

Nicola Francesco Lopomo
Curriculum Vitae – English
[April, 2021]

Nicola Francesco Lopomo graduated in Biomedical Engineering at the Politecnico di Milano (Milan, Italy) in 2003, with a thesis addressing the analysis of the movement of the upper limb entitled "A New Approach in the Estimation of Hand Motion: Biomechanical Models and Nonlinear Kalman Filters", developed in Milan at the Don Gnocchi Foundation - Onlus and the TBM Lab (Laboratory of Biomedical Technologies). In June 2004, he started working as a researcher at the Laboratorio di Biomeccanica of Istituto Ortopedico Rizzoli (Bologna, Italy), on projects oriented to Computer Aided Surgery (CAS) in orthopedics. From 2007 to 2015 he was one of the referees for the Laboratorio di Biomeccanica ed Innovazione Tecnologica, as regards the development of new technologies and methods in CAS applications and biomechanical evaluation of the hip and knee joints, with particular interest in the reconstruction of the anterior cruciate ligament. In 2008 he obtained his PhD in Bioengineering at the Politecnico di Milano (Milan, Italy), with the thesis "Quantitative assessment of knee stability During surgery and evaluation of joint functionalities restored after the reconstruction". From 2010 to 2015 was also associated to the Laboratorio di NanoBiotecnologie - NaBi of Istituto Ortopedico Rizzoli (Bologna, Italy), focusing his research on the development and characterization of ceramic coatings for orthopedic applications. In 2012 he was a visiting postdoctoral fellow at the Biomechanics Laboratory - Medical Engineering Department of Mechanical Engineering at Imperial College London (London, UK), working on the validation of a non-invasive system for the assessment of joint laxity. In February 2014 he was qualified as associate professor in the competitive sector 09/G2 (Bioengineering) within the first National Scientific Habilitation - 2012. In March 2014 he obtained his qualification in Clinical Engineering within the Specialist Master of Management in Clinical Engineering (SMMCE) organized by the Università degli Studi di Trieste (Trieste, Italy) with the thesis "Magnetic Resonance Guided Focused Ultrasound Surgery (MRgFUS) for the Palliative Management of Painful Bone Metastases: An Health Technology Assessment". Since March 2015 he works as associate professor in the Scientific Sector ING-INF/06 (Electronic Bioengineering and Informatics) at the Dipartimento di Ingegneria dell'Informazione of the Università degli Studi di Brescia (Brescia, Italy), where he is the holder of the teachings "Biomedical Applications for Health and Wealth" and "Measurement Methods of Biomedical Data for Health and Wealth Applications" for students of degree courses in Electronics and Telecommunication, Communication and Multimedia Technologies and Electronic Engineering, "Basic Computer Science" for students of degree courses in "Sports and Motor Science", "Bioengineering" for the students of the specialization school in Emergency Medicine and "Applied Bioengineering" for the students of the specialization school in Orthopaedics and Traumatology. In October 2019 he was qualified as full professor in Bioengineering (the competitive sector 09/G2). He has held various activities such as co-supervisor/company mentor for several internships and thesis in agreement with the Polytechnic of Milan, Polytechnic of Turin, University of Padua, University of Bologna, University of Cagliari, University of Palermo. For the academic year 2017-2018 he was member of the academic board of the PhD program "Tecnologie e Scienze per la Salute dell'Uomo" at the University of Palermo, whereas since academic year 2018-2019 he is member of the academic board of the PhD program "Technology for Health" at the University of Brescia. He was principal investigator for the project "Multi-Scale Modeling for Predictive Characterization of ligaments and Grafts Behavior in ACL Reconstruction", funded by the Ministry of Health within the Young Researchers Call 2011-2012 and for the project "Physiotherapy and Action-observation Therapy: an Integrated approach supported by novel technologies", funded within the call H&W 2015 of the University of Brescia, and he is unit responsible for a project addressing the use of biomechanical approach to occupational medicine, funded within INAIL call BRIC 2017. He was also unit responsible for the project ISAKOS/OREF Research Grant 2012 "Clinical Application of Quantitative Assessment of the Pivot Shift - A Multicenter Study" and responsible for work packages within the project "Anterior Cruciate Ligament Reconstruction: Biomechanical Modeling for Treatment Selection to Prevent Osteoarthritis" (Targeted Research Award 2010, Ministry of Health) and "Nanostructured Coatings Enhancing Material Performances in Joint Arthroplasty" (Young Researchers Award 2010, Ministry of Health). He is currently associate researcher at the Istituto di Neuroscienze – Consiglio Nazionale delle Ricerche (Parma Unit). At present, he is the author of about 125 peer-reviewed articles (n. Citations: 2956, H-Index: 31 – Google Scholar), published in international journals and he has participated to numerous international conferences in the field of biomechanics and CAS. He is a reviewer for several international journals, and associate editor for Electronics MDPI (Bioelectronics section), Frontiers in Bioengineering and Biotechnology (Biomechanics section) and Applied Bionics and Biomechanics (Hindawi). He was a member of several scientific national and international societies, including: Institute of Electrical and Electronics Engineers – Engineering in Medicine and Biology Society, European Society of Biomechanics, Gruppo Nazionale di Bioingegneria, Società Italiana di Analisi del Movimento in Clinica and Società Scientifica Italiana di Informatica BioMedica. His research interests concern the innovative technologies and methodologies for motor rehabilitation and ergonomics, musculoskeletal biomechanics, computer-assisted surgery, non-invasive systems for functional evaluation and biomaterials.



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