Ramon Segura

Post-exercise recovery and performance.

Guest speaker: Mr Clyde Williams



16:00 – 16:15 Coffee break

16:15 – 16:45 Research group 5:

Can intermittent hypoxia exposure improve the recovery after induced muscle damage?

Mr Ginés Viscor

AMP-activated protein kinase phosphorylation (AMPK) in skeletal muscle, training adaptation and inflammation.

Guest speaker: Mr José A. L. Calbet

16:45 – 18:15 Research group 6, 7 and 8:

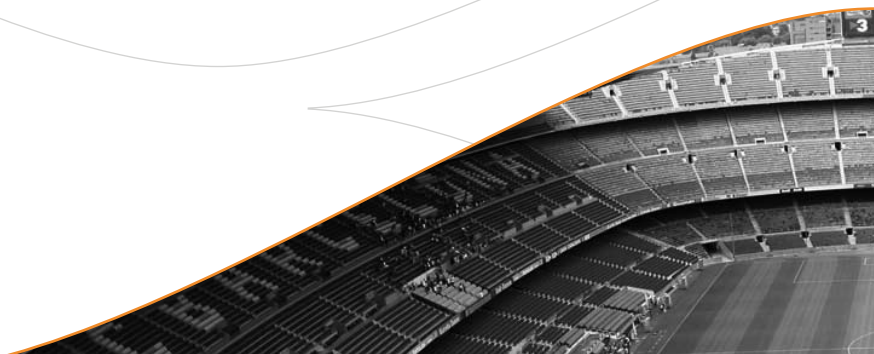
GIRSANE - Performance and Health Research Group for High Level Sports.
High Performance Centre (CAR) & Terrassa Health Consortium (CST)

Overview of the muscle and tendon research related activities at the GIRSANE Research Group.

Mr Franchek Drobnic

Mr Xavier Balius

Mr Lluís Til



Potential application of stem cell therapy in sports medicine.

Guest speaker: Mr Johnny Huard

Evaluation of the mechanical load applied on the musculoskeletal system. Use of “in vivo” experimental techniques and modelling methodologies.

Guest speaker: Mr António Prieto Veloso

Eccentric exercise and delayed onset muscle soreness –myofibrillar damage or remodelling.

Guest speaker: Mr Lars-Eric Thornell

20:30 Visit to FC Barcelona: Museum and Medical Facilities

Welcomed by Mr Ramón Canal - *Medical Services General Manager, Futbol Club Barcelona.*

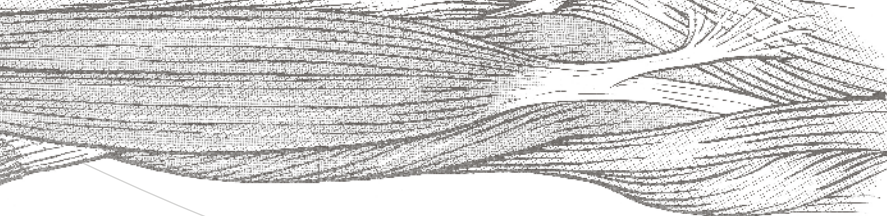
21:30 Official dinner

Restaurante Loidi - c/ Mallorca 248-250, Barcelona





September 22nd



9:00 – 9:30 Research group 9:

Neuromuscular adaptations: a lifespan approach.

Ms Rosa M. Angulo-Barroso

Neuromuscular plasticity to training: spinal and supraspinal adaptations.

Guest speaker: Mr Per Aagaard

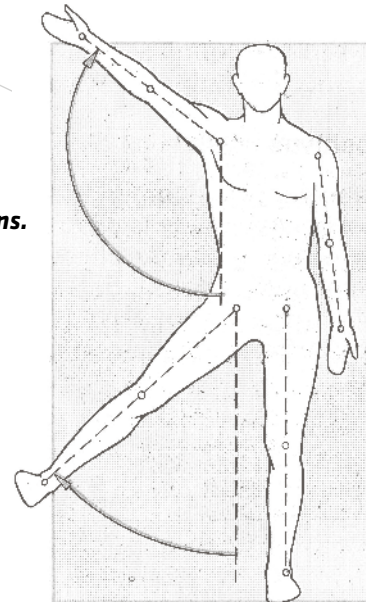
9.30 – 10:00 Research group 10:

The primate shoulder muscles: a morphologic and molecular study.

Mr Josep Potau

In vivo assessment and plasticity of human neuromuscular function.

Guest speaker: Mr Nicola A. Maffiuleti



10.00 – 10:30 Research group 11:

ITRT projects in regenerative therapy with stem cells and PRP.

Mr Lluís Orozco

Mesenchymal stem cells and bone morphogenetic proteins (BMPs).

Guest speaker: Mr Agustín Zapata

10:30 – 10:45 Coffee break

10:45 – 12:15 Panel discussion

Muscle injuries: Socio-economic aspects.

Chair: Mr Ramon Besa

Panel members: Mr Marc Soler

Mr Angel Ruiz Cotorro

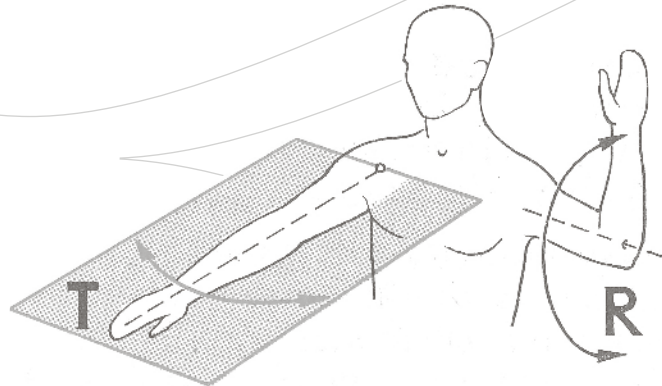
Mr Manel Estiarte

Mr Joan Boix

Mr Iván De la Peña

Mr Carles Puyol

Mr Pere Arch



12:15 – 12:45 Workshop conclusions / MuscleTech Network presentation

Ms Mariona Violan - *Codirector of the Plan of Physical Activity, Sport & Health, General Secretariat for Sport, Government of Catalonia.*

Mr Ramon Canal - *Medical Services General Manager, Fútbol Club Barcelona.*

Mr Joan Parra - *Managing Director, Leitat Technological Centre.*

12:45 – 13:30 Closing remarks

Mr Josep-Lluís Carod-Rovira - *Vice-president, Government of Catalonia.*

Ms Anna Pruna - *General Secretariat for Sport, Government of Catalonia.*

Mr Manel Balcells - *President of the Executive Committee of Biocat, the BioRegion of Catalonia.*

Mr Jaume Lanaspá - *Executive Director of Obra Social "la Caixa".*

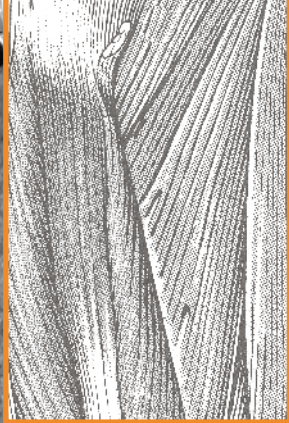
Mr Joan Laporta - *President of Fútbol Club Barcelona.*

Mr Ramon Segura - *Emeritus Professor of Physiology at the Medical School of the University of Barcelona.*

Mr Eusebi Cima - *President of Leitat Technological Centre.*

13:30 Cocktail reception





**Who
is who?**



SPEAKERS

Per Aagaard, Ph.D., M.Sc.

Professor in Biomechanics at the Institute of Sports Science and Clinical Biomechanics, University of Southern Denmark. Also affiliated to the Copenhagen Institute of Sports Medicine at Bispebjerg Hospital, University of Copenhagen.

Rosa M. Angulo-Barroso, Ph.D.

Research Unit, National Institute of Physical Education (INEF- Catalunya).

Pere Arch

EGARSAT External Relations General Manager, National Field Hockey Coach and International Hockey Federation (FIH) Hockey Coach.

Ramon Balius, M.D., Ph.D.

High Performance Sports Research Centre (CEARE) of the Catalan Sports Council.

Xavier Balius

GIRSANE - Performance and Health Research Group for High Level Sports. Head of the Biomechanics Department Representing GIRSANE, Sport Sciences Unit (Olympic Training Centre) and Health Unit (Health Consortium of Terrassa).

Ramon Besa

Editor of the Sports Section of "El País".

Joan Boix

Financial Vice-president and Treasurer of the Fútbol Club Barcelona.

Enric Càceres, M.D., Ph.D.

Head of the Orthopaedic Surgery and Traumatology Unit of the Municipal Institute for Public Health in Barcelona, Chair of Orthopaedics at the Autonomous University of Barcelona and President of SECOT (Spanish Society of Orthopaedic Surgery and Traumatology).

José A. L. Calbet, Ph.D.

Department of Physical Education, University of Las Palmas de Gran Canaria, Spain.

Ramon Cugat, M.D.

Orthopaedic Surgeon, Head of the Orthopaedic Unit at the "Mutua Montañesa" and member of "Mutualidad de Futbolistas" of the Catalan Football Federation, Trauma Institute Quiron Garcia Cugat Foundation.

Ramon Canal, M.D.

Medical Services General Manager, Futbol Club Barcelona.

Roser Cussó, Ph.D.

Department of Physiological Sciences I. Biochemistry and Molecular Biology Unit. Metabolic Regulation and Molecular Pathology Group. Faculty of Medicine, University of Barcelona.

Iván De la Peña

Professional Football Player from the "Reial Club Deportiu Espanyol de Barcelona".

Franchek Drobnic, M.D., Ph.D.

GIRSANE - Performance and Health Research Group for High Level Sports Department of Sport Physiology, High Performance Centre - CAR - Sant Cugat del Vallès. Sport Medicine Dept. Fútbol Club Barcelona.

Manel Estiarte

Director for External Relations of the Fútbol Club Barcelona.

Johnny Huard, Ph.D.

Henry J. Mankin Professor and Vice-chair for Musculoskeletal Cellular Therapeutics in the Department of Orthopaedic Surgery and in the Departments of Microbiology

and Molecular Genetics, Pathology and Physical Medicine, Bioengineering, and Rehabilitation. Director of the Stem Cell Research Center of Children's Hospital of Pittsburgh. Deputy Director of the McGowan Institute for Regenerative Medicine.

Henning Langberg, Ph.D.

Institute of Sports Medicine, Bispebjerg Hospital, School of Health Sciences, University of Copenhagen, Copenhagen.

Nicola A. Maffiuleti, Ph.D.

Head of the Neuromuscular Research Laboratory, Schulthess Clinic, Zurich, Switzerland.

Isabel Miguel-Pérez, M.D, Ph.D.

Department of Pathology and Experimental Therapeutics, Research Unit on Muscle Anatomy and Pathology, School of Medicine (Campus Bellvitge), University of Barcelona.

Xavier Mir, M.D., Ph.D.

Head of the Orthopaedic Surgery and Traumatology Unit of the "Vall d'Hebron" University Hospital and director of the Unit of Surgery and Microsurgery of the Hand from the Department of Orthopaedic Surgery and Traumatology of USP at the Dexeus University Institute.

Lluís Orozco, M.D.

Regenerative Tissue Therapy Institute at the Teknon Medical Centre (ITRT).

Niels Ørtenblad, M.D., Ph.D.

Institute of Sports Science and Clinical Biomechanics, University of Southern Denmark, Odense University.

Josep Potau, M.D., Ph.D.

Unit of Human Anatomy and Embryology, School of Medicine, University of Barcelona.

António Prieto Veloso, Ph.D.

Head of the Neuromechanics of Human Movement Research Group (Portuguese Science and Technology Foundation), Director of the Biomechanics Laboratory at the Faculty of Human Kinetics and Vice Dean of the Faculty of Human Kinetics, Technical University of Lisbon.

Ricard Pruna, M.D.

Sports Medicine Specialist, Physician of the Spanish premier league football team Fútbol Club Barcelona.

Carles Puyol

Professional Football Player from the Fútbol Club Barcelona.

Angel Ruiz Cotorro, M.D.

Trauma Specialist and Orthopaedic Surgeon, Physician of the Royal Spanish Tennis Federation and responsible for the MAPFRE tennis medical centre.

Ramon Segura, M.D., Ph.D.

Emeritus Professor of Physiology at the Medical School of the University of Barcelona and Member of the "Physiology of Exercise" Group and Professor at the Medical School of Physical Education and Sport.

Marc Soler, M.D.

Deputy Director of the Corporate College of Physicians of Barcelona.

Lars-Eric Thornell, M.D., Ph.D.

Department of Integrative Medical Biology, Umeå University, Sweden.

Lluís Til, M.D.

Physiological and Functional Evaluation Department, High Performance Centre - CAR - Sant Cugat del Vallès.

Javier Valle, M.D.

Representing the Medical School of Physical Education and Sport at the University of Barcelona.

Ginés Viscor, Ph.D.

Physiology Department, School of Biological Sciences, University of Barcelona.

Ilkka Vuori, M.D., Ph.D.

Former and Founding Director of the UKK Institute for Health Promotion Research, Tampere, Finland, Honorary Doctor of Health Sciences, and professor of Public Health at University of Jyväskylä and University of Turku, visiting professor at Stanford University, Ca., USA and member of the World Health Organisation (WHO).

Clyde Williams, Ph.D.

School of Sport, Exercise and Health Sciences, Loughborough University, UK.

Agustín Zapata, M.D., Ph.D.

Professor of Cell Biology at the Complutense University of Madrid, former deputy general director for cell therapy and regenerative medicine at the Carlos III Health Institute (ISCIII), and former vice-rector for research of the Complutense University of Madrid .



See You
soon!



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1st MuscleTech Network
Workshop on Muscle and
Tendon: Research Strategies
and Wellness Trends

Palau Colet
c/ Buenos Aires 56
Barcelona - Spain

for further information:
www.muscletechnetwork.org
info@muscletechnetwork.org

organized by:



with the collaboration of:



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