

Final Programme

ICRS Focus Meeting

**I'm NOT
ready for metal**



MILAN-ITALY
December 13–14, 2018


Course Directors:
Elizaveta Kon, Maurilio Marcacci, Alberto Gobbi



International Cartilage Regeneration
& Joint Preservation Society

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Utilizing a unique biocompatible membrane, MACI offers potential benefits over traditional ACI through minimal incision, simplified delivery, and suture-free fixation for the treatment of articular cartilage defects of the knee.

INDICATION

MACI® (autologous cultured chondrocytes on porcine collagen membrane) is an autologous cellularized scaffold product that is indicated for the repair of single or multiple symptomatic, full-thickness cartilage defects of the adult knee, with or without bone involvement.

MACI is intended for autologous use and must only be administered to the patient for whom it was manufactured. The implantation of MACI is to be performed via an arthrotomy to the knee joint under sterile conditions.

The amount of MACI administered is dependent upon the size (surface in cm²) of the cartilage defect. The implantation membrane is trimmed by the treating surgeon to the size and shape of the defect, to ensure the damaged area is completely covered, and implanted cell-side down.

Limitations of Use

Effectiveness of MACI in joints other than the knee has not been established.

Safety and effectiveness of MACI in patients over the age of 55 years have not been established.

IMPORTANT SAFETY INFORMATION

MACI is contraindicated in patients with a known history of hypersensitivity to gentamicin, other aminoglycosides, or products of porcine or bovine origin. MACI is also contraindicated for patients with severe osteoarthritis of the knee, inflammatory arthritis, inflammatory joint disease, or uncorrected congenital blood coagulation disorders. MACI is also not indicated for use in patients who have undergone prior knee surgery in the past 6 months, excluding surgery to procure a biopsy or a concomitant procedure to prepare the knee for a MACI implant.

MACI is contraindicated in patients who are unable to follow a physician-prescribed post-surgical rehabilitation program.

The safety of MACI in patients with malignancy in the area of cartilage biopsy or implant is unknown. Expansion of present malignant or dysplastic cells during the culturing process or implantation is possible.

Patients undergoing procedures associated with MACI are not routinely tested for transmissible infectious diseases. A cartilage biopsy and MACI implant may carry the risk of transmitting infectious diseases to healthcare providers handling the tissue. Universal precautions should be employed when handling the biopsy samples and the MACI product.

Final sterility test results are not available at the time of shipping. In the case of positive sterility results, health care provider(s) will be contacted.

To create a favorable environment for healing, concomitant pathologies that include meniscal pathology, cruciate ligament instability and joint misalignment, must be addressed prior to or concurrent with the implantation of MACI.

Local treatment guidelines regarding the use of thromboprophylaxis and antibiotic prophylaxis around orthopaedic surgery should be followed. Use in patients with local inflammations or active infections in the bone, joint, and surrounding soft tissue should be temporarily deferred until documented recovery.

The MACI implant is not recommended during pregnancy. For implantations post-pregnancy, the safety of breast feeding to infant has not been determined.

Use of MACI in pediatric patients (younger than 18 years of age) or patients over 65 years of age has not been established.

The most frequently occurring adverse reactions reported for MACI (≥5%) were arthralgia, tendonitis, back pain, joint swelling, and joint effusion.

Serious adverse reactions reported for MACI were arthralgia, cartilage injury, meniscus injury, treatment failure, and osteoarthritis.



For more information, please see Highlights of Prescribing Information about MACI, or visit MACI.com

1. Saris D, Price A, Widuchowski W, et al. Matrix-applied characterized autologous cultured chondrocytes versus microfracture: Two-year follow-up of a prospective randomized trial. Am J Sports Med. 2014;42(6):1384-94.
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Dear Colleagues & Friends,

The ICRS is happy and proud to present Focus Meeting in collaboration with ESSKA and SIGASCOT, held in Humanitas University, Milan, Italy.

The focus of this meeting is quite provocative: "I am not ready for metal!" and it is on a cutting-edge field regarding current state of art in growth factors, scaffolds, cells and other joint preservation techniques for OA. A topic that everybody will be more and more interested in the near future.

During the meeting, participants will get a deep overview on joint preservation techniques, and also exposed to practical tips and tricks on their application. International renowned specialists and opinion leaders (clinicians and basic scientist) will give insights about what is coming from the bench, such as GFs and MSC application, biomarkers, unloading approaches, bone marrow edema, novel MR imaging methods and injectable biologic products.

This Focus meeting will be enriched by RE-LIVE SURGERY TECHNICAL SESSIONS, where innovative osteochondral and meniscal scaffolds, stem cells/bone marrow/adipose tissue concentrate techniques will be displayed.

Course Directors

Elizaveta Kon, Maurilio Marcacci, Alberto Gobbi,



Upcoming ICRS Events – Mark your Agenda

ICRS Summit – Bio-Orthopaedics in Sport Medicine

Jan. 17–18, 2019 – San Diego, US

ICRS World Series Brazil – 3rd World Series SP

Feb. 07–09, 2019 – Sao Paulo, Brazil

ICRS Focus Meeting – One-Step Cartilage Repair

June 05–06, 2019 – Rome, Italy

ICRS 2019 – World Congress – Joint Preservation

Oct. 05–08, 2019 – Vancouver, Canada



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A Level of Evidence 1 study highlights the safety and potential use of MaioRegen as an effective clinical option for the treatment of osteochondral lesions, showing for the first time the superiority of this biomimetic scaffold compared to Microfracture in this specific indication.

*Kon E. et al.
Knee Surg Sports Traumatol
Arthrosc, 2017*



Level of Evidence 1
International RCT



+12 Points vs. Microfracture
in Deep Osteochondral
Lesions at 2 Years Follow-Up



+16 Points vs. Microfracture
in Sport Active Patients
at 2 Years Follow-Up

Course Organizing Office

Cartilage Executive Office GmbH

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Invited Faculty & Moderators

Abazovic Dzihan (SRB)
Adravanti Paolo (IT)
Angele Peter (DE)
Arbel Ron (IL)
Bait Corrado (IT)
Berruto Massimo (IT)
Boldrini Lorenzo (IT)
Bonanzinga Tommaso (IT)
Brittberg Mats (SE)
Cappato Simone (IT)
Caplan Arnold (US)
Castagna Alex (IT)
Catalan Jose Miguel (ES)
Chubinskaya Susan (US)
Condello Vincenzo (IT)
Cugat Ramon (ES)
D'Agostino Maria Cristina (IT)
de Girolamo Laura (IT)
Della Villa Stefano (IT)
Di Matteo Berardo (IT)
Espregueira-Mendes João (P)
Farr Jack (US)
Ferrua Paolo (IT)
Filardo Giuseppe (IT)
Gatti Roberto (IT)
Gobbi Alberto (IT)
Grappiolo Guido (IT)
Grigolo Brunella (IT)
Ha Chul-Won (ROK)
Iacono Francesco (IT)
Jorgensen Christian (FR)
Koh Yong-gon (ROK)
Kon Elizaveta (IT)
Lafeber Floris (NL)
Lattermann Christian (US)
Levy Andrew (US)
Lisignoli Gina (IT)
Loppini Mattia (IT)
Madonna Vincenzo (IT)

Magalon Jeremy (FR)
Malda Jos (NL)
Mantovani Alberto (IT)
Marcacci Maurilio (IT)
Margheritini Fabrizio (IT)
Marmotti Antonio (IT)
Massazza Giuseppe (IT)
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Ronga Mario (IT)
Rosa Donato (IT)
Sacchi Andrea (IT)
Saris Daniel (US)
Selmi Carlo (IT)
Sekiya Ichiro (JPN)
Shabshin Nogah (IL)
Slynarski Konrad (ES)
Suh Dongsuk (ROK)
Tencone Fabrizio (IT)
Vadalà Gianluca (IT)
Vannini Francesca (IT)
Varenna Massimo (IT)
Verdonk Peter (BE)
Volpi Piero (IT)
Zaffagnini Stefano (IT)
Zanon Giacomo (IT)
Zaslav Kenneth (US)
Zorzi Caludio (IT)

Local Organizing Committee

Arcidiacono Martina (IT)
Lovato Laura (IT)
Raspugli Giovanni (IT)
Nannini Alessandra (IT)
Vandenbulcke Filippo (IT)
Vitale Nicolo (IT)

FINAL PROGRAMME

Thursday, December 13, 2018

- 09.30–12.00 Registration**
- 10.30–11.30 Lipogems-Symposium**
- 11.30–12.00 Welcome Reception (Partly Sponsored by Lypogems)**
- 12.00–12.15 Opening**
HUMANITAS: Alberto Mantovani (IT), Marco Montorsi (IT), Maurilio Marcacci (IT)
ICRS: Alberto Gobbi (IT)
SIGASCOT: Giuseppe Milano (IT), Massimo Berruto (IT)
ESSKA: Peter Angele (DE)
UNIVERSITY OF MILAN: Pietro Randelli (IT)
- 12.15–12.45 Introduction Lectures**

Cells, Scaffold & Co: I Am Not Ready For Metal – Maurilio Marcacci (IT)
Post-Traumatic OA – Susan Chubinskaya (US)
- 12.45–16.40 Session I: Cells**
Chair: Susan Chubinskaya (US), Alberto Gobbi (IT)
- 12.45–13.15 1.1 Opinion Leader Confrontation: Arnold Caplan (US) vs Daniel Saris (US)**
Open Questions:
– Adipose vs Bone Marrow
– Concentrated vs Expanded
– Are MSCs Stem Cells?
– Autologous vs Allogeneic
– What are the New Rules and Needs For Orthobiologics?
– Does Cartilage have a Innate Repair Capacity?
– What is Better in the Joint: Chondrocytes or MSCs?
– MSC Action Tropic or Immunomodulatory?
- 13.15–13.27 1.2 Synovial Stem Cell-Based Therapy in Cartilage Repair – From Autologous to Allogenic Clinical Trial – Norimasa Nakamura (JPN)**
- 13.27–13.39 1.3 Cord-Blood Stem Cell-based Therapy in OA – Chul-Won Ha (ROK)**
- 13.39–13.51 1.4 Stem Cell-Based Meniscal Regeneration – Ichiro Sekiya (JPN)**
- 13.51–14.03 1.5 “Nose to Knee” – Giuseppe Peretti (IT)**
- 14.03–14.15 1.6 Adipose-Derived Stem Cells: ADIPOA Project – Christian Jorgensen (FR)**
- 14.15–14.27 1.7 ADIPOA Project – Biological Aspects – Gina Lisignoli (IT), ADIPOA Project: Pre-Clinical Model – Brunella Grigolo (IT)**
- 14.27–14.39 1.8 Amniotic Membrane Suspension: RCT – Jack Farr (US)**
- 14.39–14.51 1.9 Secretoma – Next Generation Of Stem Cell Therapy?**
Antonio Marmotti (IT), Laura de Girolamo (IT)
- 14.51–15.05 Discussion**
- 15.05–15.30 Coffee Break And Industry Work Shops: Watch And Try**

15.30–16.30	1.10 Technical session – Stem Cells: How To Do It Relive And Relevant Results <i>Chair: Giuseppe Peretti (IT), Daniel Saris (US)</i>
15.30–15.40	1.11 Lipogems – <i>Claudio Zorzi (IT)</i>
15.40–15.50	1.12 Marrow Cellution – <i>Maurilio Marcacci (IT), Laura de Girolamo (IT)</i>
15.50–16.00	1.13 Adipose Derived Stem Cell Therapy For OA – <i>Suh Dongsuk (ROK)</i>
16.00–16.10	1.14 Isto Biologics – <i>Dzihan Abazovic (SRB)</i>
16.10–16.20	1.15 Stem Cell Mediated Vertebral Disk Regeneration – <i>Gianluca Vadalà (IT)</i>
16.20–16.30	1.16 ACPSVF (SVF: Stromal Vascular Fraction) – <i>Konrad Slynarski (PL)</i>
16.30–16.40	Discussion
16.40–17.20	Session II: PRP & GF <i>Chair: Jack Farr (US), Dzihan Abazovic (SRB)</i>
16.40–17.10	2.1 PRP – Opinion Leader Confrontation: <i>Giuseppe Filardo (IT) vs Ramon Cugat (ES)</i> Open Questions: <ul style="list-style-type: none"> – Platelet Rich vs Platelet Poor – Leucocyte Rich vs Leucocyte Poor – PRP vs HA – Combined With HA Or Cortisone – New Frontiers
17.10–17.20	Discussion
17.20–17.40	Coffee Break
17.40–18.50	Session III: GF, Stem Cells & Co for OA – Other Questions? <i>Chair: Christian Lattermann (US), Laura de Girolamo (IT)</i>
17.40–17.52	3.1 Gold Induced Cytokine (GOLDIC) – <i>William Murrel (UAE)</i>
17.52–18.04	3.2 Influencing Inflammatory Joint Environment: Orthokine – <i>Ron Arbel (IL)</i>
18.04–18.16	3.3 Influencing Inflammatory Joint Environment: APS – <i>Di Matteo Berardo (IT)</i>
18.16–18.28	3.4 Dose Concept In PRP Field: Does Composition Of PRP Influence Efficacy? <i>Jeremy Magalon (FR)</i>
18.28–18.40	3.5 Can This Work In Rheumatic Disease? – <i>Carlo Selmi (IT)</i>
18.40–18.50	Discussion
19.15	Bus departure to dinner from Humanitas

Friday, December 14, 2018

08.30–11.15 **Session IV: Scaffolds**

Chair: Donato Rosa (IT), Angele Peter (DE)

- 08.30–08.45 **4.1 Scaffolds: Where Are We Today** – Mats Brittberg (SE)
- 08.45–09.00 **4.2 Bioprinting Of Grafts For Osteochondral Replacement – An Update** – Jos Malda (NL)
- 09.00–09.15 **4.3 Role Of Subchondral Bone Reconstruction: From Cartilage Defects To OA**
Dror Robinson (IL)
- 09.15–09.30 **4.4 Why Subchondral Bone is Key of OA Treatment** – Levy Andrew (US)
- 09.30–09.45 **4.5 Biotribology – When Cartilage Meets Metal** – Stefan Nehrer (AT)

09.45–10.55 **Technical Session – Scaffolds: How To Do It Relive surgery and Relevant Results**

Chair: Kenneth Zaslav (US), Pietro Randelli (IT)

- 09.45–09.55 **4.6 CartiHeal** – Elizaveta Kon (IT)
- 09.55–10.05 **4.7 MaioRegen** – Maurilio Marcacci (IT), Giuseppe Filardo (IT)
- 10.05–10.15 **4.8 Hyalofast** – Alberto Gobbi (IT)
- 10.15–10.25 **4.9 Geistlich AMIC Chondro-Gide** – Massimo Berruto (IT)
- 10.25–10.35 **4.10 Regentis** – Ron Arbel (IL)
- 10.35–10.45 **4.11 Cartgel** – Fabrizio Margheritini (IT)
- 10.45–10.55 **4.12 Joint Rep** – Simone Cappato (IT)

10.55–11.05 **Discussion**

11.05–11.30 **Coffee Break And Industry Work Shop: Watch & Try**

11.30–12.40 **Session V: Unloading Procedures**

Chair: Giuseppe Milano (IT), Paolo Adravanti (IT)

- 11.30–11.42 **5.1 Meniscal Transplantation: Where Are We Today** – Peter Verdonk (BE)
- 11.42–11.54 **5.2 Osteotomy** – Peter Angele (DE)
- 11.54–12.06 **5.3 NuSurface-Relive Surgery** – Vincenzo Condello (IT)
- 12.06–12.18 **5.4 Atlas: Relive Surgery** – Vincenzo Madonna (IT)
- 12.18–12.30 **5.5 Knee Joint Distraction: Can It Delay The Need For Metal?** – Floris Lafeber (NL)

12.30–12.40 **Discussion**

12.40 –13.30 **Lunch Session – Round Table: “Biotech and Sport”**

Chairs: Massimo Berruto (IT), João Espregueira-Mendes (P)

Participants: Ramon Cugat (SP), Tom Minas (US), Peter Verdonk (BE), Piero Volpi (IT), Gianluca Melegati (IT), Stefano Della Villa (IT), Stefano Respizzi (IT), Maurilio Marcacci (IT), Alex Castagna (IT)

13.30–15.00	Session VI: Bone Marrow Edema <i>Chair: Pietro Randelli (IT), Mario Ronga (IT)</i>
13.30–13.42	6.1 Definition And Diagnosis – Nogah Shabshin (IL)
13.42–13.54	6.2 Conservative Treatment – Massimo Berruto (IT), Massimo Varenna (IT)
13.54–14.06	6.3 Relive Surgery And Results: Subchondroplasty – Pietro Randelli (IT)
14.06–14.18	6.4 Relive Surgery And Results: Cell Implantation – Elizaveta Kon (IT)
14.18–14.30	6.5 Treatment Of knee Subchondral Bone, Cartilage And Synovium In Severe OA <i>Jose Miguel Catalan (ES)</i>
14.30–14.45	Discussion
14.45–15.15	Coffee Break and Industry Work Shops: Watch and Try
15.15–16.00	Session VII: Patient Profiling – A New Graal <i>Chair: William Murrel (AE), Carlo Selmi (IT)</i>
15.15–15.30	7.1 Biomarkers – Christian Latterman (USA)
15.30–15.45	7.2 Morphologic Profiling – Peter Verdonk (BE)
15.45–16.00	Discussion
16.00–17.45	Session VIII: The Final Countdown Before Metal <i>Chair: Corrado Bait (IT), Randelli Filippo (IT)</i>
16.00–16.15	8.1 Joint Preservation, How Far Can We Go Today? – Tom Minas (US)
16.15–16.30	8.2 I Am Not Ready For Metal In Patello-Femoral – Stefano Zaffagnini (IT)
16.30–16.45	8.3 I Am Not Ready For Metal In Shoulder – Alex Castagna (IT)
16.45–17.00	8.4 I Am Not Ready For Metal In Hip – Guido Grappiolo, Mattia Loppini (IT)
17.00–17.15	8.5 I Am Not Ready For Metal In Ankle – Francesca Vannini (IT)
17.15–17.30	8.6 Regulatory on Biologics: AAOS – ICRS Iniziative – Ken Zaslav (US)
17.30–17.45	Discussion
17.45–18.30	Best Poster Presentation and Award <i>Chair: Tommaso Bonanzinga (IT), Paolo Ferrua (IT), Gianluca Vadalà (IT)</i>



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Parallel session (in English and Italian)

Focus On Knee Rehabilitation: From the Aging Athlete To the Housewife

Chair: Stefano Respizzi (IT), Giuseppe Massazza (IT), Roberto Gatti (IT), Stefano Della Villa (IT)

14.00–15.00 Introduction

- 14.00–14.15 **1.1 Knee Preservation Surgery: From the Aging Athlete To the Housewife**
Maurilio Marcacci (IT), Francesco Iacono (IT)
- 14.15–14.30 **1.2 Return To Sport After Surgery** – *João Espregueira-Mendes (P)*
- 14.30–14.45 **1.3 Physiopathology And Rehabilitation Of Arthrogenous Muscle Inhibition**
Roberto Gatti (IT)
- 14.45–15.00 **1.4 Movement Analysis Test: Evaluating Impairments And Planning Correct Neuromotor Training** – *Lorenzo Boldrini (IT)*

15.00–16.15 Non Operative Treatment – Indications And Role Of:

- 15.00–15.15 **1.5 Knee Rehabilitation** – *Gianluca Melegati (IT)*
- 15.15–15.30 **1.6 PRP** – *Maria Teresa Pereira (IT)*
- 15.30–15.45 **1.7 Acido Ialuronico** – *Giacomo Zanon (IT)*
- 15.45–16.00 **1.8 PEMF** – *Giacomo Zanon (IT)*
- 16.00–16.15 **1.9 Shock Wave Therapy** – *Maria Cristina D'Agostino (IT)*

16.15–16.30 Discussion

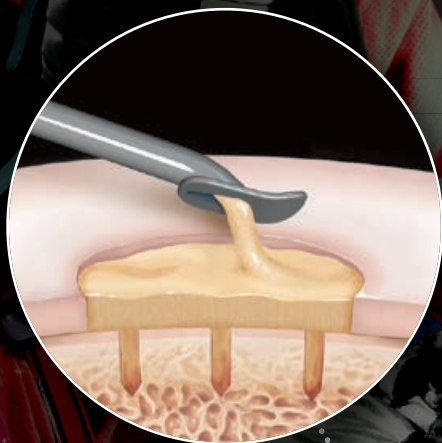
16.30–16.45 Coffee Break And Industry Work Shops: Watch And Try

16.45–17.45 Post-Surgical Recovery

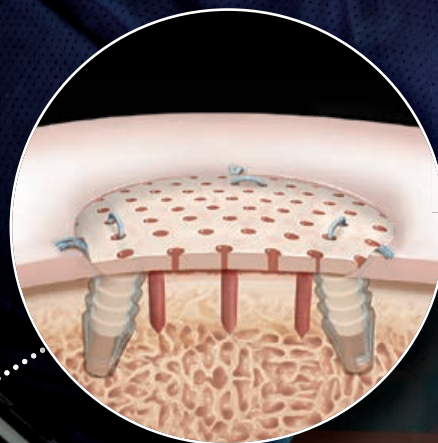
- 16.45–17.00 **1.10 Rehabilitation Protocols After Cartilage Surgery** – *Fabrizio Tencone (IT)*
- 17.00–17.15 **1.11 New Frontiers: Gym, Green Room & On Field Rehabilitation**
Davide Pisoni (IT), Andrea Sacchi (IT)
- 17.15–17.30 **1.12 Return To Sports After Surgery In Ageing Athlete. Where We Are Today, And Where We Are Going** – *Stefano della Villa (IT)*

17.30–17.45 Discussion

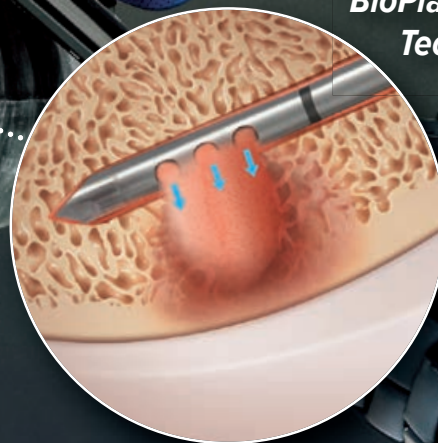
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**Adravanti Paolo, MD****Casa di Cura Città di Parma, Parma, Italy**

Paolo Adravanti received his M.D in 1979 from the University of Parma (Italy); he then completed his residency program in Orthopaedics and Traumatology in 1984 at the University of Milano and in Physiotherapy in 1987 at the University of Parma. After 7 years spent at the University Hospital in Parma, he moved to the Clinic "Città di Parma" where he is the Chief of the Orthopaedic Department since 1991. As part of his educational and training program, he attended several fellowships in both knee replacement and sports medicine in some of the most outstanding orthopaedic centres, including the Insall Scott Kelly Institute for Orthopaedics and Sports Medicine of New York (Prof. J. N. Insall), the Hospital for Special Surgery of New York (Dr. R. S. Laskin), the Alabama Sports Medicine & Orthopaedic Center of Birmingham, the East Lansing Medical Plaza of East Lansing (Dr. L. L. Johnson) and the Centre Hospitalier Lyon-Sud of Lyon – France (Prof. Henry Dejour).

He was President of SIGASCOT (Italian Knee Arthroscopy Sports Cartilage and Orthopaedic Technology Society) in 2012-2014, Founding Member of EKS (European Knee Society), and active member of ESSKA (European Society Sport Knee Arthroscopy), ISAKOS (International Society of Arthroscopy, Knee Surgery and Orthopaedic Sports Medicine) and AAHKS (American Association of Hip and Knees Surgeons). He is Authors of peer-reviewed papers and he has been speakers at several national and international Congresses and Courses since 2001.

**Angele Peter, MD****University Hospital Regensburg Traumatologie Regensburg, Germany**

Peter Angele is an internationally well known knee specialist. His main focus is the regenerative treatment of knee injuries to ligaments, meniscus and hyaline cartilage. Since 2008 he became a partner in the highly specialized institution „sporthopaedicum“. At the same time he was a consultant in the Department of Trauma Surgery, University Hospital of Regensburg with focus on regenerative knee surgery. Since July 2010 he fulfills a professorship position for „Regenerative Joint Therapy“ at the University Hospital Regensburg. Cartilage regeneration has also been his main research interest. From 1997 to 1999 he spent a DFG sponsored research fellowship at Case Western Reserve University. His research focus was stem cell based chondrogenic differentiation and mechanobiology. After his return to the University Hospital Regensburg he continued with basic and translational research by establishing an own research group with currently more than 10 team members. Over the last 10 years this group published more than 60 peer reviewed, medline listed papers with the focus on stem cell based cartilage and meniscus regeneration. Since 2010 he has been the director of the FIFA Excellence Centre in Regensburg. The research focus within this responsibility is the prevention and the optimized treatment of cartilage and ligamentous injuries of the athletes.

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**Arbel Ron, MD****Hod Hasharon, Israel**

I've got my degree at Tel Aviv university medical school. Finished my residency at Tel Aviv Surasky medical centre (Ichilov hospital). Practiced in arthroscopic surgery and sports medicine in Austria, Germany, Belgium, Holland, Italy and USA (California, Mississippi and Utah). I'm an Honorary member of Arthroscopic Association of North America- AANA and a fellow in the ICRS as well as an international member in AAOS. I've served as the president of the Israeli society of sports medicine 2003-2009. I'm the director of sports medicine and arthroscopic surgery service in Tel Aviv Surasky medical centre, Tel Aviv university. My main work is knee and ankle surgery. Meniscus surgery, ligaments surgery of the knee and ankle and various treatments to cartilage problems. I'm doing biological reconstructions of the knee joint like osteotomies, cartilage implantation, meniscus allograft and osteochondral autografts and allografts implantation, biological treatments like PRP, Orthokine and Stem Cells.

Involved now in some researches about treatments to cartilage lesions including cartilage implantations- 2nd generation, special techniques in cartilage treatments and new device- artificial meniscus ("Nusurface") for people who suffer from pain due to early degenerative cartilage lesions of the knee. also involve in studies about treatments of arthritic knee with stem cells, Orthokine and special gel application.

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INTERNATIONAL FACULTY



Bait Corrado, MD
Istituto Clinico Villa Aprica, Como, Italy

Corrado Bait is Chairman of Arthroscopy Committee of SIGASCOT, member of ESSKA Arthroscopy Committee and EKA Session of ESSKA. Promoter and coordinator of different scientific meeting and skill courses, he's been involved in cartilage repair for over 20 years when performed with Piero Volpi the first Italian ACL in November 1996. Author of different scientific paper and chapter of textbooks in Orthopaedics, he's a reviewer of KKSTA Journal and Joints Journal, its main field of action is Sport Medicine and Joints Preservation Surgery since 1994.



Berruto Massimo, MD
Istituto Gaetano Pini Orthopaedic Milan, Italy

Born in Turin (Italy) grew up in Milan (Italy) where got the degree in Medicine and the fellowship in Orthopaedics and Traumatology. Since 1987 work at Orthopaedic Institute Gaetano Pini of Milan, in the Dept of Knee Surgery and Arthroscopy, until 1997 as assistant, then as vice-chairman, and since 2010 as Chairman. In 1988 spent 1 year in Burlington, at Dept. of Orthopaedics of University of Vermont, as fellow researcher developing an experimental study on the strain of ACL. In 1989 spent six months at Birmingham, at Alabama Sports Medicine, with Professor Jimmy Andrews and Bill Clancy as fellow observer. He developed an over 30 years experience in knee surgery and arthroscopy and he is able to perform all the techniques involving the knee joint from arthroscopy to total knee replacement. He is the Vice-President of SIGASCOT (Italian Society of Knee Arthroscopy Cartilage Sport and Orthopaedic Technology).



Boldrini Lorenzo, MD
Isokinetic Medical Group, FMCE - FIFA Milan, Italy

Lorenzo Boldrini received his M.D. from the University of Milan in 1997 and completed his residency in Sport Medicine in 2002. He worked as Team Doctor with the Italian Ski Federation for Alpine ski from 2002 to 2010, participating at the Winter Olympic Games at Salt Lake City in 2002. He had clinical and scientific experience particularly in knee cartilage pathologies and rehabilitation. Recently he developed experience in running analysis and biomechanics. He worked as medical doctor in the Isokinetic Medical Group – FIFA Medical Centre of Excellence since 2003 for sport and orthopaedic rehabilitation. He regularly participated at national and international medical conferences in the field of Sport Medicine and Orthopaedic Rehabilitation.



Bonanzinga Tommaso, MD
Humanitas University Center for functional and biologic reconstruction of the knee Rozzano, Milan, Italy

Orthopaedic surgeon, former staff member I Orthopaedic Clinic led by Prof. Marcacci (Rizzoli Orthopaedic Institute). Assistant Professor, University of Bologna. From 21\01\2014 to 21\03\2014 Fellow in Sport Medicine at Sports Medicine Service, Beijing Jishuitan Hospital, China led by Prof. Feng Hua. From 01\06\2015 to 25\01\2016 Fellow hip and knee revision arthroplasty at Elios Endo-Klinik, Hamburg (Germany) led by Prof. Torsten Gerhke. President of Federation of Orthopaedic Trainees in Europe (FORTE). Former President of Italian Association of Orthopaedic Residents (AISOT). Member of Knee Committee of Italian Specialty Society in Knee Surgery and Sport Medicine (SIGASCOT). Faculty member in several SIGASCOT meetings and courses. Member of Honorary Member Committee of Italian Society of Orthopaedics and Traumatology (SIOT). Reviewer for the following scientific Journal on Index Medicus: KSSTA (Knee Surgery, Sports Traumatology, Arthroscopy), BMC Musculoskeletal Disorders, European Orthopaedics and Traumatology (EOTR); EFORT open reviews Member of the Editorial board of EFORT open reviews and Austin Sport Medicine Journal.

**Brittberg Mats, MD, PhD****Kungsbacka Hospital, Göteborg University Cartilage Research Unit Kungsbacka, Sweden**

Mats Brittberg is a member of the Cartilage Research Unit at University of Gothenburg and an orthopedic surgeon at Region Halland Orthopaedics at the Kungsbacka Hospital, Kungsbacka, Sweden. He received his MD at the University of Gothenburg in 1978 and completed a specialization in orthopedics in 1985. In 1992 he passed the Swedish Orthopedic Board Exam (S.O.B.E.), and in 1996 he earned a PhD. He is now a professor of orthopaedics connected to the Institution of clinical sciences and orthopaedic department, University of Gothenburg.

Mats Brittberg's research has been focused on cartilage repair and with main focus on cartilage regeneration with in vitro expanded autologous chondrocytes. Today the main interest is the European Connective Tissue Engineering centre (ECTEC) which is research collaboration between the Sahlgrenska Academy at University of Gothenburg with the institution of Polymer Technology, Chalmers Technical University. Mats Brittberg has also had research collaboration with Virginia Tech in USA on biotribology in cartilage and osteoarthritis as well as research collaborations with other centers in Europe and North America and central America. In September, 2010, Mats Brittberg received the ICRS Genzyme Lifetime Achievement Award in cartilage research and in 2012, the Shetty- Kim Foundation (SKF) Scientific award. In 2014, Mats Brittberg also received the SKF and UK Cartilage Club's Life time achievement Award. Mats Brittberg has been on the board of TESI (Tissue engineering Society International) and has been chairing the Cartilage Committee of ESSKA 2006-08. Since the start 1997, he has been working with ICRS, as a secretary, Vice-president and President (2006-2008) and finally Past-President (2008-2009). He is since January 2013 Editor-in-Chief for the Sage journal "CARTILAGE". He has also been associate editor with ESSKA journal as well as being on the editorial board of Osteoarthritis and Cartilage.

**Caplan Arnold, PhD****Case Western Reserve University Skeletal Research Ctr./Biology Cleveland, OH, United States of America**

Arnold Caplan is a Professor of Biology and the Director of the Skeletal Research Center at Case Western Reserve University. Dr. Caplan received his B.S. in Chemistry at the Illinois Institute of Technology, Chicago, Illinois; and his Ph.D. from The Johns Hopkins University School of Medicine, Baltimore, Maryland. Dr. Caplan did a Postdoctoral Fellowship in the Department of Anatomy at The Johns Hopkins University, followed by Postdoctoral Fellowships at Brandeis University, Waltham, Massachusetts with Dr. N. O. Kaplan and Dr. E. Zwilling. He came to Case Western Reserve University as Assistant

Professor of Biology in 1969 and rose through the ranks to become Professor in 1981. He has taken three sabbatical leaves: one in 1973 as a Visiting Professor in the Department of Biochemistry and Biophysics at the University of California at San Francisco Medical School with Brian McCarthy and William Rutter; one in 1976 in the Institute de Chimie Biologique at the Faculty of Medicine de Strasbourg in the Laboratory of Pierre Chambon; and lastly, the Edna and Jacob Michael Visiting Professor of the Department of Biophysics with Nathan Sharon at the Weizmann Institute of Science in Rehovot, Israel in 1984. He has received a number of awards including the Elizabeth Winston Lanier Award given by the American Academy of Orthopaedic Surgeons as part of their 1990 Kappa Delta Awards Program, the 1999 Marshall R. Urist Award for Excellence in Tissue Regeneration Research given by the Orthopaedic Research Society, the Genzyme Lifetime Achievement Award given by the International Cartilage Repair Society in 2007, the Tissue Engineering and Regenerative Medicine International Society Inaugural Lifetime Achievement Award in 2010 and is an Inaugural Member of the "Pioneers of Innovation" chosen by the Advocacy Committee of the Orthopaedic Research Society, March 2014. He has trained over 150 researchers, has over 400 published papers and manuscripts and has long been supported by the National Institutes of Health and other non-profit and for-profit agencies for his efforts in trying to understand the development, maturation and aging and regeneration of cartilage, bone, skin and other mesenchymal tissues.



Cappato Simone, MD

Centro di Servizi Medici Avanzati Genova, Italy

Simone Cappato received his M.D. from the University of Genoa in 1998 and completed his residency in Orthopaedics and Traumatology in 2002. He worked as Surgeon since 2002 at San Camillo clinic in Forte dei Marmi in equipe with dott. Giancarlo Coari and since two year in Humanitas Milan in equipe with prof M. Marcacci. He had surgical and scientific experience particularly in knee cartilage pathologies, arthroscopy and prosthesis.



Castagna Alessandro, MD

Humanitas University Rozzano, Milan, Italy

Alessandro Castagna received his M.D. from the "La sapienza University of Rome" in 1983 and completed his postgraduate degree in Orthopedics in "La Statale University" in 1989 and a second postgraduate degree in Sport Medicine in "University of Brescia" in 1994. As part of his training he did a fellowship with Dr. Stephen J. Snyder at the Southern California Orthopedic Institute in 1990, focused on shoulder arthroscopy.

In 1998 he started to work in the Shoulder Unit in Humanitas under the direction of Prof. Mario Randelli, founder of the Italian Shoulder and Elbow Society and past President of the European Shoulder and Elbow Society. Thus he developed his skill in open shoulder surgery including shoulder replacement and fractures of proximal humerus. In 2004 he became the Chief of the Shoulder and Elbow Unit at the Humanitas Research Hospital taking the position of Prof Mario Randelli when he retired. Appointed President of the Italian Shoulder and Elbow Society (SICS&G) in 2010-12. Appointed President of the European Shoulder and Elbow Society (SECEC) 2012-2014. Member of the International Board of Shoulder and Elbow Surgery (IBSES, founded by Charles Neer) 2016-2022. President and organizer of the National Biannual Congress of Italian Shoulder and Elbow Society (SICS&G) in 2012. President and Organizer of the European Shoulder and Elbow Congress in Milan 2015. President (co-chaired with Pietro Randelli) and Organizer of Spalla Milan / SMILE (Shoulder Milan International Live Event) Course, a biannual live surgery international event with high level faculty, hands on training and many live surgeries. Co-Chairman of the world event on shoulder and elbow surgery ICSES Rome 2022.

Organizer of many live surgery / training Courses with closed number of participants at the Humanitas University and Research Hospital. Author of over 100 articles in indexed journals, several book chapters and Editor of monographies and books about shoulder surgery. Presently he is the chief of Shoulder and Elbow Unit at the Humanitas Research Hospital e Associate Professor of Orthopedics at the Humanitas International University



Catalan José Miguel, MD

Palma de Mallorca, Spain

Dr José Miguel Catalán is an specialist in Orthopedic Surgery and Traumatology, currently manager of Catalantrauma Clinic (Palma de Mallorca, Spain), specialized in MSK regenerative therapies and sports traumatology.

With extensive experience in the use of PRP and BMC in various pathologies such as knee OA, hip OA, femoral head NAV, non-unions and tendinopathies, and scientific publications related to bioregenerative therapies such as the use of intraosseous PRP in severe knee OA, and participation in several conferences dedicated to orthobiologics therapies.

Pioneer in systematic quality control of PRP (dose, purity and volume) and BMC, in recording the biological products characterizations applied and in the clinical control of the outcomes with telematic evaluation scores of the patients.

Developer of new PRP and BMC protocols to treat several MSK pathologies, using always ultrasound guidance or fluoroscopy in over 500 PRPs/BMCs procedures made in 2018.

**Chubinskaya Susan, MD, PhD****Rush University Medical Center Pediatrics Chicago, United States of America**

Susan Chubinskaya, PhD, Klaus Kuettner endowed professor, is the Associate Provost for Faculty Affairs at Rush University and Vice-Chair, Research and Faculty Development, Department of Pediatrics. She also holds joint appointments as Professor in the Departments of Biochemistry, Internal Medicine, and Orthopedic Surgery at Rush University Medical Center. Susan holds leadership positions in various professional societies within the field. For five years Susan was the member of the Board of the ICRS and for three years she was a Treasurer and Executive Board member of the society. Now she continues her service to the ICRS as the member of basic science committee and as an inspirational and

organizational leader of this first collaborative summit between the ICRS and OARSI. She also chaired 2016 ORS Annual Program Committee and Award and Recognition Committee. Currently Susan serves as the Board member for the ORS and the chair of the ORS Annual Meeting and Educational Councils.

As a researcher, she is an internationally recognized expert in the field of growth factors/bone morphogenetic proteins in cartilage repair and regeneration. The focus of her current research is post-traumatic osteoarthritis and biologic approaches to cartilage repair. She is a co-recipient of multiple awards and her research is continuously funded by the NIH, foundations and pharmaceutical and biotech companies. As a Principal Investigator, she secured more than \$5M (direct cost) of extramural funding, presented more than 160 invited and podium lectures, published 90 peer-reviewed manuscripts, 11 book chapters, and more than 200 peer-reviewed abstracts.

**Condello Vincenzo, MD****Clinica Humanitas Castelli, Bergamo, Italy**

Medical degree and residency programm in Rome University "La Sapienza" in the Orthopaedic School directed by prof. L.Perugia. During residency under direction of prof. Mariani developed scientific accuracy during research and surgical practice. Fellowship at Karolinska Institute with Per Renstrom. From Rome to Verona several years with dott. Zorzi improving skill over all fields of Knee surgery, Cartilage repair and Sports Traumatology. Chief of Cartilage Committee of Sigascot for 4 years, active member of International Societies as ESSKA, ICRS, ISAKOS. Author or Co-author of papers, book chapters, and oral presentations on Sports Medicine, Cartilage repair, knee joint re-

placement. Editor of an e-book published for ICRS: CartilagE-book, available on Apple Store. Actually Chief of Arthroscopy Committee of ESSKA leading a project on "ACL revision surgery". Clinical and Surgical activity at Humanitas – Castelli Clinic in Bergamo. Fields of interest: Sports Medicine, Cartilage Repair and Knee Joint Reconstruction.

**Ramon Cugat, MD, PhD**

Ramon Cugat MD, PhD and Orthopaedic Surgeon, is President of the medical council and member of medical staff for the Catalan Soccer Delegation's Health Insurance Company under the Spanish Soccer Federation, Head of Trauma and Orthopaedic Surgery for the "Mutua Patronal Montañesa" and Co-Director of the Orthopaedic Surgical Department, Hospital Quiron Barcelona. He collaborates as Associated Professor at the Medical School at Barcelona University, UIC (Catalonian International University). He is the President of the Board of Trustees for the Garcia Cugat Foundation for Biomedical Research. He studied at UB (University of Barcelona) and completed the Post-graduate and doctorate studies on Arthroscopy and Sports Medicine at the Department of Sports Medicine (Orthopaedic Surgery

Department, Massachusetts General Hospital, Harvard Medical School Massachusetts-U.S.A.) Visiting professor-Sports Medicine Massachusetts General Hospital. Harvard Medical School 1995. First Augustus Thorndike Visiting Lecturer in Sports Medicine at Massachusetts General Hospital 1998.

He is a member of many national and international societies including ISAKOS, AAOS, AANA, ICRS, SLARD, ESSKA, AGA, SECOT, AEA, FEMEDE, HERODICUS SOCIETY, ASIAM PACIFIC INSTITUTE (Member of BOD) among others and honorary member of ASSOCIATION OF ORTHOPAEDICS AND TRAUMATOLOGY OF GEORGIA, ASSOCIATION OF ORTHOPAEDICS AND TRAUMATOLOGY OF CHILE, INDIAN ARTHROSCOPY SOCIETY. Sports activity: He was Orthopaedic Surgeon of the Barcelona Dragons Team in the NFL

International, Medical Assessor of the President of the Catalan Soccer Federation, Director of the Arthroscopic Service of the Orthopaedic Department of the Hospital Universitario del Mar. In 1992 he collaborated as "Orthopaedic Surgeon" in the Summer Olympic Games held in Barcelona. Educational activity: He has given lectures in congresses and collaborates in Teaching Courses of Arthroscopic. Surgical Techniques and Sports Medicine around the world. He has Publications in Journals and books about Arthroscopy, Sports Medicine and New Biological Treatments. Since 1999 the Orthopaedic Surgical Department directed by him, Artrosco- pia GC, has been an ISAKOS-Approved Teaching Centre.



D'agostino Maria Cristina, MD
Humanitas Research Hospital Rozzano, Milan, Italy

Head of the Shock Waves Therapy and Research Centre at Humanitas Research Hospital (Milan, Italy); Adjunct Professor at Humanitas University (Faculty of Medicine), (Milan, Italy) and University of Milan. SITOD President; ISMST International Instructor in shock waves therapy. Medicine and Surgery degree in 1991; specialization in Orthopaedics and Traumatology in 1996, with qualification in hand surgery. Head of the Shock Wave Therapy and Research Center at Humanitas Research Hospital. Adjunct Professor at Humanitas University – Faculty of Medicine (Body Architecture Course) and at University of Milan, School of Specialization in Sports Medicine. President of the SITOD (Società Italiana

Terapia Onde D'urto) for the biennium 2018 – 2020. Already President of the International Society for Medical Shockwave Treatment (ISMST) in 2014, she is now ISMST Senator, ISMST International Instructor and Membership Secretary. Co-Vicedirector of the Master in Regenerative Medicine – Humanitas University (Academic year 2018 – 2019). Coordinator of the University Course in Shockwaves Therapy (University of Turin and Humanitas Research Hospital), in the academic years 2016 – 2017 and 2017 – 2018.

Involved for more than two decades in shockwaves therapy (SW), she gained experience in the SW treatment of tendon and muscle pathologies, bone healing disturbances, bone vascular diseases, wound care and Regenerative Medicine, also in post-traumatic conditions. Author of several national and international publications, as well as book chapters; yearly participation as scientific director, lecturer, moderator, and teacher in international and national congresses and courses, in the fields of shock waves, bone and tendon pathologies, orthopaedics and regenerative medicine.



de Girolamo Laura, PhD
IRCCS Galeazzi Orthopaedic Institute Orthopaedic Biotechnology Laboratory Milan, Italy

Laura de Girolamo, Ph.D, was born and grew up in Italy, where she received her MSc in Biology and Ph.D from the University of Milan. She worked at the Institute of Orthopaedics and Traumatology of the University of Milan, where she started to focus on cell treatments for cartilage and bone regeneration. She got her post-doctoral training between the Galeazzi Orthopaedic Institute and other international centers. She is currently the Director of the Orthopaedic Biotechnology Laboratory of the Galeazzi Orthopaedic Institute in Milan. Her basic and translational research focus is on

mesenchymal stem cells, particularly derived from adipose tissue and tendons, and cell delivery systems. The goal of Dr. de Girolamo's laboratory is to derive biological solutions aimed to promote cartilage, tendon and bone regeneration by improving activity and clinical therapeutic potential of MSCs. Her clinical research activity includes the study of cell-based products and growth factors directly derived in surgery room. She served as PI or co-PI in several research projects collaborating with national and international research centers. She is author of more than 50 papers and of 7 book chapters in orthopedic regenerative medicine, and has been speaker at more than 150 national and international congresses and courses. She is Chair of the Basic Science Committee of the European Society of Sports Traumatology Knee Surgery and Arthroscopy (ESSKA) and Chair of the Research Committee of Italian Knee Surgery Arthroscopy Sports and Cartilage Society (SIGASCOT). She was co-founder of the Italian Mesenchymal Stem Cell Group (GISM) and currently member of its Executive Committee.

**Della Villa Stefano, MD****Bologna Isokinetic S.r.l. Presidenza Bologna, Italy**

Stefano Della Villa received his M.D. from the University of Bologna in 1985 and completed his residency in Orthopaedic and Sport Rehabilitation at the Rizzoli Orthopaedic Institutes in 1988. As part of his training he worked in 1987 and 1988 with Professor Michael Dillingham, Director of Sports Medicine Programme, at Stanford University (California, US) and with Rick Eagleston, Physical Therapist of the Stanford Swimming Team. He founded Isokinetic in 1987 in Bologna and since then he is the President of the company. In 1992 he organized the first edition of the International Conference on Sports Rehabilitation and Traumatology, that in 2015 will celebrate its 24th anniversary.

In 2000 he founded together with the Physiologist Giulio Sergio Roi, M.D., the Educational and Research Department of the company focused on prevention, treatment and rehabilitation of sports injuries. In 2001 the Isokinetic Medical Group opened a new clinic in Milan and in the next years in Cortina d'Ampezzo, Turin, Verona, Rome and Rimini. From 2006 to 2010 he has been the President of the Rehabilitation Committee of the Italian Scientific Society SIGASCOT and in 2008 he became a member of the Sports Injury and Rehabilitation Committee of ICRS. He is member of the ESSKA Sports Committee 2014-2016. Since October 2009 the Isokinetic Medical Group was accredited as FIFA Medical Centre of Excellence thanks to his long experience in the management of football player injuries. In November 2012 Isokinetic Medical Group opened a clinic in London. By the end of September 2014 a new clinic started working in 11 Harley Street.

**Di Matteo Berardo, MD****Humanitas University Center for functional and biologic reconstruction of the knee, Rozzano, Milan, Italy**

Berardo Di Matteo finished his Residency in Orthopaedic Surgery at the Rizzoli Orthopaedic Institute (Bologna, Italy) in 2016, under the mentorship of Prof. Marcacci and Prof. Kon. In 2016 he received the "Schiassi Award" from the Medical Society of Bologna for being among the residents with the highest number of publications in the University of Bologna. He has been an attending Researcher at the Nano-Biotechnology Laboratory of the Rizzoli Institute, and now he works as a Consultant Orthopaedic Surgeon at the Humanitas Clinical and Research Institute, in the "Center for functional and biologic Reconstruction of the knee".

He is also currently involved in a PhD program at the Department of Biomedical Science in Bologna. His main research interests are in the field of regenerative medicine for cartilage diseases, in particular the application of Platelet-Rich Plasma, stem cells and biomaterials. He has been involved, as an investigator, in a number of multi-centric trials, and has published more than 60 peer-reviewed papers and wrote more than 20 book chapters. He is an active member of many international societies and currently serves as a Member of the "Next Gen Committee" of the ICRS. In 2010 he was awarded the "ICRS Travelling Fellowship" to attend the ICRS World Congress in Sitges (Spain)."

**Espregueira-Mendes Joao, PhD****Clínica do Dragão - Espregueira-Mendes Sports Centre, Porto, Portugal**

Chairman of Clínica do Dragão – Espregueira-Mendes Sports Centre, FIFA Medical Centre of Excellence, FC Porto Stadium. Chairman and Professor of the Orthopaedic Department of Minho University, Portugal Treasurer and Chairman of the Publications Committee of the International Society of Arthroscopy, Knee Surgery and Orthopaedic Sports Medicine (ISAKOS). Board Member of the Patellofemoral Foundation. Professor of Porto University – Co-Chairman of the Post-graduate in Sports Medicine. 3B's/ICVS Senior Researcher – Minho University. President of the European Society of Sports Traumatology, Knee Surgery and Arthroscopy (ESSKA) 2012-2014

INTERNATIONAL FACULTY



Ferrua Paolo, MD
Centro Medico UMA Milan, Italy

Paolo Ferrua received his M.D from the University of Milano in 2007 and completed his residency program in 2013 at Gaetano Pini Orthopaedic Institute of Milan.

As part of his training he worked for a year in 2010 in Clinique de la Sauvegarde in Lyon under the guidance of David Dejour. Winner of the 2017 DJO Patellofemoral Fellowship (Visiting fellow with Elizabeth Arendt in Minneapolis, MN). He attended the service of Knee Surgery of Gaetano Pini Orthopaedic Institute from 2013 to 2018 under the guidance of Massimo Berruto. He is now working in Gaetano Pini Orthopaedic Institute -Prima Clinica Ortopedica (Director: Prof. Pietro Simone Randelli). He is head

of Medical Service of ASD CUS Milano Rugby and Amatori&Union Rugby Milano.



Filardo Giuseppe, MD, PhD

Applied and Translational Research Center, IRCCS Istituto Ortopedico Rizzoli, Bologna, Italy Orthopaedic surgeon and researcher focusing on clinical and basic research on cartilage treatments at the University of Bologna and Rizzoli Orthopaedic Institute, Bologna, Italy, and at the Ospedale Civico di Lugano, Switzerland. Specialized in Orthopedics and Traumatology at the Rizzoli Orthopaedic Institute (Bologna, Italy). Research fellow at Rush Cartilage Restoration Center in Chicago (IL), USA. Traveling fellow in SIGASCOT-GOTS fellowship and in Peterson-SANOFI ICRS fellowship. PhD on "cartilage regenerative treatments" at Bologna University. Vice-president of the Cartilage Committee of the Italian Society SIGASCOT. Member of the Cartilage Committee of

ESSKA. Deputy Co-Chair of the "Fellowship Committee" of ICRS. Deputy editor of the Joints Journal (official journal of the Italian society SIGASCOT). Member of the Editorial Board of Orthopaedic Journal of Sports Medicine (OJSM) and BioMed Research International Journal. Reviewer for AJSM, JEO, Cartilage, and KSSTA Journals. Participant to several National and International research projects on orthopaedic biotechnologies. Author of more than 250 articles and book chapters; H index: 53.



Gatti Roberto, PhD
Humanitas University Rozzano, Milan, Italy

Prof Roberto Gatti works in Humanitas Research Center, Milan (Italy), as associate professor of physiotherapy in Humanitas University and Head of the Physiotherapy Service of Humanitas Hospital. He worked for 29 years, until august 2016, in the San Raffaele Scientific Institute of Milan, as Head Physiotherapist in San Raffaele Hospital, and didactic coordinator of the degree Course of Physiotherapy in the San Raffaele University. In 2011, together with a group of Italian Physiotherapists, Roberto Gatti founded the Italian Society of Physiotherapy (SIF), where he covered the role of President from 2013 to 2016. He is associate editor of the journals Archives of physiotherapy and

Scienza riabilitativa and he published more than 50 scientific articles (H index 17, source Scopus) in journals indexed by Scopus database. His clinical and scientific expertise is focused on Biomechanics and Neurorehabilitation, particularly on the effects of cognitive facilitations (i.e. action observation) on motor re-learning. In the last two years, his scientific expertise has been applied to study motor control and motor rehabilitation after orthopedic surgery.

**Gobbi Alberto, MD****Orthopaedic Arthroscopic Surgery International Sport and Medicine Milan, Italy**

Alberto Gobbi, born in October 1956, in Milan, Italy, is a Board certified surgeon and specialist in the field of orthopaedics, traumatology and sports medicine. He has been performing highly skilled surgeries for decades, which coupled with his scientific and research oriented mind, have led to a tremendous growth in the field of arthroscopy and cartilage repair worldwide.

He chairs OASI Bioresearch Foundation Gobbi Onlus, a No-Profit Organization, accredited by the Italian Ministry of Health and recognized as an International Teaching Center by International Society of Arthroscopy, Knee Surgery & Orthopaedic Sports

Medicine (ISAKOS) and International Cartilage Repair Society (ICRS). The OASI Foundation promotes research on cartilage, joint aging and sports lesions and collaborates with surgeons from across the globe. He has innumerable publications to his name. In 2012, he was awarded the Best International Publication in an American Journal (AOSSM). He is the Associate Editor of 'Cartilage since 2010 and is the Chair of the Education Committee for the ICRS as well as ISAKOS.

A talented sportsman himself, he is doctor to the Italian National Olympics Committee since 1983. He served the Medical Committees of the Italian Motorcycle Federation and the Motor-boating Federation for over 10 years. Dr. Gobbi's office is located in Milan.

**Grappiolo Guido, MD****Humanitas Research Hospital Rozzano, Milan, Italy**

In Humanitas Research Hospital. Since 1991, Dr. Guido Grappiolo began working as a researcher dedicated mainly to hip surgery in cooperation with internationally renowned authors such as: Prof. Ganz Prof. T. Gruen, Prof. D. Blaha (U.S.A.), Prof. H. Wagner (Germany), Prof. E. Morscher (Switzerland).

To encourage research in orthopedics lays the scientific basis for the establishment and organization of the "Foundation Livio Sciutto – NPO", an organization of which Dr. Grappiolo is the scientific direction. Playing this role, Dr. Grappiolo has been creating and maintaining contacts with other national and international research institutes, which

trained thousands of surgeons coming from every country of the world.

The organization has one of the largest hip replacement database of the world: more than 45.000. Dr. Grappiolo is mentored by Dr. Spotorno (a master and pioneer in prosthetic surgery), and their group studied and developed some of the bestselling prosthesis in the world. His research led him to contact the major international schools with which he collaborates in the search for new strategies of improvement in prosthetic minimally invasive and computer-assisted conservative surgery with the development of new prosthetic models and exploration of new materials.

**Ha Chul-Won, PhD****Samsung Med Ctr, SungKyunKwan Univ Sch Med Dept of Orthopedic Surg Seoul, South Korea**

Dr. Chul-Won Ha is a professor of the Department of Orthopedic Surgery, Samsung Medical Center, Sungkyunkwan University. He is the chief of Knee Service (Arthroplasty, Arthroscopy, and Sports medicine). He is also the director of stem Cell and Regenerative Medicine Institute of Samsung Medical Center, Seoul, Korea. He received his MD at the Seoul National University in 1989 and completed a specialization in orthopedics in 1994. In 1999, he received a PhD. He is the Executive Vice President of the Korean Society for Sports Medicine, Medical Committee Member of Korean Olympic Committee,

Executive Board Member of Korean Orthopedic Research Society. He is currently the Chairman of Scientific Committee of the Korean Society for Stem Cell Research, and the Korean Society of Stem Cell & Regenerative Medicine for Locomotor System. He is an Editorial board member of Journal of Knee Surgery & Related Research, Journal of Arthroscopy and Orthopedic Sports Medicine, Journal of Korean Orthopedic Association. His research has been focused on cartilage restoration with stem cells. He successfully commercialized a stem cell based medicinal product "Cartistem" which is approved for clinical application to restore the articular cartilage in osteoarthritis.



Iacono Francesco, MD

Humanitas University Center for Functional and Biologic Reconstruction of the Knee Rozzano, Milan, Italy

Director of the Center for Joint replacement, S. Pio X Humanitas Institute, Milan (Italy). Center for Functional and Biologic reconstruction of the knee – Humanitas Clinical and Research Institute – Rozzano (Milan, Italy). Orthopedic surgeon highly specialized on sport trauma and prosthetic surgery of the lower limbs (hip and knee). National license for Associate professor in sector 05/F4: Pathology of the Locomotor Apparatus, and Physical Medicine and Rehabilitation. As an experienced surgeon, he participated to numerous research projects and clinical trials regarding new technology applications in orthopaedic surgery. Tutor and teacher for several advanced courses of the knee surgery and aculty of society meetings.



Jorgensen Christian, PhD

CHU Lapeyronie University Hospital Clinical unit for Osteoarticular Diseases Montpellier, France

C Jorgensen's clinical interests are in stem cell, immunology and rheumatology. He is head of the clinical unit, "Immuno-therapy Rheumatology", University Hospital "Lapeyronie" (Montpellier). He leads Institute for Regenerative Medicine and Biotherapy IRMB dedicated to regenerative medicine. IRMB gathers scientist and clinicians on regenerative medicine and innovative immunotherapies. The objectives of IRMB are to increase the knowledge of stem cell biology, interactions between stem cells and immune cells, stem cell niches and homing, as well as the role of epigenetics mechanisms in chronic and age related diseases. These researches include

both basic biological aspects and innovative applications of regenerative therapy. The aim of IRMB is to facilitate the transfer of research on stem cell biology to clinical applications in coordination with clinical specialists in chronic diseases (aging, rheumatoid arthritis, rare genetic diseases, autoinflammatory disorders, diabetes, liver disease, neuro-degenerative disease, musculoskeletal disorders).

The clinical research is conducted in the clinical department for immunotherapy with 20 beds dedicated to biotherapy applied to Rheumatoid Arthritis and other autoimmune diseases. Pr Christian Jorgensen, specialist in Therapeutics and Rheumatology, is head of research INSERM unit U1183 ("Stem cells, cell plasticity, regenerative medicine & immunotherapies") and department of biotherapy. C Jorgensen is a professor in the Faculty of Medicine Montpellier-Nimes (responsible teacher of DES Rheumatology). He is also responsible for teaching the Master Pro "Evaluation & methodology of therapeutic trials. He is expert for Biologics at French National Authority of Health (HAS), where he was former member of Transparency Comity at HAS, and member of national scientific board of Inserm. C Jorgensen has published extensively (over 180 publications in the field of Immunology and stem cell therapy applied for rheumatic diseases), and has a strong track record for competitive research grant from EU and ANR. He has coordinated a program of 2004-2007 FP6 integrated project Genostem : Adult mesenchymal stem cells engineering for connective tissue disorders. He is also principal investigator in the Integrated Project 6th FP-healing: Post-genomic Approaches for inflammatory rheumatic disease, Leading to the development of Improved therapy. Finally, today it coordinates the FP7 ADIPOA project, large scale project focusing on adipose-derived mesenchymal stem cells in osteoarthritis therapy and RESPIRE on bone marrow stem cells for intervertebral disc.



Koh Yong Gon, MD

Yonsei Sarang Hospital Research Center for Cartilage Regeneration and Sports Medicine Seoul, South Korea (ROK)

Dr. Yong Gon Koh obtained his medical degree at Yonsei University School of Medicine in Seoul, Republic of Korea. He completed his residency and his training in fellowships in Orthopaedic and arthroscopy at the Yonsei University Hospital. Dr. Koh founded Yonsei Sarang Hospital in 2002 and since then he is the President of the hospital.

Yonsei Sarang Hospital is specialized hospital for joints and was recognized as the "Research Institution in Cell Therapy" by Korea Industrial Technology Association. Yonsei Sarang Hospital is a designated hospital for USA, Mongolia, Oman and Myanmar embassy in Republic of Korea.

Dr. Koh organized the first Masters Knee Symposium approved course by ISAKOS and AAC in Seoul and Yonsei Sarang Hospital became the first specialized hospital to be a training center for ISAKOS in Republic of Korea. Since 2014, the Yonsei Sarang Hospital was designated as Korean Professional Football League player hospital, thanks to his excellence in the treatment of sport injuries. Yonsei Sarang Hospital is the first hospital approved by the Ministry of Health, Republic of Korea to treat osteoarthritis with adipose derived mesenchymal stem cells.



Kon Elizaveta, MD
Humanitas University Rozzano, Milan, Italy
Associated Professor Humanitas University, Milan

Orthopedic surgeon, Center of Functional and Biological Reconstruction of the knee, Humanitas Research Hospital, Milan

2nd Vice President of International Cartilage Repair Society. Till 2017 Director of Nano-Biotechnology Laboratory and orthopedic surgeon, Rizzoli Orthopedic Institute and Assistant Professor, University of Bologna. Coordinator of numerous research projects and clinical trials regarding biotechnology applications in orthopaedics, into the framework of Italian and European research. Author of over 180 scientific articles in peer-reviewed journals and over 30 chapters in textbooks in orthopedic surgery (H-index 64). Faculty of more than 400 society meetings all over Europe, Asia and America. Associated Editor of BMC Musculoskeletal Disorders Journal, International Orthopedics, Journal of Experimental Orthopedics and Joints. Reviewer for more than 20 Orthopaedics Journal. Travelling Fellow ESSKA/AOSSM European/North American Sports Medicine Traveling Fellowship, 2009 and ICRS Travelling Fellowship, North America, 2004. Winner of several awards as Most cited and Most downloaded publication 2011-2016 in Arthroscopy Journal, Leading article Knee Surgery Sports Traumatology Arthroscopy Journal, 2013 and 2016, Poster Award Cum Laude, ICRS World Congress, 2015 and 2013, Most cited publication 2009-2010 in American Journal of Sports Medicine, Scientific exhibit award of excellence AAOS Annual Meeting 2011.



Lafeber Floris P.J.G., PhD
University Medical Centre Utrecht Rheumatology and Clinical Immunology
Utrecht, Netherlands

Floris Lafeber (1961) is professor of 'Experimental Rheumatology at the University Medical Centre Utrecht (UMC Utrecht; NL since 2009), manager of research of the dept. of Rheumatology & Clinical Immunology and head of its research laboratory (since 1992), manager research & education of the division of Internal Medicine & Dermatology (since Feb 2016), and CSO, cofounder and director of ArthroSave (since June 2016). He studied Biology at the Univ. of Nijmegen (NL; graduated Nov 1984), did his PhD at this Univ. in collaboration with the Univ. of Leiden (NL), with a visit of three months at the dept of Physiology, Univ. of Ottawa (Canada) (graduated April 1988). He is scientifically active in the field of 'Regenerative Medicine and 'Immunology. Currently, his main interest is in novel treatments (joint distraction using a medical device to treat severe knee osteoarthritis; and an IL4-IL10 fusion protein (synerkine) to control cartilage damage, inflammation, and pain in osteoarthritis (OA), haemophilic arthropathy (HA), and rheumatoid arthritis (RA)); diagnostic tools for automated analyses of radiographic joint damage and inflammation in OA, HA and RA; as well as unique animal in vivo models of osteoarthritis (rat and canine Groove model), which have all been developed over the past years. Floris Lafeber is (co-)author of over 300 peer-reviewed papers (H-index 48), of which more than half in the top 10% of the field, supervised 30 PhD with an additional 15 scheduled. He has two patents in this field (joint distractor and IL4-10 fusion protein).



Lattermann Christian, MD

Brigham and Women's Hospital, Harvard Medical School Orthopaedic Surgery Boston, United States of America

Dr. Lattermann has recently been appointed to the Brigham and Women's Hospital at Harvard Medical School where he will be the Chief of Sports Medicine and Director of the Cartilage Repair Center. Until 2018 he was Professor and Vice Chair for Orthopaedic Surgery and Research at the University of Kentucky (UK). He is the founder and director of the Center for Cartilage Repair and Restoration at UK. Dr. Lattermann began his training at Hannover Medical School in Germany. In 1997 he did a research and clinical fellowship in Sports Medicine at the University of Pittsburgh, USA, where he continued his career as resident in Orthopaedic Surgery. He continued on to complete a fellowship in Sports Medicine and Cartilage Repair at Rush University. Dr. Lattermann started his independent career in 2006 at the University of Kentucky and has built a strong clinical research program. He is an expert in cartilage repair, outcomes research and clinical trials. His recent appointment to the Brigham and Women's Hospital allows him to continue his research work in the field of clinical trials in early OA and cartilage repair and will continue the tradition of the Boston Cartilage Repair Center, built by Dr. Tom Minas and Dr. Andreas Gomoll. Dr. Lattermann has published over 100 peer-reviewed papers, over 25 book chapters and his research has been funded by national and federal institutions such as the National Institute of Health, Arthritis Foundation of America, NFL charities, Arthroscopy Association of North America (AANA) and the Physical Therapy Association of America (PTAA). Dr. Lattermann is active in national organisations in the US, and Germany where he is the current chair of the Research committee of the German-speaking Arthroscopy Society (AGA). Dr. Lattermann has been an active member of the ICRS finance committee and is a recent chair of that committee. He currently functions as program co-chair for the World Congress in Macau in 2018 and has most recently been elected by the ICRS membership as Treasurer of the Executive Board of the ICRS in 2018/2019.



Levy Andrew, MD

Center for Advanced Sports Medicine Knee & Shoulder Millburn, United States of America

Dr. Andrew Levy has been focused on cartilage repair since the mid 1990's. He has published and lectured on different cartilage concepts and techniques. He performs the following procedures routinely: Meniscal transplantation, Cartilage Cell transplantation, Osteochondral Allograft, Osteochondral Autograft, Microfracture chondroplasty



Loppini Mattia, MD

Humanitas University Rozzano, Milan, Italy

Mattia Loppini performed his education and training at Campus Bio-Medico University of Rome where he received M.D. in 2009 and completed his residency in Orthopaedic and Trauma Surgery in 2015. During the School of Medicine, he collaborated with the Tissue Engineering Laboratory of the Campus Bio-Medico University and he conducted a training period abroad (University of Pittsburgh), which enabled him to learn the most modern laboratory methods for tissue engineering applied to the musculoskeletal system. During the Residency program, he performed a period of training abroad (Centre of Sports and Exercise Medicine - Queen Mary University of London), which allowed him to acquire knowledge in the field of orthopaedics and sport traumatology through clinical and research activities. Between 2012 and 2015, he also completed the PhD program in Oncology Orthopaedics at Campus Bio-Medico University of Rome performing clinical and research activities in the field of bone metastases. Since June 2015 he is working as Orthopaedic Consultant in the Hip Diseases and Joint Replacement Surgery Unit at Humanitas Research Hospital, Rozzano (Milan) where his clinical activity is focused on hip and knee diseases, arthroscopic and open conservative hip and knee surgery, primary replacement and revision surgery of hip and knee. Since March 2017 is Assistant Professor of Locomotor Apparatus Disease and Physical and Rehabilitative Medicine at Humanitas University, Rozzano (Milan) Italy. He is author of more than 70 publications in peer-reviewed international journals. He is also involved in the editorial board of peer-reviewed international journals.



Magalon Jeremy, MSc
Marseille University Hospital, Marseille, France

Jeremy Magalon received his Pharm D from the Marseille University in 2013 after completing a residency in Medical Biology with a specialization in Cell Therapy. He holds a university degree in Regenerative Medicine and a Masters degree in Tissue, Cell and Gene biotherapies. During his residency, he principally works on autologous Platelet Rich Plasma therapy and his other medical interests are autologous Stromal Vascular Fraction, fat grafting and Cord Blood Banking. In 2014, he was hospital practitioner at Necker's Hospital (Paris) in the Biotherapy Department where he has been involved in clinical trials using gene therapy to cure patients presenting severe hemoglobinopathy. Since October 2017, he coordinates the activity of Platelets Rich Plasma injection of Marseille University Hospital where PRP is used in different medical fields. He is author of more than 30 papers and 2 book chapters in regenerative medicine, and has been speaker at more than 30 national and international congresses and courses.



Malda Jos, MSc, PhD
University Medical Center Utrecht Orthopaedics Utrecht, Netherlands

Jos Malda is professor of Biofabrication in Translation Regenerative Medicine and Head of Research at the Department of Orthopaedics, University Medical Center Utrecht. He also has an appointment at the Department of Equine Sciences, University of Utrecht. He received his MSc degree in Bioprocess Engineering from Wageningen University in 1999 and completed my PhD on Cartilage Tissue Engineering in 2003 (University of Twente). In 2007, Dr Malda was awarded a fellowship that allowed him to establish his research group in Utrecht, which focuses on biofabrication and biomaterials design, in particular for the regeneration of (osteo)chondral defects. He has published over 100 articles in peer-reviewed international journals and attracted over 7 million Euro in research funding and holds an ERC Consolidator grant. He is a long-standing Board member of the International Cartilage Repair Society (ICRS) and the current President of the International Society for Biofabrication (ISBF).



Mantovani Alberto, MD
Humanitas Research Hospital, Rozzano, Milan, Italy

Alberto Mantovani, MD, is Professor of Pathology at the Humanitas University in Milan, and Scientific Director of the Istituto Clinico Humanitas. His attention has been focused on molecular mechanisms of innate immunity and inflammation. He has contributed to the advancement of knowledge in the field of Immunology formulating new paradigms and identifying new molecules and functions. For his research activity he has received several national and international awards, including in 2016 the Triennial OEI Award from the Organization of the European Cancer Institutes and the Robert Koch Award for his contribution to tumor immunology and immunotherapy. The broad impact of his contributions is testified by citations. As of July 2018 he has over 103,000 (Scopus), 76,000 (Web of Science) or 144,728 (Google Scholar) citations and an H-index of 154 (Scopus), 126 (Web of Science) or 180 (Google Scholar).



Marcacci Maurilio, Prof.

Humanitas University Center for functional and biologic reconstruction of the knee Rozzano, Milan, Italy

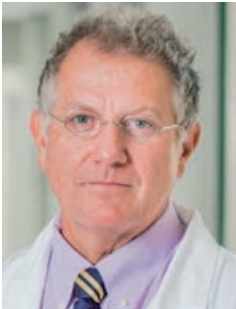
Maurilio Marcacci was born in Livorno on 1.05.48. He graduated in Medicine and Surgery at the University of Pisa in 31-10-1972 and specialized in Orthopaedics and Traumatology, in Medicine of the Sport, in Physiotherapy. Maurilio is full professor of University of Bologna in the "Medicine and Surgery" Faculty, head of IX Orthopaedic Division and Biomechanics Laboratory at the Rizzoli Orthopaedic Institute and university teacher at the Specialization School in: Orthopaedics and Traumatology, Sport Medicine, Physical Medicine and Rehabilitation. Maurilio is member of the following national and international scientific societies: EFORT, ESSKA, ISK, EORS, ISAKOS, CAOS, ICRS, SIOT, SIRT, SICORMeD, SIGASCOT. Member of Editorial Board of: Journal of Sports Traumatology, Technique Knee Surgery; Member of Educational Committee ISAKOS, ExComm EFORT and Past-President of Italian Society of Orthopaedic and Traumatology, Italian Society Knee Arthroscopy Sport Cartilage and Orthopaedic Technologies (SIGASCOT). He published: 6 monographs, 14 monographs chapter, 148 articles in international papers, 104 articles in national papers, 226 international abs., 97 national abs, 12 audiovisual and attended more than 300 national-international congresses as a speaker and/or chairman. Clinical work involves the general field of orthopedics and traumatology, with particular focus on sports medicine (articular capsulo-ligament lesions, tendon and cartilaginous lesions, with transplantations of autologous chondrocytes for the repair of cartilaginous and bone defects), reconstruction of the lower limb (hip, knee), and regenerative osteo-articular diseases. The main research subjects are computer and robot assisted surgery, biotechnologies, clinical biomechanics, roentgen stereophotogrammetry analysis (RSA), innovative surgical techniques.



Marmotti Antonio, MD

Ospedale Mauriziano; University of Turin, Turin, Italy

Antonio Marmotti received his M.D. from the University of Torino in 1994 and completed his residency in Orthopaedic and Traumatology at the University of Torino (San Luigi Hospital) in 2000. As part of his training he participated (during his Military Service as a Medical Officer-Lieutenant in 1998) at the NATO "Costant Forge" Mission and had several work experience in different countries (Service de Chirurgie Orthopédique et Traumatologique, Hopital Beaujon, Clichy (Paris), Chief: Prof. Alain Deburge in 2000, Centre de Traumatologie et d'Orthopédie de Illkirch (Strasbourg-France), Chief: Dr. Taglang G in 2000, Service de Chirurgie Orthopedique, CH de Versailles, Chief: Prof. Philippe Beaufils in 2004, Cartilage Research Center, Göteborg University, Department of Orthopaedics, Kungsbacka Hospital, Kungsbacka, (Sweden), Chief: Prof. Mats Brittberg in 2005). Since 2005, he is part of a research group (directed by prof. F. Castoldi) involved in several different research projects for cartilage, bone and tendon regeneration at the MBC (Molecular Biotechnology Center, University of Torino, Italy) in collaboration with prof. G. Peretti and prof. L. de Girolamo (Galeazzi Hospital Milan). He is member of several international societies as AAOS, ESSKA (member of Basic Science Group), ICRS and he is member of the research board of Sigascot Italian Society. He is currently employed as Specialist in Orthopaedics and Traumatology, at the Department of Orthopaedics and Traumatology of San Luigi Hospital (chief prof F. Castoldi).

**Massazza Giuseppe, MD****Clinica di Fornaca di Sessant Turin, Italy**

Born in November 17th 1963 – Turin – Italy. Graduated in Medicine and Surgery; Specialization in Orthopaedics and Traumatology and in Physical and Rehabilitation Medicine. Chief Medical Officer of the Medical Services of the Organising Committee of the XX Torino 2006 Olympic Winter Games and IX Paralympic Winter Games. Current positions: Full Professor in Physical Medicine and Rehabilitation of the University of Turin; Director of the Department of Orthopaedics, Traumatology and Rehabilitation, Città della Salute e della Scienza University Hospital, Torino, Italy; Director of the Division of Physical medicine and Rehabilitation, Department of Surgical Sciences, University of Turin;

President of the School of Physiotherapy, University of Turin; Director of the Post-graduate Specialization School in Physical Medicine and Rehabilitation, University of Turin; President of the Società Italiana Medici Manager (SIMM)

**Milano Giuseppe, MD****Policlinico Gemelli Roma, Italy**

Dr. Giuseppe Milano is Associate Professor of Orthopaedics at the Catholic University of Rome, Italy. He obtained his M.D. from the Catholic University of Rome. He completed his orthopaedic residency at the Catholic University and his clinical fellowship in joint replacement at the University of Sassari. He is actually serving as Chief of Shoulder Service at the "San Carlo di Nancy" Hospital in Rome. Dr. Milano is Editor-in-Chief of Joints and served as Associate Editor of Arthroscopy from 2011 to 2017. He is President of SIGASCOT (Italian Society of Knee Surgery, Arthroscopy, Sports Traumatology and Cartilage repair) Chairman of ESA (European Shoulder Associates), section of ESSKA, Executive Board Member of ES-

SKA and Shoulder Committee Member of ISAKOS. Dr. Milano has been awarded the Arthroscopy Journal Traveling Fellowship, the ISAKOS John Joyce Award, the EFORT Sport Traumatology Award, the EFORT Jacques Duparc Award, and the Arthroscopy Journal Level I Evidence Prize in 2009. He was also an ESSKA-APOA Traveling Fellow. His areas of research interest are biomechanics of knee ligament reconstruction, cartilage repair and evidence-based medicine in shoulder surgery.

**Minas Tom, Prof., MD****Paley Orthopedic & Spine Institute Cartilage Repair & Joint Preservation
West Palm Beach, United States of America**

Tom is an Attending Orthopaedic Surgeon at Brigham and Womens Hospital in Boston, MA, an Associate Professor of Orthopaedic Surgery at Harvard Medical School, and Director of the Cartilage Repair Center. Tom Minas received his medical degree from the University of Toronto and his Masters in Epidemiology from the Harvard School of Public Health. He completed his fellowship in Trauma and Joint Reconstruction at the Sunnybrook Medical Centre in Toronto, Canada and a Total Joint Arthroplasty fellowship at Brigham and Womens Hospital. Tom Minas is an internationally recognized leader in joint preservation approaches to treating knee OA.

He performs surgery of the knee; arthroscopy, joint preserving osteotomies, partial and total joint replacements. He is also an expert in cartilage repair and autologous chondrocyte implantation (ACI), having served on the Board and Education Committees of the International Cartilage Repair Society as well as the Chairman of the Cartilage Research Foundation. He is a member of the Knee Society, and in 2013, his team was honoured with the Insall Award for his work on Long Term Outcomes assessment of ACI in the knee. He is involved in the development of tissue preserving implants and instrumentation for knees targeted at joint resurfacing. His work in patient-specific knee replacement has led to the introduction of a family of tissue preserving, customized implants based on patient-specific imaging data to restore native articulating geometry. (International Society of Arthroscopy, Knee Surgery and Orthopaedic Sports Medicine, 2007), Honorary Fellow of ICRS (International Cartilage Repair Society, 2007), Honorary Member of Swiss Society of Accident Surgery and Insurance Medicine (2008) and Honorary Member of Swiss Orthopaedic Society (2009).



Montorsi Marco, MD

Humanitas University Rozzano, Milan, Italy

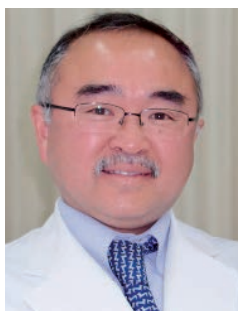
Born in Milano (Italy) on January 14th, 1954; Graduated at University of Milano School of Medicine in 1978. Postgraduate School of General Surgery (University of Milano) in 1983. Postgraduate School of Thoracic Surgery (University of Turin) in 1987. Assistant Professor (1980-1988), then Associate Professor (1988-2001), then Full Professor (11/2001-6/2014) of Surgery of University of Milano School of Medicine. Since July 2014 he has been nominated Professor of Surgery and Rector of Humanitas University. From 1996 to 2004 he was Head of Hepatobiliary Surgery Unit at San Paolo Academic Hospital in Milano. From March 2004 he is Head of General Surgery Unit at the Istituto Clinico Humanitas in Milano. Since December 2011, he is Director of Department of General Surgery at the same Institution. He has been Director of the Post-Graduate School of Digestive Surgery of University of Milan from 2006 to 2011. He is author or co-author of 265 scientific publications, 200 on peer-review journals. IF: 485. H-INDEX: 44 (Google Scholar). He is President of Società Italiana di Chirurgia (Italian Surgery Society). His main interests are in the field of digestive diseases and in the surgical treatment of the related pathologies, mainly HPB and colorectal. He developed particular interest in the field of staging and treatment of HCC through laparoscopic approach both with surgical and ablation techniques. He began performing laparoscopic colorectal surgery in the early '90s and gained a lot of experience in this field. Now the vast majority of colorectal tumors diagnosed in the Dept of Surgery is submitted to laparoscopic resection thus allowing a smooth and safer postoperative course.



Murrell William, MD, MS

Emirates Integra Medical & Surgery Centre FZ-LLC ORTHO Sports Medicine Dubai, United Arab Emirates

William D. Murrell, Jr. M.D., M.S., orthopaedic surgeon sub-specialized in orthopaedic sports medicine. Currently is Consultant Orthopaedic Sports Medicine at Dr. Humeira Badsha Medical Center, Dubai, UAE. Fellow of the American Academy of Orthopaedic Surgery, Diplomate of the American Board Orthopaedic Surgery-Orthopaedic Sports Medicine, and member of the American Orthopaedic Society Sports Medicine (AOSSM). Dr. Murrell is an Internationally recognized clinician, innovator, and researcher, who lectures frequently at international and national congresses and symposia, and has authored several publications in peer review journals, book chapters, and industry magazines for musculoskeletal medicine and biological treatments. Is the Principal Investigator-Clinical Trial investigating adjuvant stem cells in treatment of articular cartilage defect(s). Chairman of 9th, 10th, 11th, and 12th Middle East Orthopaedic Conferences as a part of Arab Health. He serves on the Technical Advisory Board for the Foundation of Orthopaedic Reconstruction (FOR), Holyoke, MA, USA; International Advisory Board for Bone and Joint Journal (BJJ), London, U.K.; Editorial Board- American Journal of Sports Medicine, Rosemont, IL, USA; Consultant Bauerfiend MEA; Consultant for the Al Wasl and Al Merrikh Football Club in Dubai and Khartoum respectively.



Nakamura Norimasa, MD, PhD

Osaka Health Science University Institute for Medical Science in Sports Osaka, Japan

Norimasa Nakamura is professor of the Institute for Medical Science in Sports at Osaka Health Science University and the center for the advanced medical engineering and informatics at Osaka University. He is an orthopedic surgeon at the Osaka University Hospital, Osaka, Japan, specializing in arthroscopic surgery. He received his MD at the Osaka University in 1988 and completed a specialization in orthopedics in 1992. In 1994, he received a PhD. In 1995, he became Assistant Professor of orthopedics at the Osaka University and in 2009, moved to the current position. His research has been focused on joint tissue repair with main focus on the regeneration of cartilage, ligament, and meniscus with stem cells. Today the main interest is the development of three-dimensional osteochondral bio-implant using pluripotent stem cells in combination with biomaterials, by the collaboration with the iPS cell research center, the Kyoto University, and the Division of Tissue Engineering, the University of Tokyo. He serves as the President of the International Cartilage Repair Society (ICRS).

**Nehrer Stefan, MD, PhD****Donau University Krems Center for Regenerative Medicine Krems, Austria**

Stefan Nehrer is an orthopaedic surgeon at Department for Orthopaedic Surgery at the hospital in Krems, Professor for Tissue Engineering at Center for Regenerative Medicine and since 2011 he is also Dean of Faculty Health and Medicine and since March 2013 he is Head of Department for Biomedicine and Health Sciences at Danube University Krems. He studied at the Medical University Vienna where he obtained his MD in 1984 and his PhD in 1999. From 1995 to 1996 he was at the Harvard Medical School in Boston, USA, at Prof. Myron Spector where he started his scientific work in cell-based therapies in cartilage regeneration. From 2000 to 2006 he was head of orthopaedic research at the Medical University Vienna and leading surgeon in sports medicine and paediatric orthopaedic. In 2007 he was appointed Professor for Tissue Engineering at Danube University Krems. Over the years he has continued his research on experimental and clinical applications of chondrocyte transplantation and formed a group for tissue engineering research. Furthermore, his interests focused on mesenchymal cell differentiation and design/implementation of tissue culture bioreactors for automated and controlled manufacturing of cartilage, bone and osteochondral grafts, based on autologous cells and 3D porous scaffolds. He has published 73 peer reviewed articles and numerous other articles and book chapters in national and international journals. Prof. Nehrer has presented at many national and international meetings and he is member of national and international societies. Currently, he is the president of the German-Austrian-Swiss Society for Orthopaedic Traumatologic Sports Medicine (GOTS).

**Pereira Maria Teresa, MD****Casa di Cura Villa Montallegro Genova, Italy**

I am a Medical Specialist in Physical Medicine and Rehabilitation. I was born in Mieres (Spain) on 26/8/1970 and I graduated in 1995 in Medicine and Surgery for the University of Oviedo in Spain. Also in 1997 I took the license to practice as a doctor and in 2001 I took the specialization in Physical Medicine and Rehabilitation. I have been a physiatrist since 2001. I practiced as a physiatrist at the Toniolo Clinic (Bologna), the sport Rehabilitation Sport of Bologna Isokinetic (Bologna), the Sport Rehabilitation Center of Isokinetic Turin (Turin), the Institute of Sports Medicine CONI -FMSI in Rome. I was technical manager of the Rehabilitation Center of the Villa Stuart Clinic in Rome, as well as from 2004 to 2016, chief of the infiltration division with PRP always in Villa Stuart. I work with Villa Montallegro, since 2009 as Head of infiltration with PRP, since 2016 as Head of rehabilitation for sport. Since 2010 I am a physiatrist consultant for U.C. Sampdoria. Since October 2016 Physiatrist physician at Isokinetic Milano in via Vivaio. Technical manager of the Montallegro E Fisomed Clinical physiotherapy center in Genoa. During the period of work in Rome I was a consultant for Roma FC, Lazio FC, Cagliari FC, the national team of rowing, the basketball team Stella Azzurra and the national team of Fencing.

**Peretti Giuseppe, MD****Istituto Ortopedico Galeazzi Milano, Italy**

Giuseppe Peretti received his M.D. degree by the University of Milan and completed the Residency Program in Orthopaedic and Traumatology in the same University. He spent several years at the Massachusetts General Hospital, Harvard Medical School, Boston, USA, where he accomplished several research activities on basic science in orthopaedics. He is currently Full Professor and Chief of the Residency Program in Orthopaedics and Traumatology at the University of Milan. Head of the Equipe of Regenerative and Reconstructive Orthopaedics ("EUORR"); Head of the Regenerative Medicine and Biomaterials Laboratory by the IRCCS Istituto Ortopedico Galeazzi, Milan, Italy; Former President of the Cartilage Commission of the European Society of Sports Traumatology Knee Surgery and Arthroscopy (ESSKA); former President of the Research Committee of the Italian Society of the Knee, Arthroscopy, Sports, Cartilage, Orthopaedic Technologies (SIGASCOT); former President of the Endorsement Committee of Tissue Engineering and Regenerative Medicine International Society (TERMIS). In his career he obtained 17 national and international awards for his scientific activity and achieved more than 30 grants or contributions for research as PI or Co-Investigator. His principal research interest includes the study of strategies of regenerative medicine and tissue engineering for the repair of articular and meniscal cartilage, of osteochondral and bone tissue. His scientific production includes more than 500 publications, whose 55 on peer reviewed journals with impact factor. Giuseppe Peretti is ICRS member since 1997 and he participated to the first International Fribourg Symposium on Cartilage Repair in Switzerland in 1997.



Pisoni Davide, MD
Isokinetic, Milan, Italy

Davide Pisoni has been working for Isokinetic since 2006 starting as On-field Rehab Specialist, becoming then Neuro-motor Rehab Specialist. He manages the last phase of the rehabilitation and prevention injuries programs with professional football players. Davide received his major in Physical Education in 2001 from University of Milan and completed his Education specializing as Professional Strength and Conditioning Coach in 2003. Postural re-habilitation classes have enriched his training. He had worked as Strength and Conditioning coach in professional football team both in youth sector and first teams for over ten years. Davide is one of the authors of "Il ginocchio post traumatico – valutazione e trattamento riabilitativo" a digital book focusing on knee rehabilitation through functional exercises and how to regain top skills and condition completely safely after injury. He is also contributing to Isokinetic Educational and Research Department as co-author in many studies.



Randelli Filippo, MD
Policlinico San Donato IRCCS San Donato Milanese, Milan, Italy

Born in October 2nd, 1971. Graduated in Medicine and Surgery in 1996, he subsequently obtained the ECFMG (Educational Commission for Foreign Medical Graduates USA) certificate in 1999 and the specialization in Orthopedics and Traumatology in 2001. During his training, he obtained short or long fellowship period in Europe and in United States. Main interest hip surgery and trauma. He is now the chief of the Hip and Trauma Unit at the Policlinico San Donato, Research and University Hospital in Milan. He obtained temporary teaching assignments for the University of Rome, Perugia and Milan where he is still today Professor at The Residency Program of Orthopedics and Traumatology and Expert of matter (Orthopedic) for the Medical School of the University of Milan. Even if more focused on surgery with around 400 surgeries a year as first operator (hip primary, revision, conservative and arthroscopic surgery and trauma), he has collaborated on 47 indexed and 111 non-indexed publications as several manuscripts about hip pathology, Trauma and Orthopedic Surgery. Faculty at more than five hundred national and international meetings, he had organized, as Chairman, 27 scientific conferences both in Italy and abroad. He is associate editor, member of the editorial committee or reviewer of the journal of Orthopedics and Traumatology, the journal of Hip Preservation Surgery, KSSTA and GIOT. He has also been called as external reviewer for the Lancet. He is now the Chairperson of ESSKA Hip Arthroscopy Committee, past President of AO Trauma Italy, in the board of directors for AIR (Italian Revision association), SIDA (Hip Italian Association) and SLOTO and member of several societies such SIOT, ISHA (International Society of Hip Arthroscopy), SIGASCOT, EHS (European Hip Society), AO TRAUMA and AAOS.



Randelli Pietro, MD, PhD
Policlinico San Donato IRCCS San Donato Milanese, Milan, Italy

Prof. Pietro S. Randelli is Chairman of the 1st University Department of the Orthopaedic Institute Gaetano Pini, Milano. Department of Biomedical Science of Health, University of Milan. This Unit has been approved as ESSKA (European Society Sport medicine Knee surgery Arthroscopy) official teaching center. Additionally, he became Full Professor of Traumatology and Orthopaedics at the University of Milan in October 2015. As of July 1st 2012 he is Director of the 2nd Orthopaedic Dept of San Donato Policlinic Hospital IRCCS, under the University of Milan. From March 1st 2006 until 2015 he was Assistant professor in Orthopaedics and Traumatology at the University Study of Milan and within the same University he has been Proctor/ Co-proctor in Master Science Theses for Medicine and Surgery, as well as for the Residency Program in Orthopaedics and Traumatology. Prof. Randelli completed his Master degree in Medicine and Surgery Cum Laude in 1994 at the University of Milan, after which he specialized Cum Laude in Orthopaedics & Traumatology in 1999, also at the University of Milan. Since 2015 Prof. Randelli has performed more than 6000 surgeries as primary surgeon, mainly in hip, knee and shoulder prostheses and arthroscopy.

As a chairman, President and board member in Orthopedic Associations, Prof. Randelli is actively involved in SIGASCOT & ESSKA. He's honorary member of the AOSSM (American Orthopaedic Society for Sports Medicine). Additionally he has been an associate editor for multiple journals (EFORT Orthopedics Today, Joints, Journal of orthopedics and traumatology) and a reviewer for AJSM & KSSTA. During his career he was awarded several time in National and International meetings.

**Robinson Dror, MD, PhD****Hasharon Hospital Orthopedics PetahTikwa, Israel**

Since 1987 involved in research regarding cartilage surface reconstruction involving implanted cells. Former Orthopedic Department Chairman, Currently Chief of Foot and Ankle Service.

**Ronga Mario, Prof., MD****University of Molise Campobasso, Italy**

Mario Ronga is Professor of Trauma and Orthopaedic Surgery at the Department of Medicine and Health Sciences 'Vincenzo Tiberio' of the University of Molise in Campobasso – Italy. Current research activity is focusing on various fields of basic sciences, tissue engineering, sport traumatology and road traffic injuries. He was awarded with several national and international research prizes such as the Basic Science Prize of the British Association of Sports Exercise Medicine (BASEM) in 2007. Professor Ronga has had more than 60 papers published in peer reviewed journals on various aspects of basic sciences, tissue engineering, orthopaedic and trauma surgery, sports medicine and traumatology and road traffic injuries.

He is a Founding member of the APKASS (Asia-Pacific Knee, Arthroscopy and Sports Medicine Society) and actually Secretary-Treasurer of SIGASCOT (Italian Society of Knee, Arthroscopy, Sports, Cartilage, Orthopaedic Technologies) and Advisor of the Board of Directors of SIOT (Italian Society of Orthopaedics and Traumatology). Fields of Interest Orthopaedic Sports, Trauma, and Arthroscopy, Minimally invasive techniques for osteosynthesis Knee, surgery, Tissue engineering (chondrocytes, mesenchymal cells, cartilage and meniscal scaffolds), Biotechnology and biomaterials for joint reconstruction and management of severe bone loss,

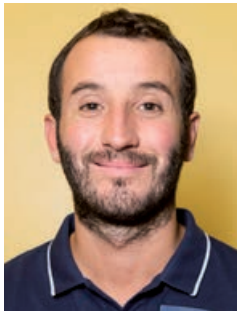
**Rosa Donato, Prof.**

Professore Inc. Sc. Specializzazione Ortopedia e Traumatologia e Medicina dello Sport Università degli Studi Federico II - Napoli
Ortopedico - Traumatologo, Chirurgia del Ginocchio e Artroscopia
Traumatologia Sportiva

Il Dott. Donato Rosa ha conseguito il diploma di laurea in Medicina e Chirurgia presso la II Facoltà di Medicina e Chirurgia di Napoli con voti 110/110 e lode discutendo una tesi clinico sperimentale di Clinica Ortopedica dal titolo: "La necrosi idiopatica della testa del femore" ed il diploma di specializzazione in Ortopedia e Traumatologia con voti 70/70 e lode presso la Scuola di Specializzazione della II Facoltà dell'Università degli Studi di Napoli "Federico II". E' Ricercatore confermato, Dirigente medico I° livello presso la I Clinica Ortopedica della Facoltà di Medicina e Chirurgia dell'Università "Federico II" di Napoli (D.A.E.R.).

E' titolare presso l'Università degli Studi di Napoli "Federico II" dei seguenti insegnamenti: Tecniche artroscopiche nella scuola di specializzazione di Ortopedia e Traumatologia, Fisioterapia e Riabilitazione nella scuola di specializzazione di Medicina dello Sport, Scienze tecniche e mediche applicate per corso integrato di patologie apparato locomotore, rieducazione motoria, e fisioterapia strumentale nel CdL per tecnici ortopedici, Scienze tecniche e mediche applicate per Corso integrato di tecnica Ortopedica nel CdL per tecnici ortopedici, Malattie dell'apparato locomotore per il Corso integrato di scienze fisioterapiche e reumatologiche nel CdL di Fisioterapia.

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Sacchi Andrea, BSc
Isokinetic, Milan, Italy

Andrea Sacchi received his bachelor in kinesiology from university of Pavia in 2005. Then he complete his education specializing in soft tissue manual therapist. He had worked as athletic trainer in a professional volleyball female team (Europea 92 Virgin Radio Milano) in 2007/2008. He manages the rehabilitation and prevention injuries program for the most common pathologies (low back, knee, shoulder). In September 2008 he started working in isokinetic Medical Group as rehabilitation coach and performed force assessment tests on professional soccer teams during the pre-season. He also contributing to Isokinetic Educational and Research Department as author in many free poster presentations about muscle-tendon injuries, case clinic, epidemiology.



Saris Daniel BF, Prof., MD, PhD
Mayo Clinic Orthopedics Rochester, United States of America

Daniël Saris (Past President of ICRS) is a specialized knee surgeon. He joined the Orthopedics staff of Mayo Clinic in Rochester MN USA where he helps shape the Regenerative Medicine program and sports knee surgery and adult knee reconstruction. Daniel Saris graduated from University of Amsterdam Medical School. During orthopedic residency dr. Saris did a fellowship at the Mayo Clinic in Rochester MN USA and subsequently completed a PhD at the University of Utrecht in the Netherlands that introduced the now generally accepted concept of joint homeostasis. He practiced as staff member in the department of Orthopaedics at the UMC Utrecht for 17 years where he started The Mobility Clinic, an academical expert clinic for Musculoskeletal care. Prof Saris was part of the management team of the RM & stem cells focus at the UMC Utrecht and head of the orthopaedic residency program. He now has his clinical practice at Mayo Clinic Rochester and holds academical appointments as professor of Reconstructive Medicine at the University of Utrecht, as Clinical professor at the University of Twente and as professor of Orthopedics at Mayo Medical school



Sekiya Ichiro, Prof., MD, PhD
Tokyo Medical and Dental University Center for Stem Cell and Regenerative Medicine Tokyo, Japan

Ichiro Sekiya is a director of Center for Stem Cell and Regenerative Medicine at Tokyo Medical and Dental University, Japan. He received his MD at Tokyo Medical and Dental University in 1990. He completed a specialization in orthopedics and passed the Japan Orthopedic Association (JOA) Exam in 1996. He earned a PhD at Tokyo Medical and Dental University in 2000. He worked as a postdoctoral fellow with Dr. Darwin J. Prockop in the US in 2000-2002. He is now also professor of Department of Applied Regenerative Medicine at Tokyo Medical and Dental University. Ichiro Sekiyas research has been focused on cartilage and meniscus regeneration with autologous synovial stem cells. His paper "Comparison of human stem cells derived from various mesenchymal tissues: superiority of synovium as a cell source" published in Arthritis Rheum 2005 was cited more than 600 times. He started a clinical study for cartilage regeneration in 2008, which was published in Clin Orthop Relat Res in 2015. He also started another clinical study for meniscus regeneration in 2014. He is now in the editorial board of "Stem Cells," "Journal of Orthopaedic Science," and "Stem Cell Research & Therapy."

**Selmi Carlo, MD****Humanitas Research Hospital Rozzano, Milan, Italy**

Dr. Selmi received his MD in 1998 and his PhD in Internal Medicine in 2002, both from the University of Milan. He was appointed Assistant Professor by the same University for Internal Medicine in 2006 and for Rheumatology in 2011. In 2004 he was awarded the Young Researcher prize by the Italian Society of Internal Medicine and in 2005 the Young Investigator Award by the Aesku-Kipp Foundation. Dr. Selmi was a post-doctoral researcher between August 2001 and December 2004 at the Division of Rheumatology, Allergy, and Clinical Immunology of the University of California, Davis School of Medicine. Since July 2005, he was appointed Assistant Adjunct Professor of Medicine by the same Division at

UC Davis. Carlo Selmi currently leads the Rheumatology and Clinical Immunology Unit at Humanitas research hospital. At Humanitas he leads a young group of physician scientists with wide research and clinical expertise, including periods working at foreign institutions. The team holds dedicated clinics for rheumatoid arthritis, spondyloarthritis, connective tissue disease with dedicated clinics for systemic sclerosis and systemic lupus erythematosus, and is active in articular ultrasound, videocapillaroscopy, arthrocentesis and intra-articular injections. Working in research since 2003 he has coauthored over 260 peer-reviewed publications with a Google Scholar H index of 62 and a total impact factor exceeding 1600 points. His research track is dedicated to organ-specific and systemic autoimmune and chronic inflammatory diseases, including the clinical epidemiology and pathogenetic mechanisms of autoimmune liver disease, connective tissue disease (particularly systemic sclerosis), and psoriatic arthritis. His work has been funded by the National Institutes of Health, American Liver Foundation, American Scleroderma Foundation, Italian Ministry of Health, Italian Ministry of Foreign Affairs, and the Lilly Research Foundation.

**Shabshin Nogah, MD, MBA, BSc****Hospital of University of Pennsylvania Diagnostic Imaging Ra'anana, Israel**

Nogah Shabshin, MD, MBA, BSc is a musculoskeletal radiologist. She is staff and adjunct professor of Radiology at the hospital of the University of Pennsylvania, Philadelphia since 2008, and leading the MSK radiology at the Emek medical center, Afula, Israel. She is a member of the editorial board of Skeletal Radiology since 2008, chair of the promotion committee of the refresher course of the International Skeletal Society since 2014 and a member of the additional committees in the organization. She received the Fellow research award by (2001), cum laude educational exhibits (2009) from the Radiological Society of North America and an honorarium (2005). She is an author

and co-author of 49 scientific papers and 3 chapters and well as 92 scientific presentations and more than 33 invited lectures. She graduated (Cum Laude) the Rapaport School of medicine at the Technion, Haifa and received a Kellogg-Recanati MBA degree (2011). She completed her Radiology residency at Soroka University Medical Center, Beer-Sheba, Israel and a Musculoskeletal radiology fellowship at Thomas Jefferson Medical College, Philadelphia, PA. She was an assistant professor of Radiology at Drexel University, Philadelphia, PA. She founded the Musculoskeletal radiology section at Sheba Medical Center. Dr. Shabshin Completed her MBA studies at Kellogg-Recanati business school. She then served as chair of Radiology at Assuta University Medical Center Network and (2011-2014) and as interim chair of Radiology at Carmel Medical Center. She currently shares her time between clinical-academic work and medical start-up companies. Areas of interest: Bone marrow edema syndromes, stress fractures, musculoskeletal injuries in pregnancy, osteoid osteoma ablations and deep tissue injuries.



Slynarski Konrad, MD, PhD
Warszawa, Poland

Dr. Slynarski completed his MD and Ph.D. degrees at The Medical University of Warsaw, Poland, and completed research fellowships at Case Western University in Cleveland, USA, with Arnold Caplan on Mesenchymal Stem Cells - based cartilage repair (funded by the Polish-American Kosciuszko Foundation), and also with Matts Brittberg, Sweden. He subsequently completed a knee fellowship with Dr. Rene Verdonk, Belgium. He was a principal investigator in several comprehensive clinical studies.

He works on development and improvement of knee joint preservation procedures, including iBalance osteotomy and cell-based therapies for cartilage repair. He organized several symposia and courses in the field of cartilage repair, including Warsaw ICRS World Congress in 2007, Polish Arthroscopic Society Congresses and Warsaw Joint Preservation Congress in 2013, 2015 and 2016. Dr. Slynarski is currently Head of private sports medicine center, LEKMED Warsaw, Poland. He is a President of Polish Arthroscopy Society, member of Education Committee of International Cartilage Repair Society (ICRS) and Osteotomy Committee of European Society for Sports Traumatology, Knee Surgery, and Arthroscopy (ESSKA).



Suh Dongsuk, MD
Yonsei Sarang Hospital, Seoul, South Korea

He received his M.D. from the Yonsei University School of Medicine after completing a residency in orthopedic and arthroscopy. In 2011, he became the chief surgeon of orthopedic department in Yonsei Sarang Hospital.

Yonsei Sarang Hospital is the only hospital where the adipose derived stem cell can be used for OA treatment recognized by the Ministry of Health of Republic of Korea. Dr. Suh with Yonsei Sarang Hospital doctors have written more than 40 articles about the stem cell treatment and PSI knee arthroplasty. In 2013, Dr. Suh and his team from Yonsei Sarang Hospital ranked the most performed TKR hospital among the hospitals in Korea.

Since 2013, Dr. Suh coordinates the activity of stem cell treatments, PRP and gene-therapy. He is author of many papers and SCI articles in regenerative medicine, and has been speaker at more than 20 national and international congress and courses. Dr. Suh is one of the main speaker of the Korean Society of Stem Cell and Regenerative Medicine for 2018 conference.



Tencone Fabrizio, MD
Isokinetic, Torino, Italy

Fabrizio Tencone was born in Vercelli (Italy) on August 19th 1963. He received his M.D. from the University of Turin in 1990 and completed his residency in Sports Medicine at the University of Turin in 1994. He started his professional activity in the Sports Medicine Institute in Turin and, since 1991 started to work in Juventus Football Club as a doctor of youth teams. From February 1995 to October 2002 he was the club doctor of Juventus's first team and has accumulated more than 400 consecutive appearances on the "black&white" bench (among which the Champions League final won by Juventus in May 1996). Since November 2002 he has joined the Isokinetic Medical Group and since the summer of 2003 he has been the Director of the Isokinetic Centre in Turin.

He has participated, as a speaker or chairman, in several domestic and international conferences concerning the rehabilitation and recovery of sports injuries. From 2010 to 2016, continuing to hold the position of physician and director of the Isokinetic Centre in Turin, he went back to Juventus and was the Manager of the Medical Department. Since 2015 he is a member of a experts panel of UEFA. Since 2016 he teaches Traumatology and Sport Rehabilitation at the Degree in Physiotherapy of the University of Turin.

**Vadalà Gianluca, PhD****Campus Bio-Medico University of Rome Orthopaedic and Trauma Surgery Rome, Italy**

Gianluca Vadalà (date of birth: March 14th 1979) graduated at the Medical School of Campus Bio-Medico of Rome University (UCBM) in 2003 with the thesis titled: Stem cell therapy for intervertebral disc regeneration: in vitro study. He concluded the Residency Program in Orthopaedic and Trauma Surgery at the UCBM (directed by Prof. Vincenzo Denaro) in 2008. He concluded the PhD program in "Tissue Regeneration for Functional Restoration" at UCBM in 2012. He is currently an Attending Orthopaedic Surgeon in the Dept of Orthopaedic and Trauma Surgery at UCBM. He carried out a two years Research Fellowship in the "Spine Tissue Engineering Laboratory" and in the "Growth and Development Laboratory" of the Department of Orthopaedic Surgery, University of Pittsburgh, USA. He worked for one year in the "Tissue Engineering Laboratory/bone division" of the Biomedical Science Park San Raffaele of Rome directed by Prof. Paolo Bianco. He collaborated with the "Experimental Orthopaedic Laboratory" of the University of Navarra, Pamplona, Spain. He is now collaborating with the "Musculoskeletal regeneration Program" of the AO Research Institute at Davos, Switzerland. Dr. Vadalà was the Winner of the "North American Spine Society (NASS) 2004 Research travelling Fellowship Award", of the "Michael J. Jerva MD Award for Best Poster Presentation" at the IITS 17th Annual Meeting (2005) in Munich, Germany. I was a co-investigator in the "NASS 2005 Research Grant" with the project: Mesenchymal Stem Cell Injections for Treatment of Intervertebral Disc Degeneration. He was the winner of the 2009 Grant for Integrated Research of UCBM as co-Investigator with the project: Towards tissue prototyping: fabrications of patient-specific scaffolds for the regeneration of osteochondral tissue. His major research interest is developing new biological therapies for intervertebral disc degeneration and osteoarthritis with a special focus on stem cell therapy, gene therapy and tissue engineering. He published 22 papers on international pre-reviewed Journals. He presented his research works in several international meetings of Regenerative Medicine, Orthopaedics and Spine Surgery.

**Vannini Francesca, MD, PhD****Istituti Ortopedici Rizzoli Bologna, Italy**

Born in Lugo (RA), Italy. 15/04/1973, graduated full marks in medicine in 1998 (Bologna University), Italy. 1998 – 2003- Appointed permanent resident of Orthopedics and Traumatology, Orthopedic Clinic of Bologna University at Rizzoli Orthopedic Institute. 2003-February to July: Residency rotation at the Department for Foot&Ankle Surgery of Union Memorial Hospital, Baltimore, MD, USA to expand on Foot & Ankle Surgery and research. Completed her PhD in Biotechnologies (Cartilage repair) in November 2006, at the University of Bologna. Was awarded with the European Foot & Ankle Society Travelling Fellowship, with the AOFAS Travelling Fellowship AOFAS, and with the ICRS Travelling Fellowship. In November 2004 was appointed as a tutor at the Podiatrist University of Bologna. In June 2005 appointed as orthopedic consultant at the Rizzoli Orthopedic Institute II Clinic. From 2006 was appointed as university lecturer at the Podiatrist University of Bologna. Main field of research and clinical practice are Cartilage repair and Foot & Ankle surgery. Participated in National and International study groups. Participated in National and International meetings organization as part of the scientific committee. Participated with presentations in national and international meetings, among them presented podium, posters and scientific exhibits at the "American Academy of Orthopaedic Surgeons". Authored or co-authored scientific book chapters, papers published in Science Citation Index journals and papers published in other national or international scientific journals. Is member of AOFAS (American Foot&Ankle Society), ICRS (International Cartilage Repair Society), ESSKA (European Society of Sports Traumatology, Knee Surgery and Arthroscopy) member, EFAS (European Foot & Ankle Society), SIOT (Società Italiana di Ortopedia e Traumatologia), SICP (Società Italiana della Caviglia e del Piede), SIGASCOT (Società Italiana di Chirurgia del Ginocchio, Artroscopia, Sport, Cartilagine e Tecnologie Ortopediche).



Verdonk Peter, MD, PhD

Antwerp Orthopaedic Center Gent-Zwijnaarde, Belgium

Professor Dr Peter Verdonk, MD, PhD is a full time Consultant Orthopaedic Knee Surgeon at the Antwerp Orthopaedic Center (Monica Hospitals) and Researcher at the Antwerp University and the Monica Research Institute. He is also a Visiting Surgeon at the Aspetar Hospital in Doha, Qatar and an Attending Surgeon at the Antwerp University Hospital. His clinical and research interests are knee surgery and arthroplasty with a particular focus on meniscus substitution and cartilage repair. He has obtained his PhD degree at the Ghent University in 2006 on 'The Human Meniscus: characterization, transplantation and tissue engineering. He received his orthopaedic training in Ghent University, and was a fellow of Prof. Bellemans in Leuven and of Prof. Neyret in Lyon. He has been an international traveling fellow of the International Cartilage Repair Society in 2004 and of the European Society of Sport Traumatology Knee Surgery and Arthroscopy in 2007. He is author of more than 90 peer reviewed papers and has lectured internationally. He is also involved in a number of national and international scientific organization (ICRS, ISAKOS, ESSKA, ABA, BVOT, BKS,...). For more info www.verdonk.be



Volpi Piero, MD

Istituto Ortopedico Galeazzi Sports Traumatology Milan, Italy

Dott. Piero Volpi received his M.D. from University of Perugia in 1979 and successively he completed his residency in "Orthopaedic and Traumatology" and in "Sport Medicine". He became Director of Knee Surgery and Sport Traumatology Unit at Istituto Clinico Humanitas – IRCCS, Milan, Italy in 2010. He was Teaching Professor at the Specialty School of Orthopaedics and Traumatology, University of Milan: 2001- 2015. He's been author of more than 300 publications and over 500 contributions, including book chapters, articles and presentations to scientific National and International meetings. Over the years, his interests have been in Sport Traumatology, Arthroscopic Surgery, Knee Surgery, Cartilage Repair. He was President of SIA (Società Italiana di Artroscopia) from 2015 to 2017 and Secretary EFOS (European Federation of National association of Orthopaedic Sport Traumatology) from 1998 to 2002. He was a Member Sports Committee ESSKA (European Society of Sports Traumatology Knee Surgery and Arthroscopy) from 2006 to 2010 He was President of the Sport Committee in SIGASCOT (Società Italiana Ginocchio Artroscopia Sport Cartilagine e Tecnologie Ortopediche) from 2004 to 2008, Member Executive Committee 2008-2010 and President of Scientific Committee from 2010 to 2012. He is a former professional football player (1972-1985). Actually he is Head of Medical Staff F.C. Internazionale Milan from 2014 after being previously from 1995 to 2000. He was Responsible Physician of Italian Association Football Players (AIC) from 2000 to present and Member UEFA Medical Committee from 2015 to 2017.



Zaffagnini Stefano, MD

Istituto Ortopedico Rizzoli Sport Traumatol. & Biomechanics Lab. Bologna, Italy

Stefano Zaffagnini, MD degree from the University of Bologna in Oct 17 1987, with 110/110 cum laude. Specialization in "Orthopaedics and Traumatology" from the University of Bologna in Jul 15 1992, with 70/70 cum laude. He works as 1st assistant orthopaedic surgeon in the Sports Traumatology Dept. of Istituti Ortopedici Rizzoli (Bologna, Italy) since 24/07/1997. From 2008 he is coordinator of the "Sports Traumatology Excellence Centre" of Istituti Ortopedici Rizzoli (Bologna, Italy). From 1/05/2016 to 31/05/2017 he was Head of Orthopaedics of Department Rizzoli Sicilia – Bagheria. From 2017 March 15th he is Head of Il Clinic - Orthopaedics and Traumatology of Istituto Ortopedico Rizzoli (Bologna, Italy). Surgery as the first surgeon to November 2017: over n. 9000. From 1991 to 2018 he published 279 articles on international journals (263 with impact factor). From 1988 to 2018 he published 88 articles on Italian national journals. He took part as speaker in 300 International Meetings and 286 Italian National Meetings. From 1988 to 2018 he published 341 international abstracts and 144 Italian national abstracts. He was editor of 14 books, associate author of 66 book's chapters, 6 monograph's chapters and 8 videos. He works as researcher in Biomechanics Laboratory of Codivilla-Putti Reserch Institute (Istituti Ortopedici Rizzoli – Bologna, Italy). He take and took part in a lot of research project promoted by Istituti Ortopedici Rizzoli (Bologna, Italy), Italian Health Ministry and European Community. He is member of the scientific committee of: I.S.A.K.O.S. (International Society of Arthroscopy, Knee surgery and Orthopaedic Sports medicine); S.I.G.A.S.C.O.T. (Società Italiana Ginocchio Artroscopia Sport Cartilagine e Tecnologie

Ortopediche). S.I.C.S.e G. (Società Italiana Chirurgia Spalla e Gomito). He was member of the cartilage committee of E.S.S.K.A. (European Society of Shoulder and Knee Arthroscopy) from 2006 to 2008, and he is the chairman of the arthroscopy committee of E.S.S.K.A. from 2008 to 2010. He is designated as Scientific Chairman of the 14th, 15th & 16th E.S.S.K.A. Congress. From August 2009 he is a member of the "Anterior Cruciate Ligament Study Group". He is designated as Scientific Chairman of the 10th I.S.A.K.O.S Congress. He is designated as Scientific Co- Chairman of the 11th I.S.A.K.O.S Congress. He is member of ESSKA Sport Committee 2014 – 2016. From April 2016 he is Full Professor in "Orthopaedics and Traumatology" at Faculty of Medicine. - University of Bologna. He was chairman of SIGASCOT society from September 2014 to September 2016.



Zanon Giacomo, MD

IRCCS Policlinico San Matteo Pavia Orthopaedics and Traumatology Pavia, Italy

Giacomo Zanon received his M.D. from the University of Milan in 1996 and completed his residency in Orthopaedics and Traumatology at the Policlinico San Matteo in Pavia in 2000. In 2011 he attended and won the University Master "The degenerative disease of the knee", Università 'del Molise. In 2018 he became Professor in Sports Sciences at the University of Pavia. As part of his training he worked in 1997 and 1999 with Italian National Ski Team and in 1999 at hke Memphis Trauma Hospital. He works in the Orthopaedic and Trauma Unit of Policlinico San Matteo in Pavia since 2000 and he became the Chief of the Sports Trauma Unit since 2010. He has been Orthopaedic consultant of many professional sports team.

In 2003-2004 basket Edimes Pavia, from 2004-2009 Piacenza Football Club, from 2010-2012 Consultant Orthopaedic Genoa CFC. From 2017 he is the Orthopaedic consultant of Atalanta Football Club. Since 2008 he had different role in Sigascot Society. He was Member of Arthroscopy Committee from 2008-2012, member of Cartilage Committee from 2012, Chief of the Sports Committee of since 2016. With Sigascot he organized in Pavia in 2014 the course "Save the Meniscus" and in 2017 the "Second Course on Osteotomy around the Knee".



Zaslav Kenneth, Prof., MD

Advanced Orthopedic Centers Sports Medicine and Cartilage Restoration Center Richmond, United States of America

Ken Zaslav is an Orthopaedic Surgeon and the founding director of Advanced Orthopaedic Centres: Sports Medicine and Cartilage Regeneration Centres, in Richmond, Virginia in the U.S.A. He is a Clinical Professor of Orthopaedic Surgery at Virginia Commonwealth University and has published and lectured worldwide on Cartilage Repair, and non-operative treatments for Articular Cartilage injury over the past 10 years. Dr. Zaslav performed the first Articular Cartilage Transplant in Virginia in 1996 and since then articular cartilage has been his prime clinical research interest. He has been a fellow of the ICRS since 1999 and has

served on its Executive Committee and Board of Directors. He was the president of the ICRS from 2016-2018. He is a member of the AOSSM, AAOS and AANA and has served on its research, education and membership committees. He has spoken as an invited speaker at The FDA's Cellular, Tissue and Gene Therapies Advisory Committee meeting and was the lead author of The STAR Study of Articular Cartilage repair published in AJSM in 2009. He serves on the Scientific Advisory Boards of several Biologics companies in the United States and Israel and has previously served as The Chief Science Officer of The Virginia Bio-commercialization Center at Virginia Commonwealth University and now serves on The Board of Directors of The Virginia Life Science Investment Fund. He has been the Company Physician for The Richmond Ballet for the past 20 years.



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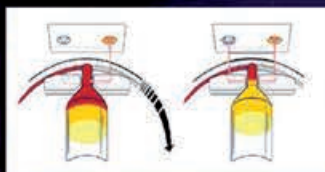
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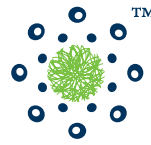
LEGEND: MSK: Musculoskeletal. PLT: Platelets. PRP: Platelet-Rich Plasma. WBC: White Blood Cells. OR: Operative room.
BIBLIOGRAPHY: 1. Magalon et al. BMJ Open Sport Exerc Med. 2016; 4;2(1):e000060

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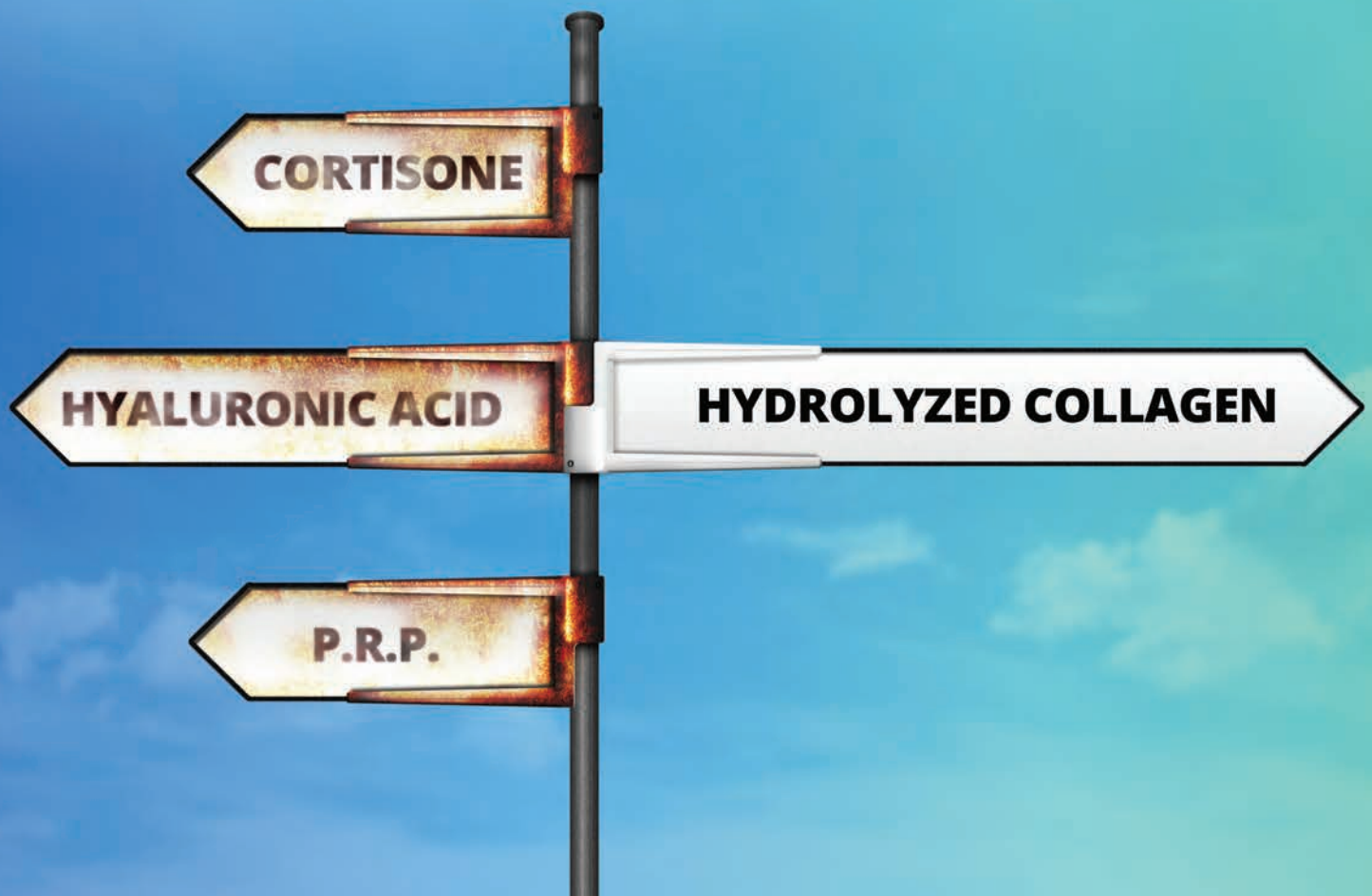


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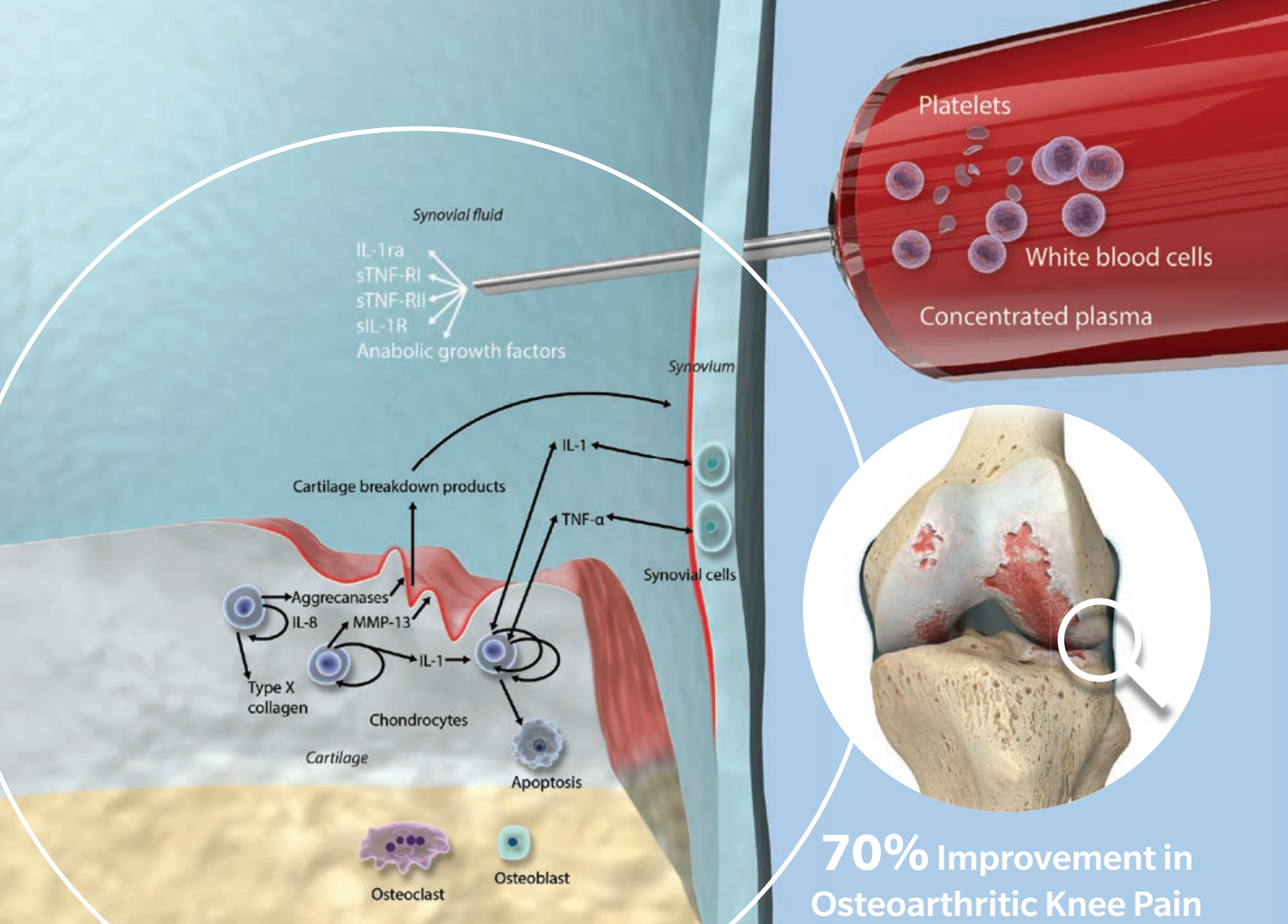
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Autologous Anti-Inflammatory Therapy for Knee Osteoarthritis

The nSTRIDE APS Kit is designed to produce a novel autologous anti-inflammatory therapy to treat osteoarthritis pain in the knee via a single intra-articular injection.

The nSTRIDE APS Kit is a point of care cell-concentration system designed to concentrate anti-inflammatory cytokines and anabolic growth factors to significantly decrease pain and promote cartilage health. nSTRIDE APS is suitable for treating patients who have Kellgren & Lawrence Stage 2 or 3 and who have failed conservative care.

nSTRIDE Autologous Protein Solution (APS) was developed after an extensive research program which focused on understanding the osteoarthritic disease process in the knee and understanding the mode of action that an autologous blood-based product could have.

- Significantly Reduces Pain Associated with Knee OA up to 2 years¹⁻³
- Significantly Improves function in the Knee Joint associated with OA¹⁻³
- Effective for patients with Kellgren and Lawrence stage 2 and 3 following a single injection¹⁻³,
- 70% Improvement in Knee Pain at 2 years following a Single Injection^{3,#}

1. Kon E, Engebretsen L, Peter Verdonk P, Nehrer S and Filardo G. "Clinical Outcomes of Knee Osteoarthritis Treated with an Autologous Protein Solution. A 1-year Pilot Double-Blinded Randomized Control Trial. American Journal of Sports Medicine, Oct. 2017.
2. Van Drumpt RA, van der Weegen W, King WJ, Toler K, Macenski M. Safety and treatment effectiveness of a single autologous protein solution injection in patients with knee osteoarthritis. BioResearch Access, Vol 5.1, 2016.
3. Kon E, Engebretsen L, Peter Verdonk P, Nehrer S and Filardo G. "Two-year Clinical Outcomes of An Autologous Protein Solution Injection For Knee Osteoarthritis." ICRS 14th World Congress, presented, 2018.

As measured by WOMAC pain scores reported by patients continuing follow-up through 2 years (n = 22).

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