CURRICULUM VITAE

Personal information

Family name, First name: Raimondi, Manuela Teresa

Date and place of birth: August 31st 1968, Milano, Italy

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Project website: www.nichoid.polimi.it

BRIEF PROFILE

My career developed at Politecnico di Milano, where I am a full professor of bioengineering at the Department of chemistry, materials and chemical engineering "G. Natta". I teach the course "Technologies for regenerative medicine" at the MS program in Biomedical Engineering. I am the Principal Investigator of several research projects in industrial bioengineering: three projects funded by the European Research Council (ERC), one by the National Centre for the Replacement, Refinement & Reduction of animals in research (NC3Rs) and a project funded by the Italian Ministry of University and Research (MUR).

In 2009 I established the group of Mechanobiology at Politecnico di Milano. I have activated and I direct two labs (the "Mechanobiology lab" and the "Live Cell Imaging lab") in which I based my team. We develop frontier tools for bioengineering research, such as nanoengineered stem cell niches, microfluidic bioreactors and miniaturised windows for intravital imaging. I am the founder of the university spin-off company MOAB S.r.l. that commercialises these tools.

Since September 2020, I reside in Philadelphia for a one-year appointment as a visiting professor at the Gottardi Bioengineering and Biomaterials Laboratory, Children's Hospital of Philadelphia, Dept. of Pediatrics, Perelman School of Medicine and Dept. of Bioengineering, School of Engineering and Applied Sciences, University of Pennsylvania.

EDUCATION

2000	Ph.D. in Bioengineering, School of Engineering, Dept. of Bioengineering, Politecnico di Milano, Italy. Title of the thesis "The biomechanical reliability of artificial hip joints". Mentor: Prof. Riccardo Pietrabissa.
1994	Professional Qualification in Industrial Engineering (Esame di Stato), and enrolment in the Ordine degli Ingegneri della Provincia di Milano, Italy.
1993	5-year "Laurea" degree in Mechanical Engineering, School of Engineering, Dept. of Bioengineering, Politecnico di Milano, Italy. Track: Bioengineering.
1991	Diplôme Supérieur de Langue Française, Centre Culturel Français, Milan.
1980-1981	Seventh grade attended at the Birch Wathen School, New York City, NY, USA.

ACADEMIC TEACHING

Academic positions

2020-now Visiting Professor of Bioengineering, Bioengineering and Biomaterials Laboratory, Children's Hospital of Philadelphia, Dept. of Pediatrics, Perelman School of Medicine and Dept. of Bioengineering, School of Engineering and Applied Sciences, University of Pennsylvania, Philadelphia, USA.

2018-now Full Professor in Bioengineering, Scientific disciplinary sector: ING-IND/34 (Industrial Bioengineering), School of Engineering, Dept. of Chemistry, Materials and Chemical Engineering "G. Natta", Politecnico di Milano.

2015-2018 Associate Professor in Bioengineering, Scientific disciplinary sector: ING-IND/34 (Industrial Bioengineering), School of Engineering, Dept. of Chemistry, Materials and Chemical Engineering "G. Natta", Politecnico di Milano.

2005-2014 Assistant Professor in Bioengineering, Scientific disciplinary sector: ING-IND/34 (Industrial Bioengineering), School of Engineering, Dept. of Chemistry, Materials and Chemical Engineering "G. Natta", Politecnico di Milano.

2000-2004 Post-doctoral fellow, School of Engineering, Dept. of Bioengineering, Politecnico di Milano, Italy. Scientific disciplinary sector: ING-IND/34 (Industrial Bioengineering).

1997-1999 Ph.D. student, School of Engineering, Dept. of Bioengineering, Politecnico di Milano.

Course lecturing at the School of Engineering, Politecnico di Milano

Philosophy Doctorate programs

2019 Lecturer, course "Communication strategies that score in worldwide academia", soft skills course offered to all the Doctoral programs by the PhD school.

2015 Lecturer, course "Mechanobiology", scientific disciplinary sector: ING-IND/34 (Industrial Bioengineering), 2 credits, Inter-departmental Ph.D. program in Bioengineering (in English)

2009 Co-Lecturer, course "Bioreactors for Regenerative Medicine", scientific disciplinary sector: ING-IND/34 (Industrial Bioengineering), 2 credits, Ph.D. program in Bioengineering (in English)

Master of Science (MS) programs

2015-2020 Lecturer, course "Technologies for Regenerative Medicine", scientific disciplinary sector: ING-IND/34 (Industrial Bioengineering), 10 credits, Master of Science program in Biomedical Engineering (In English).

2009-2014 Lecturer, course "Biomimetics and Tissue Engineering [2]", scientific disciplinary sector: ING-IND/34 (Industrial Bioengineering), 5 credits, Master of Science program in Biomedical Engineering

2007-2008 Lecturer, course "Tissue engineering", scientific disciplinary sector: ING-IND/34 (Industrial Bioengineering), 5 Credits, Master of Science program in Biomedical Engineering

2006-2007 Lecturer on contract, course "Reconstructive Engineering in Orthopaedics", scientific disciplinary sector: ING-IND/34 (Industrial Bioengineering), Master of Science program in Engineering in Surgery

2003, 2006 Lecturer on contract, course "Technological Evaluation of Prostheses and Implantable Devices", scientific disciplinary sector: ING-IND/34 (Industrial Bioengineering), Master of Science program in Engineering in Surgery

2002 Didactic collaborator on contract, course "Technologies for Prostheses and Artificial Organs", 10 Credits, Scientific disciplinary sector: ING-IND/34 (Industrial Bioengineering), Master of Science program in Biomedical Engineering

2001-2003 Didactic collaborator on contract, course "Biomaterials Technology", 10 Credits, Scientific disciplinary sector: ING-IND/34 (Industrial Bioengineering), Master of Science program in Biomedical Engineering

2001-2004 Didactic collaborator on contract, course "Artificial organs and Prostheses", 10 Credits, Scientific disciplinary sector: ING-IND/34 (Industrial Bioengineering), Master of Science program in Biomedical Engineering

Degree programs

2009 Lecturer, course "Design (Biomechanics and Biomachines)", 5 Credits, Scientific disciplinary sector: ING-IND/34 (Industrial Bioengineering), Degree program in Biomedical Engineering

1998 Didactic collaborator on contract, course "Biomechanics", scientific disciplinary sector: ING-IND/34 (Industrial Bioengineering), Degree program in Biomedical Engineering

Institutional academic appointments

2012-2014 Vice-Coordinator, inter-departmental Ph.D. program in Bioengineering, School of Engineering, Politecnico di Milano, Italy (currently member of the Faculty board)

2008-2010 Board of the School, Master of Science program in Biomechanics in Arthropodology, School of Medicine and Surgery, Università degli Studi di Milano, Italy

2006-2007 Didactic Coordinator, area Orthopaedics, Master of Science in Engineering in Surgery, School of Engineering, Politecnico di Milano, Italy

2002-now Scholar of the discipline “Artificial Organs and Prostheses”, Scientific disciplinary sector: ING-IND/34 (Industrial Bioengineering), School of Engineering, Politecnico di Milano, Italy

Appointments as Committee member in Ph.D. dissertations

2017 Member of Dissertation Commission, Patrìcia Moura Rosa, project “IMMUNITY-ON-A-CHIP Microfluidic Devices for Immunoengineering”, Supervisor: Prof. Øyvind Halaas, Ph.D. program in Medical Technology, Norwegian University of Science and Technology (NTNU), Trondheim, Norway

2017 Mini viva assessor, Sara Silvani, project “In Vitro 3D Co culture System to Study the Toxicity of Airborne Microparticles”, Supervisor: Dr. Cécile M. Perrault, Ph.D. program in Life and Biomolecular Science, Affiliated Research Center: IRCCS Mario Negri Institute for Pharmacological Research, The Open University, Milton Keynes, UK

2015 Member of Dissertation Commission, Barbara Bonandrini, project “Generation of a bioartificial kidney by tissue engineering technologies”, Supervisor: Prof. Andrea Remuzzi, Ph.D. program in Pharmacological Sciences, Affiliated Research Center: IRCCS Mario Negri Institute for Pharmacological Research, The Open University, Milton Keynes, UK

2012 Mini viva assessor, Marco Franzoni, project “The role of shear stress in ateriovenous fistula maturation: development of a cone and plate device to investigate the endothelial cell response to controlled mechanical stimulation”, Supervisor: Prof. Andrea Remuzzi, Ph.D. program in Bioengineering, Affiliated Research Center: IRCCS Mario Negri Institute for Pharmacological Research, The Open University, Milton Keynes, UK

Appointments as Supervisor of Ph.D. students

2021-2023 Alessandra Nardini, Ph.D. program in Bioengineering, XXXV cycle.

2020-2022 Carolina Testa, Inter-doctoral Ph.D. program in Computer Science-Bioengineering, XXXV cycle. Co-supervised by Prof. Stefano Ceri. Progect GECOID “Innovative methods for targeting native tumors integrating 3D cell culture with genomic computing”. Intramural fellowship funded by the Italian Ministry of University and Research.

2019-2021 Bianca Barzaghini, Ph.D. program in Bioengineering, XXXIV cycle.

2019-2021 Alberto Bocconi, Ph.D. program in Bioengineering, XXXIV cycle.

2017-2019 Claudio Conci. Ph.D. program in Bioengineering, XXXIII cycle. Project “Imaging window nanofabricated by direct laser writing for intravital assessment of biomaterials.” Fellowship funded by my MIUR-FARE 2016 grant BEYOND.

2017-2019 Valentina Parodi. Inter-doctoral Ph.D. program in Bioengineering-Physics, XXXIII cycle. Project BIOMULTIPHOTON: “Multiphoton and non-linear microscopy applied to frontier physiopathology research in cell biology”. Intramural fellowship funded by the Italian Ministry of University and Research.

2017-2019 Francesca Donnaloja. Ph.D. program in Bioengineering, XXXIII cycle. Project “Modelling the molecular mechanics of the nuclear pore complex”. Fellowship funded by my ERC-CoG-2014 grant NICHOID. One year spent as visiting student at the Schwartz lab, Dept of Biology, MIT (Boston, USA) with a Rocca Fellowship.

2016-2018 Lucia Boeri. Ph.D. program in Bioengineering, XXXII cycle. Project “Design, development and numerical prediction of a fluorescent transcription factor to evaluate its nuclear import flow in living mesenchymal stem cells”. Six months spent as visiting student at Prof Alessandro Negro, Protein Crystallography and Protein Engineering lab, Dept. of Biomedical Sciences, Padua University, Padua, Italy. Fellowship funded by my ERC-CoG-2014 grant NICHOID.

2015-2017 Dr Alessandro Marturano. Ph.D. program in Bioengineering, XXXI cycle. Project "Design and development of novel in vitro tools for cancer tissue engineering”. Two years spent as visiting student at Prof Gordana Vunjak-Novakovic, Stem Cells and Tissue Engineering Lab, Columbia University, New York City, USA. Fellowship funded by 2/3 by Politecnico di Milano Foundation and by 1/3 by my ERC-CoG-2014 grant NICHOID.

2012-2014 Dr Michele M. Nava. European Ph.D. program in Structural, Seismic and Geotechnical Engineering, XXVII cycle. Project "The control of multipotency and differentiation of stem cells in three-dimensional scaffolds structurally interacting at the cell scale". Six months spent as visiting student at Prof Ivan Martin, Tissue Engineering Lab, University of Basel, Switzerland. Fellowship funded by the Italian Ministry of University and Research.

2006-2008 Dr Elisa Bonacina. European Ph.D. program in Bioengineering, XXI cycle. Project "The effects of mechanical stimulation on development of human engineered cartilage".

One year spent as visiting student at Prof Ivan Martin, Tissue Engineering Lab, University of Basel, Switzerland. Fellowship funded by the Italian Ministry of University and Research.

2004-2006 Dr Margherita Cioffi (in co-supervision). European Ph.D. program in Bioengineering, XIX cycle. Project "Computational modelling of transport phenomena within engineered tissue". Six months spent as visiting student at Prof Ivan Martin, Tissue Engineering Lab, University of Basel, Switzerland. Fellowship funded by the Italian Ministry of University and Research.

2002-2004 Dr Matteo Moretti. European Ph.D. program in Bioengineering, XVII cycle. Project "The mechanobiology of cartilage tissue engineering". One year spent as post-doctoral fellow at the Langer lab, Massachusetts Institute of Technology (MIT), Boston, USA. Fellowship funded by the industrial company Fidia Advanced Biopolymers (FAB) S.r.l., Abano Terme, Padua, Italy.

SCIENTIFIC APPOINTMENTS

Institutional appointments at Politecnico di Milano

2015-2025 Referent person for the framework agreement with IRCCS Mario Negri Institute for Pharmacological Research (Milano, Italy), the main pharmaceutical Contract Research Organisation in Italy.

2014-now Head of the Managing Board, inter-departmental Laboratory for Live Cell Imaging (LuCId lab) (https://www.polimi.it/en/scientific-research/research-at-the-politecnico/laboratories/interdepartmental-laboratories/lucid-lab/). To activate this lab, I was awarded with an intramural grant (€140,000) to co-fund the acquisition of a confocal microscope equipped with a cell culture incubator. This lab serves as the institutional bio-imaging facility by 20% and it's used on my projects by 80%.

2010-now Founder and Director, Mechanobiology lab, Dept. of Chemistry, Materials and Chemical Engineering "G. Natta" (http://www.nichoid.polimi.it/mechanobiologylab/). I activated a cell culture facility now covering 100 m^2. Here, we develop advanced models of cell mechanobiology, coupling miniaturised cell/tissue bioreactors and cell culture substrates nanoengineered by two-photon laser polymerisation (2PP), with multiphysics/multiscale computational models of cell response to mechanical and mass transport field variables. I moved from *in vitro* to *in vivo* by development of a 2PP-fabricated miniaturised windows for intravital imaging in mice.

2003-2008 Founder and Director, external research unit of Politecnico di Milano, located inside the research hospital IRCCS Galeazzi Orthopaedic Institute, Milano (https://galeazzi.grupposandonato.it/laboratorio-di-meccanica-delle-strutture-biologiche.html). Here, I set-up a biomechanics lab (50 m^2) and supervised a group of bioengineers working on the biomechanics of hip and knee prostheses, spinal fixation, trauma fixation and maxillo-facial implants. In this hospital, I had access to an advanced biological lab, where I acquired my knowledge in cell culture and analysis, especially high-resolution fluorescence microscopy.

Management of past and on-going grants

2021-2023 Principal Investigator of Unit, Project Title: Nichoid in space: advanced in vitro models for on orbit investigations. Funded by the European Space Agency, call: Idea I-2020-01240 (Project PI: G. Ciofani; budget €174,750, 18 months).

2021-2024 Principal Investigator of Unit, Project Title: An in-vivo bioengineered chip as a smart intravital multiphoton imaging window for new validation protocols of biomaterials. Funded by the EC; call: H2020-FETOPEN-2018-2020 (Project PI: G. Chirico; budget €3,438,95948 months). www.in2sight.eu

2021-2023 Principal Investigator of Unit, CRACK-IT Challenge 33: Clean cut (Phase 2). Project Title: Development of an in vitro viability and tumorigenicy index for genome-edited hHPSC with the MOAB bioreactor. Funded by NC3Rs, the National Centre for the Replacement, Refinement & Reduction of animals in research, London, UK. (Project PI: A. Rotilio; budget €1,113,748, 36 months). https://nc3rs.org.uk/crackit/cleancut.

2020 Principal Investigator, CRACK-IT Challenge 33: Clean cut (Phase 1). Project Title: Development of an in vitro viability and tumorigenicy index for genome-edited hHSC with the MOAB bioreactor. (€109,000; 6 months). Funded by NC3Rs, the National Centre for the Replacement, Refinement & Reduction of animals in research, London, UK. https://nc3rs.org.uk/crackit/cleancut

2015-2020 Principal Investigator, ERC Consolidator project NICHOID: "Mechanobiology of nuclear import of transcription factors modelled within a bioengineered stem cell niche" (€1,903,00; 60 months). Awarded by the European Research Council. Call: ERC-2014-CoG. Panel PE8_14 (Industrial Bioengineering). Grant agreement n. 646990. http://www.nichoid.polimi.it/erc-cog-nichoid/

2018-2019 Principal Investigator, ERC Proof-of-Concept project MOAB: "Miniaturised optically accessible bioreactor for drug discovery and biological research" (€150,000, 18 months). Awarded by the European Research Council. Call: ERC-2018-PoC_30-04-2018. Panel PE8_14 (Industrial Bioengineering). Grant agreement n. 825159. http://www.nichoid.polimi.it/erc-poc-moab/

2017-2018 Principal Investigator, ERC Proof-of-Concept project NICHOIDS: "Nichoid: nanoengineered substrate for stem cell expansion" (€150,000; 18 months). Awarded by the European Research Council. Call: ERC-2016-PoC_04-10-2016. Panel PE8_14 (Industrial Bioengineering). Grant agreement n. 754467. http://www.nichoid.polimi.it/erc-poc-nichoids/

2018-2020 Principal Investigator, project BEYOND: “Imaging window nanofabricated by direct laser writing for intravital assessment of biomaterials” (€136,800; 36 months). Awarded by the Italian Ministry of University and Research. Call: MIUR-FARE 2016. Panel PE8_13 (Industrial bioengineering). http://www.nichoid.polimi.it/beyond/

2014-2016 Principal Investigator, award "LuCId lab" (€140,000; 36 months) to set up an inter-departmental new laboratory for confocal cell imaging, granted by Politecnico di Milano, Italy. Call: Laboratori Interdipartimentali di Ateneo 2013.

2012 Principal Investigator, award "Mechanobiology lab" (€35,000) for instrumentation, granted by the Banca del Monte di Lombardia Foundation, Pavia, Italy. Open call.

2011-2012 Principal Investigator of Unit, award "Computational models for heterogeneous media. Application to micro scale analysis of tissue-engineered constructs" granted by Politecnico di Milano, Italy. Call: 5x1000 Young Investigator award 2010. (24 months;

Project PI: P. Zunino, budget €60,000; Unit PI: MT Raimondi, budget €20,000).

2011-2012 Principal Investigator of Unit, award "3D Micro structuring and functionalisation of polymeric materials for scaffolds in regenerative medicine" granted by the Cariplo Foundation, Milano. Call 2010 "Potenziare la valorizzazione della conoscenza attraverso il sostegno di progetti di ricerca su tecnologie emergenti con forti ricadute applicative. Ricerca scientifica e tecnologica sui materiali avanzati" (24 months; Project PI: R. Osellame, budget €237,000; Unit PI: MT Raimondi, budget €82,000).

2005-2006 Principal Investigator, award "Design of micro-structured scaffolds for tissue regeneration in advanced culture systems" (€204,000; 24 months) granted by the Cariplo Foundation, Milano, Italy. Call 2004 "Promuovere la valorizzazione della conoscenza attraverso il sostegno di progetti di ricerca applicata su tecnologie abilitanti".

Honours and Awards

2018 Principal Investigator, Travel award (€2,500) granted by the Rocca Foundation, MIT-Italy program, to support the Rocca visiting student fellowship (€8,000) awarded to my PhD student Francesca Donnaloja for her project “Contribution of nuclear pore complexes (NPC) as stretch-activated channels to the regulation of gene expression".

2017 Winner, start-up competition, project: “Miniaturized, Optically Accessible Bioreactor (MOAB)”, Funded by Politecnico di Milano, PoliHub and Deloitte. Call: Switch to Product (S2P 2017).

2007 Principal Investigator, Travel award "Mathematical modelling of cell-based diagnostic devices" (€8,000) granted by the Rocca Foundation, MIT-Italy program.

2006 Principal Investigator, Travel award "Tissue Engineering in human cartilage bioreactors" (€8,000), granted by the Rocca Foundation, MIT-Italy program.

2000-2001 Principal Investigator, award "In vitro development of cartilage engineered on synthetic scaffolds using human cells" (€6,400), granted by Politecnico di Milano. Call: Young Investigator award 1999.

1997 Winner, three-year Doctoral Fellowship granted by the Italian Ministry of University and Research.

Scientific appointments at Clinical Research Institutes

2020-now Visiting Professor of Bioengineering, Bioengineering and Biomaterials Laboratory, Children’s Hospital of Philadelphia, Dept. of Pediatrics, Perelman School of Medicine, University of Pennsylvania, Philadelphia, USA

2019-now Scientific Advisory Board (SAB) member, Istituto di Ricerca Pediatrica (IRP), Padova, Italy (https://www.irpcds.org/).

2006-2010 Member, Scientific Advisory Board at IRCCS Istituto Ortopedico Galeazzi, Milano

2009 Coordinator, “Ricerca Corrente” research line n. 3: "Study of movement, analysis, biometrics, functional re-education" at IRCCS Istituto Ortopedico Galeazzi, Milano

2006-2008 Principal Investigator, “Ricerca Corrente” projects n.: 2.02 "Design of microstructured scaffolds for tissue regeneration in advanced culture systems", 2.03 "Design and development of a new dynamic spinal stabilizer", and 6.06 "Development of advanced methods for the design and evaluation of devices for spinal surgery" at IRCCS Istituto Ortopedico Galeazzi, Milano

Research contracts managed (between Politecnico and Galeazzi Orthopaedic Institute)

2008-2010 Co-Holder, contract "Use of experimental equipment to conduct research in the field of implant devices for orthopaedic surgery, trauma surgery, odontology, maxillo-facial surgery, and spinal neurosurgery" (three contracts, total value €260,000).

2006-2007 Holder, contract "Validation of a protocol for molecular analysis by image diagnostics and its application to the evaluation of the efficacy of the spinal fixator Dynesys® Dynamic Stabilization System" (€35,000).

2006-2007 Holder, contract "Design specification for the development of a prototype of self-locking plaque for the treatment of fractures of the distal end of the arm" (€10,000).

2006-2007 Holder, contract "Modelling evaluation of the biomechanical effect of the configurations all-on-four and Toronto-bridge in the rehabilitation of a totally edentulous mandible" (€17,000).

Peer review of grant applications

2016-2017 Invited Expert, European Research Council (ERC). Calls: ERC-CoG-2016, ERC-AdG-2017, ERC-2018-AdG.

2010-2011 External Grant Reviewer, Fundação para a Ciência e a Tecnologia-Portugal (FCT - Portuguese Science and Technology Foundation), projects in the area "Biomedical Engineering".

2009 External Referee, Technologiestichting (STW - Dutch technology Foundation), Vici Programme: Innovation Research Incentive Scheme.

2005 Grant Evaluator, American National Science Foundation (NSF), USA.

2003 Mid-term Reviewer, European Commission, V Frame Program, "Research related to persons with disabilities", project RISE, Vienna, Austria .

2000 Expert Evaluator, V Frame Program, "Research related to persons with disabilities", European Commission, Brussels, Belgium.

National scientific Committees

2016 Member under contract, Ministry Committee for the selection of three positions of Permanent Researcher of III professional level, Consiglio Nazionale delle Ricerche (CNR), Rome. Call “368.2 RIC Strategic area biomolecules and biomaterials for health”.

2014 Reviewer under contract, national Verification of the Quality of Research (VQR 2004-2010), Italian Ministry of University and Research.

Membership to scientific Societies

2020-now Member of the Advisory Board, European Society for Translational Medicine (EUSTM) (www.eutranslationalmedicine.org)

2015-now Member, European Society for Artificial Organs (ESAO)

2012-now Member, European Society of Biomechanics (ESB)

2008-now Member, Tissue Engineering and Regenerative Medicine International Society

(TERMIS)

2008-now Member of the Board (2008-2010), Italian National Group of Bioengineering (GNB)

Appointments as Supervisor of Post-Doctoral fellows at Politecnico di Milano

2017-2018 Dr Tommaso Zandrini, project "NICHOIDS-Nanofabrication". Position supported by my grant ERC-PoC-2016.

2016-2018 Dr Barbara Bonandrini, project "NICHOID-Cell biology". Position supported by my grant ERC-CoG-2014.

2015-2017 Dr Emanuela Jacchetti, project "NICHOID-Biophysics". Position supported by my grant ERC-CoG-2014.

2015-2016 Dr Alberto Garcia Gonzalez, project "NICHOID-Computational mechanics". Position supported by my grant ERC-CoG-2014.

2015-2017 Dr Marta Tunesi, project "NICHOID-Materials technology". Position supported by my grant ERC-CoG-2014.

2015-2016 Dr Michele M. Nava, project "NICHOID-Bioengineering". Position supported by my grant ERC-CoG-2014.

2014 Dr Michele M. Nava, project "Use of confocal imaging techniques in Bioengineering". Position supported by intramural resources.

2011-2012 Dr Matteo Laganà, project "Design of instrumented scaffolds for tissue regeneration". Position supported by my award Cariplo 2010.

2007 Dr Stefania Vaga, project "Validation of a protocol of molecular analysis for imaging diagnostics". Position supported by one of my research contracts with IRCCS Galeazzi.

2005 Dr Alfonso Fantigrossi (6 months) project "Computational methods for the biomechanical evaluation of devices for mini-invasive neurosurgery". Position supported by the company Medtronic Italy S.r.l.

2005 Dr Arianna Colombini (6 months), project "Computational methods for the biomechanical evaluation of devices for mini-invasive neurosurgery". Position supported by the company Medtronic Italy S.r.l.

Supervision of Visiting Professors

2017-2018 Prof Øyvind Halaas, Full Professor, Norwegian University of Science and Technology (NTNU), Trondheim, Norway. 12-months stay. Project: Lymph node-on-a-chip.

PROFESSIONAL APPOINTMENTS

2002-2006 Technical Consultant to the Public Prosecutor, Tribunal of Padova, Italy. Penal suit for the mechanical failure of a group of 34 bi-leaflet heart valve prostheses. My responsibility consisted in the analysis of the explanted components to determine their mechanisms of failure.

2002-2005 Technical Consultant to the Public Prosecutor, Tribunal of Torino, Italy. Penal suit for the mechanical failure of a group of 9 hip prostheses. My responsibility consisted in the analysis of the explanted components, to determine their mechanisms of failure.

2002 Technical Consultant to the Judge, Tribunal of Novara, Italy. Civil suit for the mechanical failure of a hip prosthesis. My responsibility consisted in the analysis of the explanted components, to determine their mechanisms of failure.

1997 Scientific Consultant, Lima Lto, Udine, Italy, the leading Italian industrial manufacturer of orthopaedic implants. My responsibility consisted in writing the technical sheets for the newly-developed hip prostheses.

1995 Technical Consultant, Zimmer Europe, Brussels, Belgium. European headquarters of the world-leading industrial manufacturer of orthopaedic implants. My responsibility consisted in the determination of the failure mechanisms of explanted components in the context of a civil suit for the failure of a bilateral hip replacement.

1994-1995 Hip Product Manager, Zimmer Italy S.r.l., San Donato Milanese, Milano, Italian branch of the world-leader industrial manufacturer of orthopaedic implants Zimmer Inc. (now Zimmer Biomet Inc.). My responsibility consisted in the promotion of the newly-imported hip prostheses and in technical assistance to surgeons in the operating room.

SCIENTIFIC DISSEMINATION

Organisation of scientific meetings

2021 Member of the Scientific Committee; Organiser and Chair, Session "Tissue Engineering tools to speed up the discovery and preclinical testing of vaccines for SARS-CoV-2 and therapeutic agents for COVID-19". 6th World conference of the Tissue Engineering and Regenerative Medicine International Society (TERMIS 2021), Maastricht, The Netherlands, November 2021. (https://www.termis.org/WC2021)

2019 Organizer and Chair, Symposium "Bioreactors", European Chapter of the Tissue Engineering and Regenerative Medicine International Society (TERMIS-EU 2019), Rhodes, Greece (https://termis.org/eu2019/)

2018 Program co-chair, VI Congress of the Italian Group of Bioengineering (GNB 2018), Milan, Italy (www.gnb2018.polimi.it)

2017 Program co-chair, II Edition, Congress "Nanoengineering for Mechanobiology", Camogli (GE), Italy (www.mechanobiology.eu/camogli2017)

2017 Organizer and Chair, Symposium "Bioengineered stem cell niches", European Chapter of the Tissue Engineering and Regenerative Medicine International Society (TERMIS-EU 2017), Davos, Switzerland (www.termis.org/eu2017)

2017 Co-organizer, Mini-Symposium "Computationally-guided design of cell culture bioreactors", 5th International Conference on Computational and Mathematical Biomedical Engineering (CMBE 2017), Pittsburgh, USA (www.compbiomed.net/2017)

2015 Organizer and Chair, Invited Session "Mechanobiology", IEEE- Engineering in Medicine and Biology Society World Conference (IEEE-EMBS 2015), Milano, Italy (http://embc.embs.org/2015)

2014 Organizer and Chair, Symposium "Engineering regenerative niches", European Chapter of the Tissue Engineering and Regenerative Medicine International Society (TERMIS-EU 2014), Genova, Italy

Invited talks at international conferences

2020 Invited Speaker, "Bioengineering tools to speed up the discovery and preclinical testing of vaccines for SARS-CoV-2 and therapeutic agents for COVID-19", European Society for Translational Medicine (EUSTM-2020, on Covid-19) Webconference

2019 Keynote Speaker, Technological challenges for the clinical translation and commercialization of TERM therapies, European Chapter of the Tissue Engineering and Regenerative Medicine International Society (TERMIS-EU 2019), Rhodes, Greece

2015 Invited Speaker, Cardiovascular regenerative bioengineering. International School of Cardiac Surgery, Ettore Majorana Foundation and Centre for Scientific Culture, Erice, Italy, May 2015.

2014 Keynote Speaker, Bioengineered microenvironments for mesenchymal stem cells. European Chapter of the Tissue Engineering and Regenerative Medicine International Society (TERMIS-EU 2014), Genova, Italy, June 2014.

2011 Keynote Speaker, Mechanobiology of cartilage tissue engineering. ESB Symposium, European Chapter of the Tissue Engineering and Regenerative Medicine International Society (TERMIS-EU 2011), Granada, Spain, June 2011.

2008 Invited Speaker, Tissue engineering through simulation and experiments. 8th World Congress on Computational Mechanics (WCCM8), 5th European Congress on Computational Methods in Applied Sciences and Engineering (ECCOMAS 2008), Venezia, Italy, July 2008.

2005 Invited Speaker, The effect of fluid-dynamic shear on 3D engineered chondrocyte-cell systems. Fourth International Symposium on Mechanobiology of Cartilage and Chondrocyte, European Society on Cell and Tissue Engineering and Therapy, Budapest, Hungary, May 2005.

2003 Invited Speaker, Control and quantification of the mechanobiology of engineered cartilage. Third International Symposium on Mechanobiology of Cartilage and Chondrocyte, European Society on Cell and Tissue Engineering and Therapy, Nancy, France, May 2003.

2003 Invited Speaker, A comparative evaluation of chondrocyte-seeded scaffolds for cartilage engineering. Second International Conference on New Biomedical Materials, Cardiff, Wales, UK, April 2003.

Peer review of international conferences

2015 Associate Editor, 37th Annual International Conference of the IEEE Engineering in Medicine and Biology Society – World Congress (IEEE-EMBS 2015), Milano, Italy

2014 Abstract Reviewer, Annual meeting of the European Chapter of the Tissue Engineering and Regenerative Medicine International Society (TERMIS-EU 2014), Genova, Italy

2012 Student Award Committee, 19th Congress of the European Society of Biomechanics (ESB 2012), Lisbon, Portugal

2008 Abstract Reviewer, 16th Congress of the European Society of Biomechanics (ESB 2008), Lucerne, Switzerland

2006 Abstract Reviewer, 8th Biannual American Society of Mechanical Engineering (ASME 2006), Torino, Italy

Editing of scientific journals

2017-now Review Editor, area Nanobiotechnology, *Frontiers in Bioengineering and Biotechnology, Frontiers in Materials, Frontiers in Molecular Biosciences*

2017-now Advisory Editor, *Journal of Immunology and Regenerative Medicine*, edited by Elsevier

2015-now Section Editor, area Tissue engineering, Regenerative medicine and Tissue Transplantation, *International Journal of Artificial Organs*, edited by SAGE Journals

2004-now Peer reviewer of 20 ISI journals in the field of biomaterials and biomechanics

PUBLICATIONS

Patents

1. Raimondi MT. Method and instrument for the geometrical evaluation of lesions affecting tissues or internal organs. Priority: 17/02/2004. PCT n. WO2005077292 published in date 25/08/2005. Italian patent n.1355081 granted 20/02/2009. European patent n. EP1715801 granted 30/05/2012.
2. Giacometti-Ceroni R, Raimondi MT, Colombini A. Surgical instrument for simulating, in the intraoperative phase, the functioning instability of acetabular components of hip prostheses. Priority: 28/12/2006. PCT n. WO 2008081308 published in date 10/07/2008. Italian patent n.1376027 granted 14/06/2010. European patent n. EP2097047 granted 19/05/2010.
3. Laganà K, Raimondi MT, Dubini G, Santoro R. Bioreactor for the generation and complex mechanical stimulation of engineered biological tissue. Priority: 9/10/2007. PCT n. WO2009047045 published in date 16/04/2009. Italian patent nr. 1383364 granted 22/12/2010.
4. Raimondi MT, Cecini P, Moretti M, Talò G. Italian patent application nr. MI2009A000388 for the industrial invention "Bioreattore per la generazione di tessuto ingegnerizzato con sistema di attuazione plurifunzionale". Priority: 13/03/2009.
5. Raimondi MT, Cerullo G, Osellame R, Remuzzi A. "Matrici di nicchioidi sintetiche per la coltivazione di cellule staminali". Priority: 04/09/2015. PCT "Synthetic niche matrices for stem cell culture" n. WO2017037108 published in date 9/03/2017. Italian patent granted on 14/03/2018. European patent n. EP3344305 granted on 3/7/2019.
6. Raimondi MT, Laganà M. "Dispositivo per la coltura cellulare". Priority: 18/05/2016. PCT "A device for cell culture" n. WO2017199121 published in date 23/11/2017. Italian patent granted on 3/12/2018.
7. Raimondi MT, Cerullo G, Conci C, Zandrini T, Osellame R, Chirico G. IT 102017000147857 "Dispositivo medico impiantabile". Priority: 21/12/2017. PCT "Implantable medical device" n. WO2019123227A1 published on 27/06/2019. Italian patent granted on 6/03/2020.
8. Carelli S, Raimondi MT, Di Giulio AM, Giallongo T, Gorio A, Cerullo G, Osellame R. Italian patent application nr. 102019000003377 for the industrial invention "Induzione geometrica di pluripotenza". Priority date: 8/3/2019. PCT "Geometric induction of puripotency" n. WO2020183343A1 published on 17 Sept. 2020.
9. Giordano C, Raimondi MT, Izzo L, Laganà M, Albani D. Italian patent application nr. 102019000016376 for the industrial invention "Dispositivo millifluidico per colture avanzate di agenti biologici". Priority date: 16/9/2019.

Journal articles

10. Pietrabissa R, Raimondi MT, Di Martino E. Wear of polyethylene cups in total hip arthroplasty: a parametric mathematical model. Medical Engineering & Physics. 1998; 20(3):199-210. ISSN: 1350-4533.
11. Raimondi MT, Pietrabissa R. Modelling evaluation of the testing condition influence on the maximum stress induced in a hip prosthesis during ISO 7206 fatigue testing. Medical Engineering & Physics.1999; 21(5):353-359. ISSN: 1350-4533.
12. Raimondi MT, Pietrabissa R. The in vivo wear performance of prosthetic femoral heads with titanium nitride coating. Biomaterials. 2000; 21(9): 907-913. ISSN: 0142-9612.
13. Raimondi MT, Sassi R, Pietrabissa R. A method for the evaluation of the change in volume of retrieved acetabular cups. Proceedings of the Institution of Mechanical Engineers Part H: Journal of Engineering in Medicine. 2000; 214(6): 577-587. ISSN: 0954-4119.
14. Raimondi MT, Santambrogio C, Pietrabissa R, Raffelini F, Molfetta L. Improved mathematical model of the wear of the cup articular surface in hip joint prostheses and comparison with retrieved components. Proceedings of the Institution of Mechanical Engineers Part H: Journal of Engineering in Medicine. 2001; 215(4):377-91. ISSN: 0954-4119.
15. Raimondi MT, Vena P, Pietrabissa R. Quantitative evaluation of the prosthetic head damage induced by microscopic third-body particles in total hip replacement. Journal of Biomedical Materials research. (Applied Biomaterials), John Wiley & Sons, New York, USA, 2001; 58(4):436-48. ISSN: 1552-4973.
16. Colombo M, Raimondi MT, Villa T, Quaglini V, Pietrabissa R. The biomechanics of intramedullary nailing: a protocol for laboratory testing. Journal of Mechanics in Medicine and Biology. World Scientific Publishing Company, Singapore, 2002, 2(1): 81-97. ISSN: 0219-5194.
17. Caserta S, La Maida GA, Misaggi B, Peroni D, Pietrabissa R, Raimondi MT, Redaelli A. Elastic stabilization alone or combined with rigid fusion in spinal surgery: a biomechanical study and clinical experience based on 82 cases. European Spine Journal. 2002, 11(Suppl.2): S192-S197. ISSN: 0940-6719.
18. Raimondi MT, Boschetti F, Falcone L, Fiore GB, Remuzzi A, Marinoni E, Marazzi M, Pietrabissa R. Mechanobiology of engineered cartilage cultured under a quantified fluid-dynamic environment. Biomechanics and modeling in mechanobiology. 2002, 1: 69-82. ISSN: 1617-7959.
19. Raimondi MT, Falcone L, Colombo M, Remuzzi A, Marinoni E, Marazzi M, Rapisarda V, Pietrabissa R. A comparative evaluation of chondrocyte/scaffold constructs for cartilage tissue engineering. Journal of Applied Biomaterials & Biomechanics, 2004; 2:55-64. ISSN: 1722-6899
20. Raimondi MT, Boschetti F, Falcone L, Migliavacca F, Remuzzi A, Dubini G. The effect of media perfusion on three-dimensional cultures of human chondrocytes: Integration of experimental and computational approaches. Biorheology. 2004;41(3-4):401-10. ISSN: 0006-355X.
21. Raimondi MT, Pietrabissa R. Contact pressures at grafted cartilage lesions in the knee. Knee Surgery, Sports Traumatology, Arthroscopy 2005; 13: 444–450. ISSN: 0942-2056. DOI 10.1007/s00167-004-0529-1. Scopus 2-s2.0-25444455610

22. Cioffi M, Giordano C, Gusmeroli R, Raimondi MT, Spinelli A, Baranauskas G. Integrating live cells with semiconductor devices: a biocompatibility assay. Journal of Applied Biomaterials & Biomechanics 2005;3(2):112-116. ISSN: 1722-6899, scopus 2-s2.0-28244465011

23. Boschetti F, Cioffi M, Dubini G, Migliavacca F, Raimondi MT. New trends in tissue-engineered cartilage: micro fluid dynamics in 3D engineered cell systems. Journal of Mechanics in Medicine and Biology 2005; 5(3): 455-464. ISSN: 0219-5194. DOI 10.1142/S0219519405001564. WOS:000208572900005

24. Cioffi M, Boschetti F, Raimondi MT, Dubini G. Modelling evaluation of the fluid-dynamic microenvironment in tissue-engineered constructs: a micro-CT based model. Biotechnology and Bioengineering 2006; Feb 20;93(3):500-10. ISSN: 0006-3592.

25. Boschetti F, Raimondi MT, Migliavacca F, Dubini G. Prediction of the micro-fluid dynamic environment imposed to three-dimensional engineered cell systems in bioreactors. Journal of Biomechanics 2006; 39:418-25. ISSN: 0021-9290.

26. Galbusera F, Fantigrossi A, Raimondi MT, Sassi M, Fornari M and Assietti R. Biomechanics of the C5-C6 spinal unit before and after placement of a disc prosthesis. Biomechanics and modelling in mechanobiology 2006; Nov;5(4):253-61. ISSN: 1617-7959.

27. Galbusera F, Raimondi MT, Assietti R, Sassi M and Fornari M. Multibody modelling of the cervical spine in the simulation of flexion-extension after disc arthroplasty. Journal of Applied Biomaterials & Biomechanics 2006; 4(2): 110-119. ISSN: 1722-6899

28. Raimondi MT, Moretti M, Cioffi M, Giordano C, Boschetti F, Laganà K and Pietrabissa R. The effect of hydrodynamic shear on 3D engineered chondrocyte systems subject to direct perfusion. Biorheology. 2006;43(3-4):215-22. ISSN: 0006-355X.

29. (Invited review) Baranauskas G, Gusmeroli R, Spinelli AS, Giordano C, Raimondi MT. Cell-based biosensors - current trends of the development. Journal of Applied Biomaterials & Biomechanics. 2006; 4: 125 – 134. ISSN: 1722-6899

30. (Invited review) Raimondi MT. Engineered tissue as a model to study cell and tissue function from a biophysical perspective. Current Drug Discovery Technologies 2006 Dec;3(4):245-68. ISSN: 1570-1638.

31. Fantigrossi A, Galbusera F, Raimondi MT, Sassi M, Fornari M. Biomechanical analysis of cages for posterior lumbar intebody fusion. Medical Engineering & Physics. 2007; Jan 29(1):101-9. ISSN: 1350-4533.

32. Bellini CM, Galbusera F, Giacometti Ceroni R, Raimondi MT. Loss in mechanical contact of cementless acetabular prostheses due to post-operative weight bearing: a biomechanical model. Medical Engineering & Physics 2007 Mar;29(2):175-81. ISSN: 1350-4533.

33. Bellini CM, Galbusera F, Raimondi MT, Mineo GV, Brayda-Bruno M. Biomechanics of the lumbar spine after dynamic stabilization. Journal of Spinal Disorders and Techniques. 2007 Aug;20(6):423-9. ISSN: 1536-0652.

34. Galbusera F, Cioffi M, Raimondi MT, Pietrabissa R. Computational modelling of combined cell population dynamics and oxygen transport in engineered tissue subject to interstitial perfusion. Computer Methods in Biomechanics and Biomedical Engineering. 2007 Aug;10(4):279-87. ISSN: 1025-5842.

35. Bellini CM, Raimondi MT, Grecchi G. Bi-directional distraction in the treatment of micro-orbitism: a case report. Journal of Craniomaxillofacial Surgery. 2007 Jun-Jul;35(4-5):234-40. ISSN: 1010-5182.

36. Bellini CM, Raimondi MT, Accetta R, Mineo G. Locked plating: biomechanics and biology. Techniques in Orthopaedics. 2007. 22(3):167–172. ISSN: 0885-9698.

37. Vaga S, Raimondi MT, Caiani EG, Costa F, Giordano C, Perona F, Zerbi A, Fornari M. Quantitative assessment of intervertebral disc glycosaminoglycan distribution by Gadolinium-enhanced MRI in orthopaedic patients. Magnetic Resonance in Medicine. 2008 Jan; 59(1):85-95. ISSN: 0740-3194, DOI 10.1002/mrm.21433

38. Candiani G, Raimondi MT, Aurora R, Laganà K, Dubini G. Chondrocyte response to high regimens of cyclic hydrostatic pressure in three-dimensional engineered constructs. International Journal of Artificial Organs. 2008 Jun;31(6):490-9. ISSN: 0391-3988.

39. Galbusera F, Cioffi M, Raimondi MT. An in silico bioreactor for simulating laboratory experiments in tissue engineering. Biomedical Microdevices. 2008 Aug;10(4):547-54. ISSN: 1387-2176.

40. Galbusera F, Bellini CM, Aziz HN, Raimondi MT, Brayda-Bruno M, Fornari M. Parametric FE mesh generation: application to the cervical spine. Journal of Applied Biomaterials and Biomechanics 2008;6(2): 95-103. ISSN: 1724-6024

41. Laganà K, Moretti M, Dubini G, Raimondi MT. A new bioreactor for controlled application of complex mechanical stimuli for cartilage tissue engineering. Proceedings of the Institution of Mechanical Engineers, Part H, Journal of Engineering in Medicine. 2008. 222(H5):705-715, ISSN 0954-4119, DOI 10.1243/09544119JEIM383

42. Galbusera F, Bellini CM, Raimondi MT, Fornari M, Assietti R. Cervical spine biomechanics following implantation of a disc prosthesis. Medical Engineering and Physics. 2008; 30(9):1127-1133, ISSN 1350-4533

43. Raimondi MT, Candiani G, Cabras M, Cioffi M, Laganà K, Moretti M, Pietrabissa R. Engineered cartilage constructs subject to very low regimens of interstitial perfusion. Biorheology. 2008;45(3-4):471-8, ISSN 0006-355X

44. (Invited review) Galbusera F, Bellini CM, Zweig T, Ferguson S, Raimondi MT, Lamartina C, Brayda-Bruno M, Fornari M. Design concepts in lumbar total disc arthroplasty. European Spine Journal. 2008 Dec;17(12):1635-50, ISSN 0940-6719

45. Moretti M, Freed LE, Padera RF, Laganà K, Boschetti F, Raimondi MT. An integrated experimental–computational approach for the study of engineered cartilage constructs subjected to combined regimens of hydrostatic pressure and interstitial perfusion. Bio-Medical Materials and Engineering. 2008;18(4-5):273-8, ISSN 0959-2989

46. Bellini CM, Romeo D, Galbusera F, Taschieri S, Raimondi MT, Zampelis A, Francetti L. Comparison of Tilted and Nontilted Implant-Supported Prosthetic Designs for the Restoration of the Edentulous Mandible: A Biomechanical Study. International Journal of Oral & Maxillofacial Implants. 2009 May-Jun;24(3):511-7, ISSN 0882-2786

47. Vaga S, Raimondi MT, Perona F, Fornari M, Caiani EG. Division scheme optimization for the molecular evaluation of the intervertebral disc by Gadolinium-Enhanced MRI. J Magn Reson Imaging. 2009 Jun;29(6):1443-9, ISSN 1053-1807

48. Vaga S, Brayda-Bruno M, Perona F, Fornari M, Raimondi MT, Petruzzi M, Grava G, Costa F, Caiani EG, Lamartina C. Molecular MR Imaging for the evaluation of the effect of dynamic stabilization on lumbar intervertebral discs. European Spine Journal. 2009 Jun;18 Suppl 1:40-8. ISSN 0940-6719

49. Asnaghi MA, Jungebluth P, Raimondi MT, Dickinson SC, Rees LE, Go T, Cogan TA, Dodson A, Parnigotto PP, Hollander AP, Birchall MA, Conconi MT, Macchiarini P, Mantero S. A

double-chamber rotating bioreactor for the development of tissue-engineered hollow organs: From concept to clinical trial. Biomaterials. 2009 Oct;30(29):5260-9. ISSN 0142-9612

50. Di Mascio V, Bellini CM, Galbusera F, Raimondi MT, Brayda-Bruno M, Assietti R. Lumbar total disc replacement: a numerical study. Journal of Applied Biomaterials and Biomechanics. 2010. 8(2):97-101 - ISSN 1722-6899

51. Raimondi MT, Bonacina E, Candiani G, Laganà M, Rolando E, Talò G, Pezzoli D, D'Anchise R, Pietrabissa R, Moretti M. Comparative chondrogenesis of human cells in a 3D integrated experimental-computational mechanobiology model. Biomechanics and Modelling in Mechanobiology. Volume 10, Issue 2 (2011), Page 259-268 ISSN: 1617-7959

52. Sacco R, Causin P, Zunino P, Raimondi MT. A multiphysics/multiscale 2D numerical simulation of scaffold-based cartilage regeneration under interstitial perfusion in a bioreactor. Biomechanics and Modeling in Mechanobiology. Volume 10, Issue 4 (2011), Page 577-589 ISSN: 1617-7959

53. Raimondi MT, Causin P, Mara A, Nava M, Laganà M, Sacco R. Breakthroughs in Computational Modeling of Cartilage Regeneration in Perfused Bioreactors. IEEE Transactions on Biomedical Engineering. 2011. 58(12):3496-3499, ISSN 0018-9294, DOI 10.1109/TBME.2011.2163405

54. (Invited review) Asnaghi MA, Candiani G, Farè S, Fiore GB, Petrini P, Raimondi MT, Soncini M, Mantero S. Trends in biomedical engineering: Focus on regenerative medicine . Journal of Applied Biomaterials and Biomechanics 2011; 9 May-Aug;9(2):73-86. ISSN 1722-6899, DOI 10.5301/JABB.2011.8562

55. Laganà M, Raimondi MT. A miniaturized, optically accessible bioreactor for systematic 3D tissue engineering research. Biomedical Microdevices. 2012. 14(1):225-234, ISSN 1387-2176, DOI 10.1007/s10544-011-9600-0

56. Raimondi MT, Eaton SM, Nava MM, Laganà M, Cerullo G, Osellame R. Two-photon laser polymerization: from fundamentals to biomedical application in tissue engineering and regenerative medicine. J Appl Biomater Function Mater 2012, 10(1):55-65 DOI 10.5301/JABFM.2012.9278, ISSN 1722-6899

57. (Invited Review) Nava MM, Raimondi MT, Pietrabissa R. Controlling self-renewal and differentiation of stem cells via mechanical cues. Journal of Biomedicine and Biotechnology. Epub 2012 Oct 2. 2012:797410, DOI 10.1155/2012/797410. ISSN 1110-7243, eISSN 1110-7251

58. Raimondi MT, Balconi G, Boschetti F, Di Metri A, Mohammed SAA, Quaglini V, Araneo L, Galvéz BG, Lupi M, Latini R, Remuzzi A. An opto-structural method to estimate the stress-strain field induced by cell contraction on substrates of controlled stiffness in vitro. J Appl Biomater Funct Mater. 2013 Dec 16;11(3):e143-50. eISSN 2280-8000, DOI 10.5301/JABFM.2012.9773, WOS:000329793600002, Scopus ID 2-s2.0-84891543300

59. Raimondi MT, Eaton SM, Laganà M, Aprile V, Nava MM, Cerullo G, Osellame R. Three-dimensional structural niches engineered via two-photon laser polymerization promote stem cell homing. Acta Biomater 2013, 9(1):4579–84. DOI 10.1016/j.actbio.2012.08.022. ISSN 1742-7061 Scopus ID 2-s2.0-84870239119 WOS:000313376900011

60. Nava MM, Raimondi MT, Pietrabissa R. A multiphysics 3D model of tissue growth under interstitial perfusion in a tissue-engineering bioreactor. Biomech Model Mechanobiol 2013. 12(6):1169-1179. DOI 10.1007/s10237-013-0473-4, ISSN: 1617-7959 Scopus ID 2-s2.0-84896727503. WOS:000325815300008

61. Laganà M, Arrigoni C, Lopa S, Sansone V, Zagra L, Moretti M, Raimondi MT. Characterization of articular chondrocytes isolated from 211 osteoarthritic patients. Cell and Tissue Banking. 2014. 15:59-66. DOI 10.1007/s10561-013-9371-3 ISSN: 1389-9333 Scopus ID 2-s2.0-84875501950, WOS: WOS:000332318700008

62. Nava MM, Raimondi MT, Pietrabissa R. Bio-chemo-mechanical models for nuclear deformation in adherent eukaryotic cells. Biomech Model Mechanobiol. 2014 Oct;13(5):929-43. Doi 10.1007/s10237-014-0558-8, ISSN: 1617-7959. Scopus ID 2-s2.0-84893855968, WOS:000341782900002

63. Raimondi MT, Nava MM, Eaton SM, Bernasconi S, Vishnubhatla KC, Cerullo G, Osellame R. Optimization of femtosecond laser polymerized structural niches to control mesenchymal stromal cell fate in culture. Micromachines 2014, 5, 341-358; Doi 10.3390/mi5020341. ISSN 2072-666X, WOS:000338343700015, Scopus ID 2-s2.0-84902594840

64. Nava MM, Raimondi MT, Credi C, De Marco C, Turri S, Cerullo G, Osellame R. Interactions between structural and chemical biomimetism in synthetic stem cell niches. Biomedical Materials. 2015 Jan 16;10(1):015012. Doi 10.1088/1748-6041/10/1/015012. Scopus ID 2-s2.0-84924308474. WOS:000350975400013

65. Raimondi MT, Giordano C, Pietrabissa R. Oxygen measurement in interstitially-perfused cellularised constructs cultured in a miniaturized bioreactor. J Appl Biomater Funct Mater 2015; 13(4): e313 - e319. Doi 10.5301/jabfm.5000246. Open access. WOS:000375053900002. Scopus ID 2-s2.0-84951071639

66. Nava MM, Fedele R, Raimondi MT. Computational prediction of strain-dependent diffusion of transcription factors through the cell nucleus. Biomech Model Mechanobiol. 2016 Aug;15(4):983-93. DOI 10.1007/s10237-015-0737-2. WOS:000380117900015. Scopus ID: 2-s2.0-84945206491

67. Raimondi MT, Bertoldi S, Caddeo S, Farè S, Arrigoni C, Moretti M. The effect of polyurethane scaffold surface treatments on the adhesion of chondrocytes subjected to interstitial perfusion culture. Tissue Eng Reg Med. 1 Aug 2016, 13(4):364-374. DOI 10.1007/s13770-016-9047-8 WOS:000381286500005 Scopus 2-s2.0-84982806070

68. Credi C, De Marco C, Molena E, Nava MM, Raimondi MT, Levi M, Turri S. Direct photo-patterning of hyaluronic acid baits onto a fouling-release perfluoropolyether surface for selective cancer cells capture and immobilization. Mater Sci Eng C Mater Biol Appl. 2016 May; 62:414-22. DOI 10.1016/j.msec.2015.12.063 . Scopus 2-s2.0-84957596580. WOS:000372759100051

69. Eghbali H, Nava MM, Mohebbi-Kalhori D, Raimondi MT. Hollow Fiber Bioreactor Technology for Tissue Engineering Applications. International Journal of Artificial Organs. Int J Artif Organs 2016 Jan; 39(1): 1-15. DOI 10.5301/ijao.5000466. Scopus ID 2-s2.0-84959271372. WOS:000375382700001

70. Tunesi M, Fusco F, Fiordaliso F, Corbelli A, Biella G, Raimondi MT. Optimization of a 3D dynamic culturing system for in vitro modeling of Frontotemporal Neurodegeneration-relevant pathologic features. Frontiers in aging neuroscience. Front Aging Neurosci. 2016 Jun 22;8:146. DOI 10.3389/fnagi.2016.00146. Scopus 2-s2.0-84980407645. WOS:000378534100001

71. Garcia B, Rodriguez Matas JF, Raimondi MT. Modeling of the mechano-chemical behavior of the nuclear pore complex: current research and perspectives. Integr. Biol. 2016, 8(10): 1011-1021 DOI 10.1039/c6ib00153j. Scopus 2-s2.0-84991516906. WOS:000386215400001.

72. Nava MM, Di Maggio N, Zandrini T, Cerullo G, Osellame R, Martin I, Raimondi MT. Synthetic niche substrates engineered via two-photon laser polymerization for the expansion of

human mesenchymal stromal cells. J Tissue Eng Reg Med. 2016. DOI 10.1002/term.2187. Scopus 2-s2.0-84979076029

73. Nava MM, Piuma A, Figliuzzi M, Cattaneo I, Bonandrini B, Zandrini T, Cerullo G, Osellame R, Remuzzi A, Raimondi MT. Two-photon polymerized "nichoid" substrates maintain function of pluripotent stem cells when expanded under feeder-free conditions. Stem Cell Research and Therapy. Sept 9, 2016. 7:Article 132. DOI 10.1186/s13287-016-0387-z. ISSN: 17576512 Scopus 2-s2.0-84986905981. WOS:000384596900005

74. Iannetti L, D'Urso G, Conoscenti L, Cutrì E, Tuan R.S., Raimondi M.T., Gottardi R, Zunino P. Distributed and lumped parameter models for the characterization of high throughput bioreactors. PLOS ONE 11(9):e0162774. Sept 26, 2016. DOI 10.1371/journal.pone.0162774. Scopus 2-s2.0-84992166490. WOS:000384167300011

75. Ricci D, Nava MM, Zandrini T, Cerullo G, Raimondi MT, Osellame R. Scaling-Up Techniques for the Nanofabrication of Cell Culture Substrates via Two-Photo Polymerization for Industrial-Scale Expansion of Stem Cells. Materials 2017, 10(1):Article 66. DOI 10.3390/ma10010066. Scopus 2-s2.0-85011395294. WOS:000394838800065

76. Sacco R, Causin P, Lelli C, Raimondi MT. A Poroelastic Mixture Model of Mechanobiological Processes in Biomass Growth: Theory and Application to Tissue Engineering. Meccanica 2017. DOI 10.1007/s11012-017-0638-9. Scopus 2-s2.0-85013223121

77. Eghbali H, Nava MM, Leonardi G, Mohebbi-Kalhori D, Sebastiano R, Samimi A, Raimondi MT. An Experimental-Numerical Investigation on the Effects of the Macroporous Scaffold Geometry on Cell Culture Parameters. Int J Artif Organs 2017; 40(4):185-195. DOI 10.5301/ijao.5000554

78. Pavesi A, Tan AT, Koh S, Chia A, Colombo M, Antonecchia E, Miccolis C, Ceccarello E, Adriani G, Raimondi MT, Bertoletti A. A 3D microfluidic model for preclinical evaluation of TCR-engineered T cells against solid tumors. JCI Insight. 2017;2(12):e89762. https://doi.org/10.1172/jci.insight.89762

79. Frattini P, Villa C, De Santis F, Meregalli M, Belicchi M, Erratico S, Bella P, Raimondi MT, Lu Q, Torrente Y. Autologous intramuscular transplantation of engineered satellite cells induces exosome-mediated systemic expression of Fukutin-related protein and rescues disease phenotype in a murine model of limb-girdle muscular dystrophy type 2I. Hum Mol Genet. 2017 Oct 1;26(19):3682-3698. DOI 10.1093/hmg/ddx252

80. Chierchia A, Chirico N, Boeri L, Raimondi I, Riva GA, Raimondi MT, Tunesi M, Giordano C, Forloni G, AlbaniD. Secretome released from hydrogel-embedded adipose mesenchymal stem cells protects against the Parkinson's disease related toxin 6-hydroxydopamine, European Journal of Pharmaceutics and Biopharmaceutics 121 (2017) 113–120, DOI 10.1016 /j.ejpb.2017.09.014

81. Di Giancamillo A, Deponti D, Raimondi MT, Boschetti F, Gervaso F, Modina S, Mangiavini L, Peretti GM. Comparison between different cell sources and culture strategies for tendon tissue engineering. J Biol Regul Homeost Agents. 2017 Oct-Dec,31(4 suppl 1):61-66.

82. Marturano-Kruik A, A.Villasante, K.Yaeger, S. Ambati, A. Chramiec, M.T. Raimondi, G. Vunjak-Novakovic. Biomechanical regulation of drug sensitivity in an engineered model of human tumor. Biomaterials. 2018 Jan;150:150-161. DOI 10.1016/j.biomaterials.2017.10.020

83. Marturano-Kruik A, Nava MM, Yaeger K, Chramiec A, Hao L, Robinson ST, Guo XE, Raimondi MT, Vunjak-Novakovic G. Human bone perivascular niche-on-a-chip for studying metastatic colonization. Proc Natl Acad Sci U S A. 2018 Feb 6;115(6):1256-1261. doi: 10.1073/pnas.1714282115

84. Di Giancamillo A, Deponti D, Raimondi MT, Boschetti F, Gervaso F, Modina S, Mangiavini L, Peretti GM. Comparison between different cell sources and culture strategies for tendon tissue engineering. Journal of Biological Regulators and Homeostatic Agents. 2017 Oct-Dec, 31(4 suppl 1):61-66. No doi ISSN: 0393-974X

85. Marturano-Kruik A, A.Villasante, K.Yaeger, S. Ambati, A. Chramiec, M.T. Raimondi, G. Vunjak-Novakovic. Biomechanical regulation of drug sensitivity in an engineered model of human tumor. Biomaterials. 2018 Jan;150:150-161. doi 10.1016/j.biomaterials.2017.10.020.

86. Marturano-Kruik A, Nava MM, Yaeger K, Chramiec A, Hao L, Robinson ST, Guo XE, Raimondi MT, Vunjak-Novakovic G. Human bone perivascular niche-on-a-chip for studying metastatic colonization. Proc Natl Acad Sci U S A. 2018 Feb 6;115(6):1256-1261. doi 10.1073/pnas.1714282115.

87. Raimondi MT, Laganà M, Conci C, Crestani M, Di Giancamillo A, Gervaso F, Deponti D, Boschetti F, Nava MM, Scandone C, Domeneghini C, Sannino A, Peretti GM. Development and biological validation of a cyclic stretch culture system for the ex vivo engineering of tendons. Int J Artif Organs. 2018 Jul;41(7):400-412. doi 10.1177/0391398818774496.

88. Garcia A, Jacchetti E, Marotta R, Tunesi M, Rodriguez Matas JF, Raimondi MT. The Effect of Cell Morphology on the Permeability of the Nuclear Envelope to Diffusive Factors. Frontiers in Physiology. Front Physiol. 2018 Jul 13;9:925. doi 10.3389/fphys.2018.00925.

89. D'Amore A, Nasello G, Luketich SK, Denisenko D, Jacobs DL, Hoff R, Gibson G, Bruno A, Raimondi MT and Wagner WR. Meso-scale topological cues influence extracellular matrix production in a large deformation, elastomeric scaffold model. Soft Matter, Oct 2018, 14, 8483. doi 10.1039/c8sm01352g

90. Izzo L, Tunesi M, Boeri L, Laganà M, Giordano C, Raimondi MT. Influence of the static magnetic field on cell response in a miniaturized optically accessible bioreactor for 3D cell culture. Biomedical Microdevices (2019) 21:29. https://doi.org/10.1007/s10544-019-0387-8

91. Donnaloja F, Jacchetti E, Soncini M and Raimondi MT (2019). Mechanosensing at the Nuclear Envelope by Nuclear Pore Complex Stretch Activation and Its Effect in Physiology and Pathology. Front. Physiol. 10:896. doi 10.3389/fphys.2019.00896

92. Zandrini T, Shan O, Parodi V, Cerullo G, Raimondi MT, Osellame R. Multi-foci laser microfabrication of 3D polymeric scaffolds for stem cell expansion in regenerative medicine. Sci Rep. 2019 Aug 13;9(1):11761. doi 10.1038/s41598-019-48080-w.

93. Raimondi MT, Albani D and Giordano C. An Organ-On-A-Chip Engineered Platform to Study the Microbiota-Gut-Brain Axis in Neurodegeneration. Trends in Molecular Medicine Trends Mol Med. 2019 Sep;25(9):737-740. doi 10.1016/j.molmed.2019.07.006. Epub 2019 Aug 14.

94. Boeri L, Albani D, Raimondi MT and Jacchetti E. Mechanical regulation of nucleocytoplasmic translocation in mesenchymal stem cells: characterization and methods for investigation. Biophysical Reviews. Biophys Rev. 2019 Oct;11(5):817-831. https://doi.org/10.1007/s12551-019-00594-3. Epub 2019 Oct 18. Review.

95. Conci C, Bennati L, Bregoli C, Buccino F, Danielli F, Gallan M, Gjini E, Raimondi MT. Tissue engineering and regenerative medicine strategies for the female breast. J Tissue Eng Regen Med. 2020 Feb;14(2):369-387. doi: 10.1002/term.2999 Review

96. Steimberg N, Bertero A, Chiono V, Dell'Era P, Di Angelantonio S, Hartung T, Perego S, Raimondi MT, Xinaris C, Caloni F, De Angelis I, Alloisio S, Baderna D. iPS, organoids and 3D models as advanced tools for in vitro toxicology. ALTEX. 2020;37(1):136-140. doi 10.14573/altex.1911071

97. Boeri L, Jacchetti E, Soncini M, Negro A, Albani D, Raimondi MT. Advantages and limitations of a supernegative GFP in facilitating MyoD intracellular tracking. Methods Appl Fluoresc. 2020 Mar 13;8(2):025007. doi: 10.1088/2050-6120/ab797c.

98. Donnaloja F, Jacchetti E, Soncini M, Raimondi MT. Natural and Synthetic Polymers for Bone Scaffolds Optimization. Polymers 2020, 12, 905; doi:10.3390/polym12040905

99. Raimondi MT, Donnaloja F, Barzaghini B, Bocconi A, Conci C, Parodi V, Jacchetti E, Carelli S. Bioengineering tools to speed up the discovery and preclinical testing of vaccines for SARS-CoV-2 and therapeutic agents for COVID-19. Theranostics. 2020 May 27;10(16):7034-7052. doi: 10.7150/thno.47406

100. Rey F, Barzaghini B, Nardini A, Bordoni M, Zuccotti GV, Cereda C, Raimondi MT, Carelli S. Advances in Tissue Engineering and Innovative Fabrication Techniques for 3-D-Structures: Translational Applications in Neurodegenerative Diseases. Cells. 2020 Jul 7;9(7):E1636. doi: 10.3390/cells9071636

101. Remuzzi A, Bonandrini B, Tironi M, Longaretti L, Figliuzzi M, Conti S, Zandrini T, Osellame R, Cerullo G, Raimondi MT. Effect of the 3D artificial Nichoid on the morphology and mechanobiological response of mesenchymal stem cells cultured in vitro. Cells 2020, 9, 1873; doi:10.3390/cells9081873

102. Rey F, Pandini C, Barzaghini B, Messa L, Giallongo T, Pansarasa O, Gagliardi S, Brilli M, Zuccotti GV, Cereda C, Raimondi MT, Carelli S. Dissecting the Effect of a 3D Microscaffold on the Transcriptome of Neural Stem Cells with Computational Approaches: A Focus on Mechanotransduction. Int J Mol Sci. 2020 Sep 15;21(18):E6775. doi: 10.3390/ijms21186775

103. Jacchetti E, Nasehi R, Boeri L, Parodi V, Negro A, Albani D, Osellame R, Cerullo G, Jose F Rodriguez Matas JF, Raimondi MT. Stem cell morphology regulates protein nuclear import within a bioengineered 3D niche. Sci Rep. 2021

Books

104. Mantero S, Remuzzi A, Raimondi MT, Ahluwalia A. Fondamenti di ingegneria dei tessuti per la medicina rigenerativa. Pàtron Editore, Bologna, Italia, 2009. ISBN: 9788855530392.

105. Tanzi MC, Bianchi A, Farè S, Mantero S, Raimondi M.T., Visai L. Approccio integrato per la medicina rigenerativa. Pàtron Editore, Bologna, Italia, 2013, p.131-151. ISBN: 978-88-555-3241-9.

Book chapters

106. Pietrabissa R, Raimondi MT, Quaglini V, Contro R. Evaluation of acetabular wear in hip joint prostheses. In: Computer Methods in Biomechanics & Biomedical Engineering 2. Ed. da J. Middleton, G.N. Pande, M.L. Jones. Gordon and Breach Science Publishers, 1998, p. 131-8. ISBN: 90-5699-206-6

107. Colombo M, Quaglini V, Raimondi MT, Levi M, Falcone L, Marazzi M, Marinoni E, Remuzzi A Pietrabissa R. Effects of in vitro culture techniques on the mechanical properties of tissue-engineered cartilage: a rheological study. In: Computer Methods in Biomechanics & Biomedical Engineering 4. Ed. da Middleton J, Shrive NG, Jones ML. University of Wales College of Medicine, UK, 2002, ISBN: 1-903847-09-5

108. Redaelli A, Soncini M, Vesentini S, Votta E, Vena P, Raimondi MT, Colombo M, Boschetti F. Caratterizzazione biomeccanica dei tessuti. In: Ingegneria dei tessuti biologici. Ed. da R.

Pietrabissa, R. Cancedda. Pàtron Editore, Bologna, Italia, 2002, p. 157-182. ISBN: 88-555-2664-2

109. Raimondi MT, Boschetti F, Migliavacca F, Cioffi M, Dubini G. Micro fluid dynamics in three-dimensional engineered cell systems in bioreactors. In (e-book): Topics in Tissue Engineering, vol.2. Eds. N.Ashammakhi & R.L. Reis. 2005. Pag. 1-26

110. Boschetti F, Raimondi MT, Migliavacca F, Cioffi M, Pietrabissa R,. Microfuid-dynamics in three-dimensional Engineered cell Systems. In: Mechanics of Biological Tissue, Gerhard A. Holzapfel and Ray W. Ogden (Eds.), Springer, Heidelberg, Germany. 2006. Pag. 153-164. ISBN 978-3-540-25194-1

111. Raimondi MT, Bridgen DT, Laganà M, Tonnarelli B, Cioffi M, Boschetti F, Wendt D. Integration of experimental and computational microfluidics in 3D tissue engineering. In: Methods in Bioengineering 3D Tissue Engineering. Berthiaume F and. Morgan J Eds. Book series: Methods in Bioengineering (MIB), Yarmush ML and Langer RS Eds, Artech House (Boston, London). 2010. Chapter 14. Pag. 237-242. ISBN 978-1-59693-458-0

112. Raimondi MT, Causin P, Laganà M, Zunino P, Sacco R. Multiphysics Computational Modeling in Cartilage Tissue Engineering. In: Studies in Mechanobiology, Tissue Engineering and Biomaterials (SMTEB), Gefen A, Ramat A Eds. Volume 10: Computational Modeling in Tissue Enginering. Geris L Ed. Springer Heidelberg New York Dorddrecht London, 2013, Chapter 112, Pag. 267-285, ISSN 1868-2006, ISBN 978-3-642-32562-5, DOI10.1007/8415_2011_112. U-gov 665535 (inserito per 2012 come rivista Stud Mechanobiol Tissue Eng Biomater con ISSN 1868-2006)

113. Raimondi MT, Nava MM, Pietrabissa R. Meccanobiologia in medicina rigenerativa. In: Approccio integrato per la medicina rigenerativa. Ed. da Tanzi MC, Bianchi A, Farè S, Mantero S, Raimondi M.T., Visai L. Pàtron Editore, Bologna, Italia, 2013, p.131-151. ISBN: 978-88-555-3241-9

114. Nava MM, Zandrini T, Cerullo G, Osellame R, Raimondi MT. 3D Stem Cell Niche Engineering via Two-Photon Laser Polymerization. Zuzana Koledova (ed.), 3D Cell Culture: Methods and Protocols, Series: Methods in Molecular Biology, vol. 1612, Part III, Series ISSN 1064-3745 Pages 253-266 © Springer Science+Business Media LLC 2017. Print ISBN 978-1-4939-7019-3. Online ISBN 978-1-4939-7021-6. DOI 10.1007/978-1-4939-7021-6_19

Conference proceedings

115. Raimondi MT, Pietrabissa R. Finite element investigation on the repeatability of ISO 7206 fatigue testing. In: Proceedings of the 1999 ASME Bioengineering Conference. Ed. da V.K. Goel, R.L. Spilker, G.A. Ateshian, L.J. Soslowski. ASME Publications, New York, USA, 1999, Vol.42, p. 235-6.

116. Raimondi MT, Vena P., Pietrabissa R. A study on the third-body induced roughening of the prosthetic head in total hip replacement. Proceedings of the 2001 ASME Bioengineering Conference. Ed. Da Kamm RD, Schmid-Schonbein GW, Athesian GA, Hefzy MS. ASME Publications, New York, USA, 2001, p.35-36; ISBN: 0-7918-1668-0.

117. Raimondi MT, Vena P., Pietrabissa R. Third-body damage of prosthetic heads in total hip replacement: combined experimental and computational study. Proc. Int. Society of Biomechanics XVIIIth Congress, Int. Society of Biomechanics, 2001; (cd-rom).

118. Raimondi MT, Vena P., Pietrabissa R. Third-body damage of prosthetic heads in total hip replacement: combined experimental and computational study. Proc. Int. Society of

Biomechanics XVIIIth Congress, Ed. da Muller R, Gerber H, Stacoff A. Interrepro AG, Munchenstein, CH, 2001, p. 380.

119. Raimondi MT, Boschetti F, Fiore GB, Dubini G, Falcone L, Remuzzi A, Marinoni E, Marazzi M, Pietrabissa R. Integration of computational and experimental methods in the study of cartilage mechanobiology. Proc. IEEE-EMBS Special Topic Conference on Molecular Cellular and Tissue Engineering, 2002, p.152-153; ISBN: 0-7803-7557-2.

120. Raimondi MT, Colombo M, Quaglini V, Falcone L, Remuzzi A, Marinoni E, Marazzi M, Pietrabissa R. The potential of fibrin glue to build a biomechanically reliable cartilage graft. Proc. 4th Symp. International Cartilage Repair Society, International Cartilage Repair Society, Belp, CH, 2002. (cd-rom).

121. Boschetti F, Raimondi MT, Fiore GB, Dubini G, Falcone L, Remuzzi A, Marinoni E, Marazzi M, Pietrabissa R. Computation of the fluid-induced shear stress on bioreactor-cultured 3D cell systems. Proc. IEEE-EMBS-BMES, 2002, p. 845-6; ISBN: 0-7803-7612-9.

122. Raimondi MT, Falcone L, Boschetti F, Fiore GB, Remuzzi A, Marazzi M, Marinoni E, Pietrabissa R. Mechanobiology of engineered cartilage: control of the mechanical environment. Trans. 28th annual meeting, Society for Biomaterials, Minneapolis, MN, USA, 2002, p. 649.

123. Raimondi MT, Colombo M, Falcone L, Remuzzi A, Marinoni E, Marazzi M, Pietrabissa R. Biomechanical evaluation of chondrocyte-seeded scaffolds for cartilage tissue engineering. Proc. of the 2003 ASME Bioengineering Conference. ASME Publications, New York, USA, 2003; (cd-rom).

124. Raimondi MT. Control and quantification of the mechanobiology of engineered cartilage. Proc. 3rd International Symposium on Mechanobiology of Cartilage and Chondrocyte, European Society on Cell and Tissue Engineering and Therapy, Nancy, France, 2003, p.84-85.

125. Raimondi M.T. A comparative evaluation of chondrocyte-seeded scaffolds for cartilage engineering. Trans. 2nd International Conference on New Biomedical Materials, Cardiff, Wales, UK, April 2003.

126. Boschetti F, Migliavacca F, Raimondi MT, Dubini G. Computation of the shear stress imposed to chondrocytes cultured under dynamic conditions. Tissue Engineering, Mary Ann Liebert Inc., Larchmont, NY, USA, 2003, 9(4):796. ISSN: 1937-3341.

127. Raimondi MT, Falcone L, Remuzzi A, Marinoni E, Marazzi M, Pietrabissa R. The effect of perfusion on three-dimensional cultures of human chondrocytes. Tissue Engineering, Mary Ann Liebert Inc., Larchmont, NY, USA, 2003, 9(4):802. ISSN: 1937-3341.

128. Boschetti F, Raimondi MT, Migliavacca F, Pietrabissa R. Microfluid-dynamics in three dimensional engineered cell systems. Proc. of the IUTAM Symposium on Mechanics of Biological Tissue. 27 June-2 July 2004. Graz (A), pag.58, 2004.

129. Moretti M, Laganà K, Raimondi MT. Experimental studies on the effects of controlled fluid-dynamics on tissue-engineered cartilage using a new perfusion bioreactor. Proc. ETES-TESI, Lausanne, CH, October 2004, pag.28.

130. Cioffi M, Giordano C, Gusmeroli R, Raimondi MT and Spinelli A. Towards integrating the functions of cells with electrical processes. In Proc. The Joint Meeting of Tissue Engineering Society International and European Tissue Engineering Society, Lausanne, Switzerland, 10-13 October 2004, Poster Session p.123.

131. Laganà K, Moretti M, Dubini G, Valentini V and Raimondi MT. Design of a bioreactor for controlled application of complex mechanical stimuli during culture of engineered cartilage. Proc. ETES-TESI, Lausanne, CH, October 2004, pag.124.

132. Cioffi M, Dubini G, Migliavacca F, Boschetti F and Raimondi MT. Modelling evaluation of the fluid-dynamic microenvironment in 3D engineered cell systems. Proc. ETES-TESI, Lausanne, CH, October 2004, pag.189.
133. Boschetti F, Cioffi M, Raimondi MT, Migliavacca F, Dubini G. Computation of the microfluidynamic environment in thickness-perfused scaffolds for cartilage in vitro regeneration. Proc. 51st Annual Meeting of the Orthopaedic Research Society. 2005. P1799 (cd-rom).
134. Raimondi MT, Moretti M, Cioffi M, Laganà K, Boschetti F and Migliavacca F. The effect of fluid-dynamic shear on 3D engineered chondrocyte-cell systems. Proc. 4th international symposium on mechanobiology of cartilage and chondrocyte, Budapest, Hungary - 20th - 22th May 2005. Pag.11.
135. Galbusera F, Fantigrossi A, Raimondi MT, Sassi M, Fornari M, Assetti R. Finite element modeling of the c5-c6 functional spinal unit after arthroplasty. Proc. 21st annual meeting of the cervical spine research society European section. Rome, June 2005. Pag. 27.
136. K. Laganà, M. Moretti, M.T. Raimondi, V. Valentini, C. Giordano, G. Dubini. Development of bioreactors to investigate the mechanobiology of engineered cartilage. Proc. European Society of Biomechanics, Leuven, Belgium, August 2005. Pag. 72-3.
137. Moretti M, Laganà K, Raimondi MT, Valentini V, Giordano C, Dubini G. Mechanical Stimulation of Tissue Engineered Cartilage. Proc. 19th European Conference on Biomaterials, September 11-15, 2005, Sorrento (I). T51 (cd-rom).
138. Giordano C, Raimondi MT, Spinelli A, Cioffi M, Gusmeroli R, Baranauskas G. Biocompatibility of semiconductor chip surface materials. Proc. 19th European Conference on Biomaterials, September 11-15, 2005, Sorrento (I). P393 (cd-rom).
139. Moretti M, Lagana K, Raimondi MT, Giordano C, Valentini V, Dubini G. Bioreactor technology in cartilage tissue engineering. Tissue Engineering, Mary Ann Liebert Inc., Larchmont, NY, USA, 2006, 12 (4): 1011-1011. ISSN: 1937-3341.
140. Cioffi M, Galbusera F, Raimondi MT, Boschetti F, Dubini G. Computational modelling of the mechanical environment within tissue engineered cartilage. III European Conference on Computational Mechanics. Solids, Structures and Coupled Problems in Engineering. Lisbon, Portugal, 5–8 June 2006 . C.A. Mota Soares , J.A.C. Martins, H.C. Rodriguez, J.A.C. Ambrosio, C.A.B. Pina, C.M. Mota Soares, E.B.R. Pereira, J. Folgado Eds. Springer, The Netherlands, 2006, Pag. 552.ISBN 1-4020-4994-3
141. Raimondi MT, Boschetti F, Cioffi M, Galbusera F, Laganà K, Moretti M, Draghi L, Giordano C, Candiani G, Migliavacca F, Dubini G, Pietrabissa R. Design of micro-structured scaffolds for tissue regeneration in advanced culture systems. Proc. International Conference on Advances in Biomaterials for Drug Delivery and Regenerative Medicine, June 11 – 16, 2006, Capri (I), Pag.52.
142. Pietrabissa R, Boschetti F, Cioffi M, Dubini G, Galbusera F, Gervaso F, Laganà K, Migliavacca F, Pennati G, Raimondi MT and Vena P. Numerical modelling of culture systems for tissue engineering. Proc. International Conference on Advances in Biomaterials for Drug Delivery and Regenerative Medicine, June 11 – 16, 2006, Capri, (I), Pag.62.
143. Vaga S, Raimondi MT, Caiani EG, Costa F, Perona F, Zerbi A, Fornari M. Clinical application of the dGEMRIC protocol for the quantitative assessment of lumbar disc degeneration. E-poster. Proc. IMAST 13th Int. Meeting on Advanced Spine Techniques, Athens, Greece, July 12-15, 2006, pag.231.

144. Bellini CM, Galbusera F, Raimodi MT, Brayda-Bruno M. Modeling evaluation of lumbar dynamic stabilisation. E-poster. Proc. IMAST 13th Int. Meeting on Advanced Spine Techniques, Athens, Greece, July 12-15, 2006, pag.301.
145. Galbusera F, Raimondi MT, Sassi M, Ortolina A, Fornari M. Lumbar microarthrodesis. A newly developed computer-assisted minimally invasive spinal surgery system (MISS-C). E-poster. Proc. IMAST 13th Int. Meeting on Advanced Spine Techniques, Athens, Greece, July 12-15, 2006, P386.
146. Galbusera F., Fantigrossi A., Raimondi MT, Sassi M, Fornari M. Biomechanical analysis of posterior lumbar interbody fusion with stand-alone cages. E-poster. Proc. IMAST 13th Int. Meeting on Advanced Spine Techniques, Athens, Greece, July 12-15, 2006, P552.
147. Galbusera F, Raimondi MT, Sassi M, Assietti R., Fornari M Cervical total disc replacement as an alternative to fusion: a biomechanical study. E-poster. Proc. IMAST 13th Int. Meeting on Advanced Spine Techniques, Athens, Greece, July 12-15, 2006, P554.
148. Galbusera F, Raimondi MT, Sassi M, Fornari M, Assietti R. Biomechanics of the cervical spine after fusion and arthroplasty. Journal of Biomechanics 2006; Vol.39 Suppl.1, pag.S370. ISSN: 0021-9290.
149. Cioffi M, Galbusera F, Raimondi MT, Boschetti F, Dubini G. Computational modelling of microfluidynamics in bioreactor-cultured cellular constructs. Journal of Biomechanics 2006; Vol.39 Suppl.1, pag.S225. ISSN: 0021-9290.
150. Bellini CM, Galbusera F, Colombini A, Ceroni RG, Raimondi MT. Loss in mechanical contact of cementless acetabular prostheses due to post-operative weight bearing: a biomechanical study. Journal of Biomechanics 2006; Vol.39 Suppl.1, pag.S123. ISSN: 0021-9290.
151. Laganà K, Moretti, M, Raimondi MT, Dubini G. Tissue engineered cartilage development in a perfused high pressure bioreactor. Journal of Biomechanics 2006; Vol.39 Suppl.1, pag.S577. ISSN: 0021-9290.
152. Bellini CM, Galbusera F, Raimondi MT, Brayda-Bruno M. Understanding the lumbar spine dynamic stabilization. Journal of Biomechanics 2006; Vol.39 Suppl.1, pag.S173. ISSN: 0021-9290.
153. Cioffi M, Raimondi MT, Boschetti F, Migliavacca F and Dubini G. 3-D computational micro fluid dynamics in engineered constructs cultured in bioreactors. CELLutions 2006, Aug. 14-17, 2006, Boston, MA (cd-rom).
154. Moretti M, Freed LE, Padera RF, Laganà K, Boschetti F, Raimondi MT. An integrated experimental-computational approach for the study of engineered cartilage constructs subjected to combined regimens of hydrostatic pressare and interstitial perfusion. Proc. of the 4th Symposium on Lorraine program on Cartilage engineering, Nancy, September 26-28, 2007 (cd-rom).
155. Bellini CM, Galbusera F, Lovi A, Grava G, Raimondi MT, Brayda-Bruno M. Posterior interspinous dynamic stabilization of the lumbar spine: a biomechanical study. Regenerative Medicine 2007, 2(5): 593. ISSN: 1746-0751.
156. Galbusera F, Cioffi M, Raimondi MT. Cell population dynamics and oxygen transport in engineered tissue: a coupled Lattice-Boltzmann cellular automata model. Regenerative Medicine 2007, 2(5): 615. ISSN: 1746-0751.
157. Raimondi MT, Candiani G, Cabras MS, Cioffi M, Laganà K, Moretti M. The effect of low regimens of interstitial perfusion on the development of engineered cartilage. Regenerative Medicine 2007, 2(5): 668. ISSN: 1746-0751.

158. Vaga S, Raimondi MT, Caiani EG, Costa F, Fornari M, Perona F. Delayed gadolinium-enhanced magnetic resonance imaging (dGEMRIC) for the quantification of glycosaminoglycan depletion and regeneration in human intervertebral discs. Regenerative Medicine 2007, 2(5): 702. ISSN: 1746-0751

159. Moretti M, Freed LE, Padera RF, Laganà K, Raimondi MT. Test and validation of a bioreactor for the stimulation of engineered cartilage constructs with combined regimens of hydrostatic pressure and interstitial perfusion. Tissue Engineering A 2008, 14(5): 797. ISSN 1937-3341

160. Raimondi MT, Boschetti M, Cioffi M, Galbusera F, Laganà K, Moretti M, Dubini G. Tissue engineering through simulation and experiments. Proc. 8th. World Congress on Computational Mechanics (WCCM8), 5th. European Congress on Computational Methods in Applied Sciences and Engineering (ECCOMAS 2008) June 30 – July 5, 2008 Venezia (I) (cd-rom)

161. Vaga S, Raimondi MT, Caiani EG, Perona F, Fornari M,. Delayed gadolinium-enhanced magnetic resonance imaging (dGEMRIC) for the quantification of glycosaminoglycan depletion and regeneration in human intervertebral discs. March 7-11 Vienna. ECR Book of abstracts, an issue of the European Radiology Supplements 2008: 170. ISSN: 1613-3749

162. E.G. Caiani; S. Vaga; M.T. Raimondi; M. Fornari; F. Perona. Quantitative molecular evaluation of intervertebral disc by gadolinium-enhanced magnetic resonance imaging in orthopedic patients. Proc. Computer Assisted Radiology and Surgery (CARS) 2008. Barcellona, Spagna. 25/6/2008-28/6/2008. Internationanal Journal of computer assisted radiology and surgery 2008; 3(Suppl.1): S284-S285. ISSN: 1861-6410

163. Galbusera F, Cioffi M, Raimondi MT. In silico simulation of tissue engineering experiments. In: Atti del I Congresso Nazionale di Bioingegneria. A cura di Burattini R, Contro R, Dario P, Landini L. Pàtron Editore, Bologna, 2008, p. 413-14. ISBN: 978-88-555-2983-9

164. Moretti M, Freed LE, Padera RF, Laganà K, Raimondi MT. An experimental approach for the study of engineered cartilage constructs subjected to combined regimens of hydrostatic pressure and interstitial perfusion. In: Atti del I Congresso Nazionale di Bioingegneria. A cura di Burattini R, Contro R, Dario P, Landini L. Pàtron Editore, Bologna, 2008, p. 415-16. ISBN: 978-88-555-2983-9

165. Bellini CM, Galbusera F, Raimondi MT, Mineo GV, Brayda-Bruno M. Finite element study of a dynamic stabilization device. In: Atti del I Congresso Nazionale di Bioingegneria. A cura di Burattini R, Contro R, Dario P, Landini L. Pàtron Editore, Bologna, 2008, p. 489-90. ISBN: 978-88-555-2983-9.

166. Raimondi MT, Sacco R, Zunino P, Causin P, Boschetti F, Pietrabissa R. Interpretation of engineered tissue growth observations by means of a multi-physics numerical simulation. Tissue Engineering and Regenerative Medicine 2009: 6(12):S33. ISSN: 1738-2696

167. Talò G, Cecini P, Bonacina E, Raimondi M.T., Moretti M. A new bioreactor concept for an effective screening of the effects of complex biomechanical stimuli on engineered cartilage. Tissue Engineering and Regenerative Medicine 2009: 6(12):S124. ISSN: 1738-2696

168. M.A. Asnaghi, M.T. Raimondi, A.P. Hollander, M.T. Conconi, M.A. Birchall, P. Macchiarini, S. Mantero. Double-chamber rotating bioreactor for hollow organs tissue engineering. Proc. World Congress on Regenerative Medicine. Leipzig 2009. Regenerative Medicine 4(6) Suppl. 2 (2009) S68-69 ISSN 1746-0751

169. P. Causin, M.T. Raimondi, R. Sacco, P. Zunino. Multiscale computational modelling in bioreactor tissue engineering: the biosynthetic response of cartilage cells to nutrient supply and fluid–induced shear stress. ECCM 2010 - IV European Conference on Computational Mechanics, Palais des Congrès, Paris, France, May 16-21, 2010. (cd-rom)

170. Raimondi MT, Bonacina E, Candiani G, Laganà M, Rolando E, Talò G, Pezzoli D, D'Anchise R, Pietrabissa R, Moretti M. Comparative chondrogenesis of human cells in a 3D integrated experimental/computational mechanobiology model. Tissue Engineering and Regenerative Medicine International Society (TERMIS)– EU Meeting -June 2010, Galway, Ireland (cd-rom) ISBN 978-0-9564492-0-7

171. Mantero S., Asnaghi M.A., Candiani G., Farè S., Fiore G.B., Petrini P., Raimondi M.T., Soncini M. Trends in Regenerative Medicine. BioMed@POLIMI Proc 1st Workshop on the Life Sciences at Politecnico di Milano. 2010. Pag. 189-199. ISBN 97888-6493-008-4

172. Raimondi MT, Laganà M, Bridgen D, Wendt D. Development of Enabling Technologies for Regenerative Medicine. BioMed@POLIMI Proc 1st Workshop on the Life Sciences at Politecnico di Milano. 2010. Pag.220-225. ISBN 97888-6493-008-4

173. Laganà M, Mara A, Nava M, Raimondi MT. A 3D Multiphysic Model for the Prediction of Engineered Tissue Growth in Perfused Bioreactors. Annual meeting of the European Chapter of the Tissue Engineering and Regenerative Medicine International Society (TERMIS), Granada (Spain), 6-11 June 2011. Abstract published on Histology and Histopathology 2011. 26(Suppl 1):123. ISSN 0213-3911. Oral presentation. U-Gov ID 633687

174. Raimondi MT. Mechanobiology of cartilage tissue engineering. Annual meeting of the European Chapter of the Tissue Engineering and Regenerative Medicine International Society (TERMIS), Granada (Spain), 6-11 June 2011. Abstract published on Histology and Histopathology 2011. 26(Suppl 1):175. ISSN 0213-3911. Keynote lecture. U-Gov ID 633688

175. Raimondi MT, Balconi G, Di Metri A, Guardiani JA, Boschetti F, Quaglini V, Araneo L, Latini R, Cossu G, Remuzzi A. Effect of matrix stiffness on in vitro differentiation of mesoangioblast stem cells towards the myocardial contractile phenotype. Annual meeting of the European Chapter of the Tissue Engineering and Regenerative Medicine International Society (TERMIS), Granada (Spain), 6-11 June 2011. Abstract published on Histology and Histopathology 2011. 26(Suppl 1):207. ISSN 0213-3911. U-Gov ID 633690

176. V. Aprile; S. M. Eaton; M. Lagana; G. Cerullo; M.T. Raimondi; R. Osellame. Femtosecond laser two-photon polymerization of three-dimensional scaffolds for tissue engineering and regenerative medicine applications. Heisterkamp A; Meunier M; Nolte S. Eds. Frontiers in ultrafast optics: biomedical, scientific, and industrial applications XII. Book Series: Proceedings of SPIE San Francisco, CA Date: JAN 22-25, 2012. 2012 Volume: 8247. Article Number 824708 ISBN 9780819488909 DOI10.1117/12.907847

177. Credi C, De Marco C, Eaton SM, Laganà M, Raimondi MT, Cerullo G, Osellame R, Levi M, Turri S. A microfluidic approach to graft hyaluronic acid onto micrometric scaffold surfaces for engineering stem-cell niches. In: Gyarmati Benjámin Sándor, Sudár András, Szilágyi András (Eds.) Advanced Macromolecular Systems Across the Length Scales: "Smart, Nanostructured Systems for Controlled Molecular Release and Biological Interfaces". Siófok, Hungary, 03/06/2012-06/06/2012. Budapest. Poster-33, pag. 131, ISBN 978-963-313-056-8

178. Raimondi MT, Mechanobiology in the fourth dimension, In: Atti Terzo Congresso del Gruppo Nazionale di Bioingegneria (GNB2012), Roma, 26-29 Giugno 2012, a cura di Cappozzo A, D'Alessio T, Guglielmelli E, Pennestrì E, Salinari S. Pàtron Editore, Bologna 2012, Pag. 1-2. ISBN: 978 88 555 3182-5

179. Lagana M, Nava MM, Raimondi MT. Coupling in vitro and in silico models for systematic 3D tissue engineering research. In: Atti Terzo Congresso del Gruppo Nazionale di Bioingegneria (GNB2012), Roma, 26-29 Giugno 2012, a cura di Cappozzo A, D'Alessio T, Guglielmelli E, Pennestrì E, Salinari S. Pàtron Editore, Bologna 2012, Pag. 1-2. ISBN: 978 88 555 3182-5

180. Nava MM, Lagana M, Raimondi MT, Aprile V, Eaton SM, Cerullo G, Osellame R. Two-photon polymerization for osteo-chondral tissue engineering. In: Atti Terzo Congresso del Gruppo Nazionale di Bioingegneria (GNB2012), Roma, 26-29 Giugno 2012, a cura di Cappozzo A, D'Alessio T, Guglielmelli E, Pennestrì E, Salinari S. Pàtron Editore, Bologna 2012, Pag. 1-2. ISBN: 978 88 555 3182-5

181. Nava MM, Lagana M, Raimondi MT, Aprile V, Eaton SM, Cerullo G, Osellame R. Two-photon polymerization for engineering stem cell niches. In: Atti Terzo Congresso del Gruppo Nazionale di Bioingegneria (GNB2012), Roma, 26-29 Giugno 2012, a cura di Cappozzo A, D'Alessio T, Guglielmelli E, Pennestrì E, Salinari S. Pàtron Editore, Bologna 2012, Pag. 1-2. ISBN: 978 88 555 3182-5

182. M. T. Raimondi, M. M. Nava, R. Bertozzi, A. Bernasconi, S. M. Eaton, G. Cerullo, R. Osellame. Control of Mesenchymal Stromal Cell Colonization Using Synthetic Micro-Niches Engineered Via Two-photon Laser Polymerization. TERMIS-EU 2013, Istambul, Turkey. Abstract Book pag. 486. No ISBN

183. M. M. Nava1, M. T. Raimondi. A Microfluidic Platform for Drug Testing in the Fourth Dimension. TERMIS-EU 2013, Istambul, Turkey. Abstract Book pag. 576. No ISBN

184. Raimondi MT. Bioengineered microenvironments for mesenchymal stem cells. J Tissue Eng Regen Med 2014; 8 (Suppl. 1): 7–8. DOI 10.1002/term.1930.

185. Tunesi M, Nava MM, Caterina F, Giordano C, Albani D, Raimondi MT. Microfluidic testing of the neuroprotective effect of mesenchymal stromal cells using a 3D model of Parkinson's disease. J Tissue Eng Regen Med 2014; 8 (Suppl. 1): 68. DOI 10.1002/term.1930.

186. Nava MM, Raimondi MT, Cerullo R, Osellame R. Three-dimensional structural niches for studying mesenchymal stromal cell colonization. J Tissue Eng Regen Med 2014; 8 (Suppl. 1): 108. DOI 10.1002/term.1930

187. Tunesi M, Nava MM, Caterina F, Giordano C, Albani D, Raimondi MT. Neuroprotective effect of mesenchymal stromal cells in a 3D model of Parkinson's disease. Proc. GNB 2014, June 25th-28t7th 2014, Pavia Italy. Patron Ed. Bologna. e-book: pag 1-3. ISBN 9788855532754.

188. Nava MM, Raimondi MT, Cerullo R, Osellame R. Synthetic three-dimensional niches to control mesenchymal stromal cell colonization in vitro. Proc. GNB 2014, June 25th-28t7th 2014, Pavia Italy. Patron Ed. Bologna. e-book: pag 1-2. ISBN 9788855532754.

189. Nava MM, Fedele R, Raimondi MT. A strain-dependent diffusivity model to study the nuclear import of mechanobiological transcription factors. Proc. 37th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC). Milan, Italy, 25-29 August 2015. Pag. 1857-1860. ISBN 978-1-4244-9270-1

190. Nava MM, Fedele R, Raimondi MT. Un modello accoppiato di trasporto passivo di fattori trascrizionali nella cellula eucariota. In: AIMETA 2015 Memorie Estese XXII Congresso dell'Associazione Italiana di Meccanica Teorica e Applicata. A cura di: Gambarotta L, Morro A. ISBN 978-88-97752-55-4. Pag. 357-362.

191. Nava MM, Fedele R, Raimondi MT. A strain-dependent diffusion numerical model of transcription factors through the cell nucleus. In: Program & Book of Abstracts. EMBO workshop Stem cell mechanobiology in development and disease. 2015 Ischia, p. 88

192. M Tunesi, A Chierchia, C Giordano, D Albani, MT Raimondi. In Vitro Testing of the Neuroprotective Effect of Mesenchymal Stromal Cells in a 3D Model of Parkinson's Disease TISSUE ENGINEERING PART A (2015) 21, S295-S296

193. Nava MM, Raimondi MT, Fedele R. A strain-dependent cmputational model for the diffusion of transcription factors through the cell nucleus. TISSUE ENGINEERING PART A (2015) 21, S355

194. Raimondi MT, Nava MM, Piuma A, Di Maggio N, Figliuzzi M, Cattaneo I, Zandrini T, Osellame R, Cerullo G, Martin I, Remuzzi A. Structural Nichoids Fabricated by Two-Photon Laser Polymerization Promote Maintenance of Pluripotency During In Vitro Expansion of Adult and Embryonic Stem Cells. TISSUE ENGINEERING PART A (2105) 21, S356-S356 WOS:000360205202486

195. Raimondi MT. Geometric control of cell reprogramming. In: Abstract eBook, V Congresso Gruppo Nazionale di Bioingegneria, 20-22 Giugno 2016. ISBN 978-88-941906-0-1. Pag. 21-22.

196. Nava MM, Piuma A, Figliuzzi M, Cattaneo I, Bonandrini B, Zandrini T, Cerullo G, Osellame R, Remuzzi A, Raimondi MT. The effect of physical constraints on the function of cultured embryonic stem cells. In: Abstract eBook, V Congresso Gruppo Nazionale di Bioingegneria, 20-22 Giugno 2016. ISBN 978-88-941906-0-1. Pag. 580-583

197. Boeri L, Tunesi M, Giordano C, Albani D, Raimondi MT. A miniaturized in vitro 3D model to assess the neuroprotective effect of mesenchymal stromal cell secretome on neuroblastoma cells exposed to oxidative stress. In: Abstract eBook, V Congresso Gruppo Nazionale di Bioingegneria, 20-22 Giugno 2016. ISBN 978-88-941906-0-1. Pag. 645-647.

198. Garcia A, Marotta R, Tunesi M, Nava MM, Fedele R, Jacchetti E, Rodriguez Matas JF, Raimondi MT. Experimental/computational approach of the nuclear pore complex mechanics. In: Abstract eBook, V Congresso Gruppo Nazionale di Bioingegneria, 20-22 Giugno 2016. ISBN 978-88-941906-0-1. Pag. 688-689.

199. Garcia A, Marotta R, Tunesi M, Nava MM, Fedele R, Jacchetti E, Rodriguez Matas JF, Raimondi MT. Integrated experimental/computational approach of the nuclear pore complex. European Cells and Materials. 2016. 31(Suppl. 1):P232. ISSN 1473-2262

200. Boeri L, Tunesi M, Giordano C, Albani D, Raimondi MT. Engineered in vitro model to assess the neuroprotective effect of mesenchymal stem cell secretome on SH-SY5Y neuroblastoma cells exposed to 6-hydroxydopamine. European Cells and Materials. 2016. 31(Suppl. 1):P50. ISSN 1473-2262

201. Raimondi MT, Nava MM, Di Maggio N, Bonandrini B, Figliuzzi M, Zandrini T, Osellame R, Cerullo G, Remuzzi A, Martin I. Nichoid substrates fabricated by two-photon laser polymerization promote maintenance of function during expansion of adult and embryonic stem cells. European Cells and Materials. 2016. 31(Suppl. 1):P117. ISSN 1473-2262

202. Garcia A, Tunesi M, Nava MM, Jacchetti E, Rodriguez Matas JF, Fedele R, Marotta R, Raimondi MT. Mechanobiological modeling of the nuclear pore complex. Abstract accepted for oral presentation at the World Congress of Computational Mechanics, Seoul, Korea, July 2016.

203. Garcia A, Jacchetti E, Rodriguez Matas JF, Raimondi MT. Multiscale numerical model of the strain-based permeability of the nuclear envelope. Proc. of the XIII biannual congress of SIMAI, 13-16 September 2016, Milano, Italy. Eds: Bonaventura L, Formaggia L, Miglio E, Parolini N, Scotti A and Vergara C. ISBN 978-88-6493-035-0. Pag. 737-739.

204. Boeri L, Jacchetti E, Negro A, Albani D, Raimondi MT. Fluorescence live detection of protein nuclear import in mesenchymal stem cells adhering to the “nichoid” nanoengineered culture substrate. European Cells and Materials Vol. 33 Suppl. 2, 2017 (0062). ISSN 1473-2262

205. Boeri L, Chierchia A, Chirico N, Raimondi MT, Giordano C, Forloni G, Albani D. Secretome released from adipose mesenchymal stem cells protects SH-SY5Y cells from oxidative stress and increases sirtuin 3 expression. Clinical Neuropathology, Vol. 36 No. 3/2017: 123. ISSN 0722-5091

206. De Riccardis G, Alexander PG, Raimondi MT, Tuan RS, Gottardi R. A 3D Printed Microfluidic Bioreactor to Engineering Biphasic Construct. TISSUE ENGINEERING PART A (2107) Vol. 23, Issue S1: S6-S7. DOI: 10.1089/ten.tea.2017.29003.abstracts

207. Bonandrini B, Ricci D, Figliuzzi M, Osellame R, Cerullo G, Raimondi MT. Nichoid substrates promote expansion of adult stem cells in the absence of animal-derived components. European Cells and Materials Vol. 33 Suppl. 2, 2017 (P080). ISSN 1473-2262

208. Marturano-Kruik A, Nava MM, Khramiec A, Yeager K, Hao L, Robinson S, Vunjak-Novakovic G. Raimondi MT. Introducing interstitial fluid flow in a bioengineered breast cancer perivascular niche. European Cells and Materials Vol. 33 Suppl. 2, 2017 (P084) ISSN 1473-2262

209. Nava MM, Fedele R, Raimondi MT. computational model of spreading stem cells, coupling mechanical deformation to nuclear membrane permeability to small solutes. European Cells and Materials Vol. 33 Suppl. 2, 2017 (P085) ISSN 1473-2262

210. Iannetti L, D'Urso G, Conoscenti G, Cutrì E, Tuan RS, Raimondi MT, Gottardi R, Zunino P. Distributed and lumped parameter models for the characterization of high throughput bioreactors. Proc. 5th International Conference on Computational and Mathematical Biomedical Engineering (CMBE2017), 10-12 April 2017, Pittsburgh, United States. P. Nithiarasu, A.M. Robertson (Eds.). Zeta Computational Resources Ltd., United States of America. Print ISSN 2227-3085, electronic ISSN 2227-9385, ISBN 978-0-9562914-4-8. Page 1178-1181.

211. B. Bonandrini, M. Figliuzzi, S. Conti, T. Zandrini, R. Osellame, G. Cerullo, A. Remuzzi and M.T. Raimondi. Effect of the nichoid substrate on mesenchymal stem cell structure and function. pp.1-4. In VI Convegno Gruppo Nazionale di Bioingegneria, Milano, June 25-27 2018. Abstract e-book - ISBN:978-88-555342-1-9.

212. Conci, C.; Jacchetti, E.; Zandrini, T.; Sironi, L.; Collini, M.; Chirico, G.; Cerullo, G.; Osellame, R.; Raimondi, M. T. Miniaturized Imaging Window for Intravital Nonlinear Microscopy: Preliminary Results. pp.1-4. In VI Convegno Gruppo Nazionale di Bioingegneria, Milano, June 25-27 2018. Abstract e-book - ISBN:978-88-555342-1-9

213. E. Jacchetti; R. Osellame; G. Cerullo; M. T. Raimondi. Effect of nichoid substrates on the morphology of adhering mesenchymal stem cells. pp.1-4. In VI Convegno Gruppo Nazionale di Bioingegneria, Milano, June 25-27 2018. Abstract e-book - ISBN:978-88-555342-1-9

214. L. Boeri; E. Jacchetti; A. Negro; D. Albani; M. T. Raimondi. An engineered supernegative GFP to track the nuclear import of transcription factors in mesenchymal stem cells. pp.1-4. In VI Convegno Gruppo Nazionale di Bioingegneria, Milano, June 25-27 2018. Abstract e-book - ISBN:978-88-555342-1-9

215. T. Zandrini; E. Jacchetti; C. Conci; R. Osellame; G. Cerullo; M. T. Raimondi. Nanotechnological challenges in application of two-photon polymerization to biology, pp.1-4. In VI Convegno Gruppo Nazionale di Bioingegneria, Milano, June 25-27 2018. Abstract e-book - ISBN:978-88-555342-1-9

216. F. Donnaloja; E. Jacchetti; M. Soncini; M. T. Raimondi. Structure and mechanosensing response of the nuclear pore complex. pp.1-4. In VI Convegno Gruppo Nazionale di Bioingegneria, Milano, June 25-27 2018. Abstract e-book - ISBN:978-88-555342-1-9

217. V. Parodi; E. Jacchetti; T. Zandrini; R. Osellame; G. Cerullo; M. T. Raimondi. Nuclear internalization kinetics of a permeable fluorescent dye in cell nuclei of different shape. pp.1-4. In VI Convegno Gruppo Nazionale di Bioingegneria, Milano, June 25-27 2018. Abstract e-book - ISBN:978-88-555342-1-9

218. Izzo, L.; Tunesi, M.; Marturano-Kruik, A.; Laganà, M.; Giordano, C.; Raimondi, M. T. Organ-on-chip platform based on a Miniaturized Optically Accessible Bioreactor: magnetic characterization of the culture chambers. pp.1-4. In VI Convegno Gruppo Nazionale di Bioingegneria, Milano, June 25-27 2018. Abstract e-book - ISBN:978-88-555342-1-9

219. Izzo, L.; Tunesi, M.; Laganà, M.; Giordano, C.; Raimondi, M. T. A new Miniaturized Optically Accessible Bioreactor to investigate the microbiota-gut-brain axis: magnetic characterization of the chambers. TERMIS World Congress, Kyoto, Japan 2018. Pp1.

220. L. Boeri, E. Jacchetti, A. Negro, D. Albani, M.T. Raimondi. Live Detection of a Fluorescent Myogenic Factor to estimate its Nuclear Import Flow in Mesenchymal Stem Cells growing in the 3D "nichoid" culture substrate. TERMIS World Congress, Kyoto, Japan 2018. Pp1

221. B. Bonandrini, L. Longaretti, M. Figliuzzi, S. Conti, T. Zandrini, R. Osellame, G. Cerullo, A. Remuzzi and M.T. Raimondi. The nichoid culture substrate modulates mesenchymal stromal cell structure and function. TERMIS World Congress, Kyoto (Japan) 2018. Pp1

222. C. Conci, E. Jacchetti, T. Zandrini, M. Tunesi, G. Chirico, G. Cerullo, R. Osellame, M.T. Raimondi. Design and Development of a Miniaturized Imaging Window for Intravital Nonlinear Microscopy. TERMIS World Congress, Kyoto, Japan 2018. Pp1

223. Barbara Bonandrini, Lorena Longaretti, Marina Figliuzzi, Sara Conti, Tommaso Zandrini, Roberto Osellame, Giulio Cerullo, Andrea Remuzzi, Manuela Teresa Raimondi. Effect of the nichoid culture substrate on mesenchymal stromal cell structure and gene expression. Proc. 8th World Congress of Biomechanics, Dublin, Ireland. pp.1-2

224. Gottardi, R., De Riccardis, G., Avolio, M., Nichols, D., Pirosa, A., Alexander, P., Raimondi, M., Tuan, R. A 3D printed microfluidic bioreactor to engineer biphasic construct (Conference Paper). Food, Pharmaceutical and Bioengineering Division 2018 - Core Programming Area at the 2018 AIChE Annual MeetingVolume 2, 2018, Pages 980-981

225. Donnaloja, F.; Jacchetti, E.; Rigoldi, F.; Raimondi, M. T.; Soncini, M. Mechanotransduction at the nuclear pore complex investigated at the molecular level: The role of SUN1. pp.672-672. In eCM Periodical 2019, Collection 3, 2019 TERMIS-EU Abstract