GIORGIO DAVICO

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Date of birth: 27/12/1989

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RESEARCH BIOGRAPHY

My primary research interest is in the development of personalised musculoskeletal models to investigate neuromuscular disorders (e.g., cerebral palsy, dynapenia) and to assist clinical decision making, surgical planning and rehabilitation. In parallel, I am working towards the definition of a framework for the verification, validation, and uncertainty quantification of musculoskeletal models (and their estimates) according to ASME VV40 technical standards. I believe this is a necessary, yet often disregarded, step to gain full trust in musculoskeletal modelling simulations, possibly facilitating the translation of these methods to clinical practice. I am currently a lecturer (fixed-term researcher) at the University of Bologna (Italy) within the In Silico Medicine Group where I am working on the personalisation of musculoskeletal models employing medical imaging and electromyography data. In addition, I am part of two EU funded projects: the Mobilise-D project (http://www.mobilise-d.eu/) that aims to qualify and to regulate the use of wearable sensors to extract digital mobility outcomes and the In Silico World project that aims at lowering the barriers that slow down the adoption of in silico methods.

WORK EXPERIENCE

Assistant Professor (RTD-A)   Sep 2023 –present
Alma Mater Studiorum – University of Bologna, Italy

Post-doctoral Research Fellow   Oct 2019 – Sep 2023
Alma Mater Studiorum – University of Bologna, Italy

Clinical Product Specialist   Sep 2014 – Sep 2015
Sanitex SPA, Torino, Italy

  Role: Clinical and Technical support on:
  • Philips Volcano systems (Coronary and Peripheral lines);
  • Elixir Medical Novolimus™ Eluting Bioresorbable Coronary Scaffold System;
  • IMDS chronic total occlusion dedicated medical devices.

EDUCATION

| **PhD** | **Computational Biomechanics** | **Sep 2015 – Aug 2019** |

Griffith University, Gold Coast, Australia

Topic: "Development of personalised lower-limb neuromusculoskeletal models of children with cerebral palsy"
Supervisors: Prof. David G Lloyd, Dr. Christopher P Carty and Dr. Claudio Pizzolato

| **MSc** | **Biomedical Engineering** | **Oct 2011 – Mar 2014** |

Politecnico di Torino, Torino, Italy

| ***LLP- ERASMUS project*** | **Jul 2013- Dec 2013** |

Université de Technologie de Compiegne, Compiegne, France

Topic: Numerical study of the embolization of brain arteriovenous malformations by glue injection.
Supervisors: Prof. Anne-Virginie Salsac, Prof. Umberto Morbiducci

| **BSc** | **Biomedical Engineering** | **Sep 2008 – Sep 2011** |

Politecnico di Torino, Torino, Italy

AWARDS

Griffith University International Postgraduate Research Scholarship (GUPRS)	**$27596 pa**
Griffith Graduate Research School Travel Grant	**$2000**
World Council of Biomechanics Student Travel Bursary	**$570**
Completion Assistance Postgraduate Research Scholarship	**same rate as GUPRS**

SCIENTIFIC OUTPUT

Peer-reviewed articles

Gould, S.L., **Davico, G.**, Liebsch, C., Wilke, H-J., Cristofolini, L., Viceconti, M. (under review). Variability of intervertebral joint stiffness between specimens and spine levels. *Frontiers in Bioengineering and Biotechnology*. (Citations by Scopus: -, IF: 5.7)

Princelle, D.M., Viceconti, M., **Davico, G.** (under review). EMG-INFORMED NEUROMUSCULOSKELETAL SIMULATIONS INCREASE THE ACCURACY OF THE ESTIMATION OF KNEE JOINT CONTACT FORCES DURING SUB-OPTIMAL LEVEL WALKING. *Annals of Biomedical Engineering*. (Citations by Scopus: -, IF: 4.22)

Bottin, F., **Davico, G.**, Viceconti, M. (under review). Prediction of Maximal Isometric Voluntary Contraction in Healthy Female Subjects: Experimental Validation of Subject-Specific Models. *IEEE Transactions on Biomedical Engineering*. (Citations by Scopus: -, IF: 4.75)

Sommersalo, E., Amankwah, Bersani, A., Calvetti, D., **Davico, G.**, Viceconti M. (under review). Exploring muscle recruitment by Bayesian methods during motion. *Chaos, Solitons and Fractals*. (Citations by Scopus: -, IF: 7.8)

Davico, G., Labanca, L., Gennarelli, I., Benedetti, M.G., Viceconti, M. (accepted). Towards a comprehensive biomechanical assessment of the elderly combining in vivo data and in silico methods. *Frontiers in Bioengineering and Biotechnology*. (Citations by Scopus: -, IF: 5.7)

Gould, S.L., **Davico, G.**, Palanca, M., Viceconti, M., Cristofolini, L. (2024). Identification of a lumped-parameter model of the intervertebral joint from experimental data. *Frontiers in Bioengineering and Biotechnology*. (Citations by Scopus: -, IF: 5.7)

Rabbi, M.F., **Davico, G.**, Saxby, D.J., Pizzolato, C., Diamond, L.E. (2024). Muscle synergy-informed neuromusculoskeletal modelling to estimate internal biomechanics in children with cerebral palsy. *Biomechanics and Modeling in Mechanobiology*. (Citations by Scopus: -, IF: 3.5)

Di Martino, A., Geraci, G., Brunello, M., D'Agostino, C., **Davico, G.**, Curreli, C., Traina, F., Faldini, C. (2024). Hip-spine relationship: clinical evidence and biomechanical issues. *Archives of Orthopaedic and Trauma Surgery* 144, 1821-1833 (Citations by Scopus: -, IF: 2.3)

Princelle, D.M., **Davico, G.**, Viceconti, M. (2023). Comparative validation of two patient-specific modelling pipelines for predicting knee joint forces during level walking. *Journal of Biomechanics*. (Citations by Scopus: -, IF: 2.4)

Bersani, A., **Davico, G.**, Viceconti, M. (2023). Modelling human suboptimal control: a review. *Journal of Applied Biomechanics* 39, 294-303. (Citations by Scopus: 1, IF: 1.4)

Di Martino, A., **Davico, G**., Castafaro, V., Geraci, G., Stefanini, N., Tassinari, S., Viceconti, M., Faldini, C., (2023). Magnetic Resonance-based retrospective analysis of muscles around a degenerated hip shows deconditioning before surgery and recovery after Total Hip Arthroplasty. *International Orthopaedics* 47, 1441-1447. (Citations by Scopus: 1, IF: 3.479)

Davico, G., Bottin, F., Di Martino, A., Castafaro, V., Baruffaldi, F., Faldini, C., Viceconti, M., (2022). Intra-operator Repeatability of Manual Segmentations of the Hip Muscles on Clinical Magnetic Resonance Images. *Journal of Digital Imaging* 36, 143-152. (Citations by Scopus: 3, IF: 4.056)

Viceconti, M., Tome, M., Dartee, W., Knezevic, I., Hernandez Penna, S., Mazzà, C., Caulfield, B., Garcia-Aymerich, J., Becker, C., Maetzler, W., Troosters, T., Sharrack, B., **Davico, G.**, Corriol-Rohou, S., Rochester, L., (2022). ON THE USE OF WEARABLE SENSORS AS MOBILITY BIOMARKERS IN THE MARKETING AUTHORISATION OF NEW DRUGS: A REGULATORY PERSPECTIVE. *Frontiers in Medicine* 9, 996903. (Citations by Scopus: 9, IF: 5.058)

Davico, G., Lloyd, D.G., Carty, C.P., Killen, B.A., Devaprakash, D., Pizzolato, C., (2022). Multi-level personalization of neuromusculoskeletal models to estimate physiologically plausible knee joint contact forces in children. *Biomechanics and Modeling in Mechanobiology* 21, 1873–1886. (Citations by Scopus: 11, IF: 3.623)

Rabbi, M.F., Diamond, L.E., Carty, C.P., Lloyd D.G., **Davico, G.**, Pizzolato, C., (2022). A muscle synergy-based method to estimate muscle activation patterns of children with cerebral palsy using data collected from typically developing children. *Scientific Reports* 12, 3599. (Citations by Scopus: 13, IF: 4.996)

Shi, B., Barzan, M., Nasseri, A., Carty, C.P., Lloyd, D.G., **Davico, G.**, Maharaj, J.N., Diamond, L.E., Saxby, D.J., (2022). Development of predictive statistical shape models for paediatric lower limb bones. *Computer Methods and Programs in Biomedicine* 225, 107002. (Citations by Scopus: 5, IF: 7.027)

Viceconti, M., Curreli, C., Bottin, F., **Davico, G.**, (2021). Effect of Suboptimal Neuromuscular Control on the Risk of Massive Wear in Total Knee Replacement. *Annals of Biomedical Engineering* 49, 3349–3355. (Citations by Scopus: 4, IF: 3.934)

Gould, S.L., Cristofolini, L., **Davico, G.**, Viceconti, M., (2021). Computational modelling of the scoliotic spine: A literature review. *International Journal for Numerical Methods in Biomedical Engineering* 37(10):e3503. (Citations by Scopus: 10, IF: 2.648)

Curreli, C., Di Puccio, F., **Davico, G.**, Modenese, L., Viceconti, M., (2021). Using Musculoskeletal Models to Estimate in vivo Total Knee Replacement Kinematics and Loads: Effect of Differences Between Models. *Frontiers in Bioengineering and Biotechnology* 9, 703508. (Citations by Scopus: 10, IF: 6.064)

Viceconti, M., Hernandez Penna, S., Dartee, W., Mazzà, C., Caulfield, B., Becker, C., Maetzler, W., Garcia-Aymerich, J., **Davico, G.**, Rochester, L., (2020). Toward a Regulatory Qualification of Real-World Mobility Performance Biomarkers in Parkinson's Patients Using Digital Mobility Outcomes. *Sensors* 20, 1-13. (Citations by Scopus: 34, IF: 3.847)

Devaprakash, D., Obst, S., Lloyd, D.G., Barrett R.S., Kennedy, B., Ball, I., Adams, K.L., Collings, T.J., **Davico, G.**, Hunter, A., Vlahovich, N., Pease, D.L., Pizzolato, C., (2020). The free Achilles tendon is shorter, stiffer, has larger cross-sectional area and longer T2* relaxation time in trained middle-distance runners compared to healthy controls. *Frontiers in Physiology* 11, 965. (Citations by Scopus: 14, IF: 4.134)

Davico, G., Pizzolato, C., Lloyd, D.G., Obst, S.J., Walsh P.H, Carty, C.P., (2020). Increasing level of neuromusculoskeletal model personalisation to investigate joint contact forces in cerebral palsy: a twin case study. *Clinical Biomechanics* 72, 141-149. (Citations by Scopus: 27, IF: 2.034)

Davico, G., Pizzolato, C., Killen B.A., Barzan M., Suwarganda E., Lloyd, D.G., Carty, C.P., (2020). Best methods and data to reconstruct paediatric lower limb bones for musculoskeletal modelling. *Biomechanics and Modeling in Mechanobiology* 19, 1225–1238. (Citations by Scopus: 20, IF: 3.623)

Saxby, D.J., Killen, B.A., Pizzolato, C., Carty, C.P., Diamond, L.E., Modenese, L., Fernandez, J., **Davico, G.**, Barzan, M, Lenton, G., Brito da Luz, S., Suwarganda, E., Devaprakash D., Korhonen, R.K., Alderson,

J.A., Besier, T.F., Barrett, R.S., Lloyd, D.G., (2020). Machine learning methods to support personalized neuromusculoskeletal modelling. *Biomechanics and Modeling in Mechanobiology* 38, 1169–1185. (Citations by Scopus: 54, IF: 3.623)

Conference presentations

Podium: **Davico, G**. (2024, March). The certification of software as a Medical Device: valuing a Mobilise-D asset. Final Mobilise-D Conference, Edinburgh, UK.

Podium: **Davico, G.** (2023, October). Biomeccanica dell'anca. Winter School in Chirurgia dell'anca. Istituto Ortopedico Rizzoli, Bologna, Italy.

Podium: **Davico, G**. (2023, September). Implementation of digital health: The Mobilise-D journey to regulatory qualification. HealthXL Global Gathering, Gothenburg, Sweden.

Podium: Oliviero, S., Aldieri, A., Curreli, C., **Davico, G.**, La Mattina, A.A., Princelle, D.M., Viceconti, M. (2023, July). Computational challenges in musculoskeletal modelling and simulations. CompBiomed Conference 2023 (CBMC23), Garching, Germany.

Poster: Bersani, A., **Davico, G**., Lloyd, D.G., Carty, C.P., Pizzolato, C., Viceconti, M. (2023, September). EMG-assited method and uncontrolled manifold theory to explore suboptimal control in children. XII Annual Meeting of the Italian Chapter of the European Society of Biomechanics (ESB-ITA2023), Turin, Italy.

Podium: **Davico, G.**, Princelle, D.M., Viceconti, M. (2023, July). Validation of a digital twin to quantify the level of motor control suboptimality in a patient. XXVIII Congress of the European Society of Biomechanics (ESB2023), Maastricht, The Netherlands.

Podium: Bottin, F., **Davico, G.**, Princelle, D.M., Viceconti, M. (2023, July). Validation of the Forceloss framework for the differential diagnosis of dynapenia. XXVIII Congress of the European Society of Biomechanics (ESB2023), Maastricht, The Netherlands.

Poster: Gould, S., Cristofolini, L., **Davico, G.,** Palanca, M., Viceconti, M. (2023, May). GENERATION OF SEVERELY SCOLIOTIC PATIENT SPECIFIC MUSCULOSKELETAL MODELS. 18th International Symposium on Computer Methods in Biomechanics and Biomedical Engineering (CMBBE2023), Paris, France.

Podium: **Davico, G.**, Labanca, L., Bottin, F., Baruffaldi, F., Benedetti, M.G., Viceconti, M. (2022, June). A modeling framework to enable the differential diagnosis for the loss of muscle force. XXVII Congress of the European Society of Biomechanics (ESB2022), Porto, Portugal.

Podium: Princelle, D.M., **Davico, G.**, Viceconti, M., (2022, June). Comparative validation of two patient-specific modelling pipelines for predictive knee joint forces. XXVII Congress of the European Society of Biomechanics (ESB2022), Porto, Portugal.

Podium: Gould, S.L., **Davico, G.**, Palanca, M., Cristofolini, L., Viceconti, M., (2022, June). Determination of a lumped-parameter model of the intervertebral joint from an experimental dataset. XXVII Congress of the European Society of Biomechanics (ESB2022), Porto, Portugal.

Podium: Curreli, C., Huebner, S., Di Pietro, A., **Davico, G.**, Viceconti, M., (2022, June). Assessing credibility of a multiscale model for joint replacements solutions. XXVII Congress of the European Society of Biomechanics (ESB2022), Porto, Portugal.

Podium: **Davico, G**., Bottin, F., Viceconti, M., (2021, July). Modeling human-seat interaction can improve the accuracy of in silico maximum voluntary isometric tests. XXVI Congress of the European Society of Biomechanics (ESB2021), Milan, Italy.

Podium: Curreli, C., Davico, G., La Mattina, A.A., (2021, July). CLINICAL VALIDATION FOR REGULATORY QUALIFICATION OF IN SILICO TRIALS METHODOLOGIES. XXVI Congress of the European Society of Biomechanics (ESB2021), Milan, Italy.

Workshop: **Davico, G**., (2021, July). In silico medicine for personalised care. XXVI Congress of the European Society of Biomechanics (ESB2021), Milan, Italy. (Materialise workshop)

Workshop: **Davico, G**. (2021, July). Seeking regulatory approval for digital mobility outcome measures: the qualification process. IEEE-EMBS international conference on biomedical and health informatics jointly organised with the 17th IEEE-EMBS international conference on wearable and implantable body sensor networks (IEEE BHI-BSN 2021), Online (Mobilise-D workshop)

Podium: Rabbi, F.M., Diamond, L.E., Lloyd, D.G., Carty, C.P., **Davico, G.,** Pizzolato, C., (2021, December). Muscle synergy driven modelling to predict knee joint contact forces in children with cerebral palsy. 12th Australasian biomechanics conference (ABC12), Adelaide, Australia.

Podium: **Davico, G**., Killen, B.A., Pizzolato, C., Lloyd, D.G., Barzan, M., Carty, C.P., (2019, July-August). Paediatric lower limb bones can be accurately reconstructed via the MAP Client for use in musculoskeletal modelling. XXVII Congress of the International Society of Biomechanics (ISB/ASB2019), Calgary, Canada – **Finalist for the David Winter Young Investigator Award**

Podium: **Davico, G**., Killen, B.A, Carty, C.P., Lloyd, D.G, Devaprakash, D., Pizzolato, C., (2019, July-August). Developing the new generation of personalised neuromusculoskeletal models to investigate cerebral palsy. XXVII Congress of the International Society of Biomechanics (ISB/ASB2019), Calgary, Canada.

Podium: **Davico, G**., Pizzolato C., Carty, C.P., Obst, S.P., Lloyd, D.G., (2018, July). Investigating cerebral palsy using EMG-informed approaches: a twin case study. 8th World Congress of Biomechanics (WCB2018), Dublin, Ireland.

Podium: **Davico, G.**, Pizzolato, C., Obst, S.J., Lloyd, D.G., Carty, C.P. Muscle contributions to knee joint moment and knee joint contact forces during walking in children with cerebral palsy: a twin study. XXVI Congress of the International Society of Biomechanics, Brisbane, Australia, 2017.

Podium: Suwarganda, E.K., Zhang, J., Barzan, M., Killen, B.A., **Davico, G**., Lloyd, D.G., Diamond, L.E., Saxby, D.J. Subject-specific bone geometries from sparse imaging using the MAP client. XXVI Congress of the International Society of Biomechanics, Brisbane, Australia, 2017.

Podium: **Davico, G**., Pizzolato, C., Obst, S.J., Lloyd, D.G., Carty, C.P. Muscle contributions to knee joint moments in children with cerebral palsy: a twin case study. 10th Australasian Biomechanics Conference, Melbourne, Australia, 2016.

EDITORIAL ACTIVITIES

Reviewer for indexed journals

- Scientific Reports
- Journal of Magnetic Resonance Imaging
- Clinical Biomechanics
- Journal of Biomechanics
- IEEE BHI
- Journal of Engineering in Medicine – Part H
- Applied Sciences
- Sensors
- Biomechanics
- Frontiers in Bioengineering and Biotechnology
- Biomechanics and Modeling in Mechanobiology
- Journal of Applied Biomechanics
- Journal of Computational Science

External reviewer for grant proposals

- Swiss National Science Foundation

Editorial team(s)

- Topic co-ordinator for special issue on Frontiers in Bioengineering and Biotechnology

TEACHING ACTIVITIES

Professor
Alma Mater Studiorum – University of Bologna

AY 2024
Course: Biomechanics of Motor Function

Level: Master of Science in Mechanical Engineering

Academic Tutor
Alma Mater Studiorum – University of Bologna

AY 2019-2023
Courses: Biomechanics of Motor Function, Computational Biomechanics, Analysis and Synthesis of Biomechanical Systems
Level: Master of Science in Biomedical, Mechanical, Robotics Engineering

Sessional Academic Teacher
Griffith University

AY 2016-2018
Courses: Biomechanics I, Introductory Biomechanics, Musculoskeletal Biomechanics,
Bioinstrumentation
Level: Bachelor and Master of Science in Exercise Science, Physiotherapy

Workshop instructor

- Princelle, D. & Davico G. (2023, June), Patient-specific musculoskeletal modelling to quantify intersegmental forces and investigate suboptimal strategies – a run through OpenSim, Barcelona, Spain. (VPHi Summer School)

- Davico G (2023, July), Implementation of digital health: Lessons learned and regulatory challenges. The Mobilise-D journey to qualification, Bertinoro, Italy. (Mobilise-D/DARE Summer School)

MEMBERSHIPS OF SCIENTIFIC SOCIETIES

- Member of European Society of Biomechanics (since 2020)
- Member of the Virtual Physiological Human Institute (VPHi) (since 2020)

STUDENTS SUPERVISION ACTIVITIES

Co-supervision of PhD students

- Samuele Gould (*Patient-Specific Spinal Surgery for Severe Scoliosis*, XXXV cycle), University of Bologna (PhD programme in health and Technology)
- Francesca Bottin (*Credibility of digital health predictors of human movement*, XXXVI cycle), University of Bologna (PhD programme in health and Technology)
- Alex Bersani (*Modelling suboptimal muscle control in patients with Parkinson's disease*, XXXVIII cycle), University of Bologna (PhD programme in Health and Technology)

Co-supervision of Research Assistants

- Francesca Bottin (2020) – Biomechanical simulation of a maximal isometric contraction test
- Beatrice D'Ascanio (2021) – Development of image-based musculoskeletal models
- Alex Bersani (2021-2022) – Image-based musculoskeletal modelling and EMG-assisted approach
- Roee Be'er (2022) – Elaboration of dynamometry and electromyography data

Co-supervision of MSc students

- 11 students in Biomedical/Mechanical Engineering

    Topic: Digital twins for the quantitative assessment of fragile elders
    TOCCACELI Enrico (2023)
    MAZZOLI Leonardo (2023) – co-supervisor: Viceconti M. (UNIBO)

    Topic: In silico simulations of MVIC task
    CERRATO Virginia Allegra (2023) – co-supervisor: Gastaldi L. (POLITO)

    Topic: Elaboration of experimental MVIC and EMG data/Generation of DPValid data collection
    GENNARELLI Irene (2023) – co-supervisor: Botter A. (POLITO, LISiN)

Topic: Predictive simulations of walking
RICCIONI Paolo (2023) – co-supervisor: Viceconti M. (UNIBO)

Topic: Comparison between EMG-assisted and static optimization approaches
ARPI ARPI Rolando (2022) – co-supervisor: Gastaldi L. (POLITO)

Topic: Quantification of the residual Range of Motion at the hip
SORESINI Luca (2022) – co-supervisor: Viceconti M. (UNIBO)

Topic: Development of personalized musculoskeletal models
BERSANI Alex (2021) – co-supervisor: Viceconti M. (UNIBO)
GIROLAMO Francesca (2021) – co-supervisor: Gastaldi L. (POLITO)
PERNA Alessandro (2020) – co-supervisor: Viceconti M. (UNIBO)
BOTTIN Francesca (2020) – co-supervisor: Viceconti M. (UNIBO)

- 1 student in Medicine

  Topic: Segmentation of muscles on MRIs to quantify sarcopenia
  CASTAFARO Vanita – co-supervisor: Viceconti M. (UNIBO)

Graduate Mentor

- 3 undergraduate Engineering students

  Topic: subject-specific skeletal modelling using medical imaging
  LEHMANN Drew (2016) – co-supervisor: Carty C.P. (Griffith University)
  CAMPBELL Stephen (2016) – co-supervisor: Carty C.P. (Griffith University)
  BARNES Jackson (2016) – co-supervisor: Carty C.P. (Griffith University)

INVOLVEMENT IN FUNDED PROJECTS

- **H2020 Mobilise-D** (H2020-EU.3.1.7.-Innovative Medicines Initiative 2, Grant ID: 820820)

  Within Mobilise-D, I have been working on the regulatory work package, engaging with regulatory bodies both in Europe (European Medicines Agency, EMA) and the United States (Food and Drug Administration, FDA) to seek the qualification of digital mobility outcome measures as monitoring biomarkers in people with conditions affecting mobility. Since October 2019, we received two Qualification Advices from the EMA, we submitted one Letter of Intent to the FDA DDT Division and prepared a pre-submission to the FDA CDRH Division. Since 2021, I act as academic co-lead of the regulatory work-package.

- **H2020 In Silico World** (Topic SC1-DTH-06-2020, Grant ID 101016503)

  Within the ISW project, I coordinate the activities related to the development of one in silico solution, aimed to enable the differential diagnosis for the loss of muscle force. I am also leading the work on the development of a data collection, to be shared with the wider scientific

community in OpenAccess. Furthermore, I am part of the educational work-package, where we work towards the defintion of programmes to train current and future workforce on in silico applications, to facilitate their adoption.

- **RF ForceLoss** (funded by Italian Ministry of Health, Ricerca finalizzata RF-2019-12369960)

Within the ForceLoss project, I am acting as project manager (handling contacts with suppliers, defining the experimental protocols, managing the data collection & processing phases, the CM&S aspects and the reporting). I have an active role in the data collection.

- **RCR Aging Proto-Aging** (funded by Italian Ministry of Health, Ricerca corrente di Rete Aging)

Within the Proto-Aging study, I am acting as project manager (handling contacts with suppliers, defining the experimental protocols, managing the data collection & processing phases, the CM&S aspects and the reporting). I also have an active role in the data collection.

- **DARE – Digital Lifelong Prevention** (funded by Italian Ministry of University and Research, Complementary Plan to the National Recovery and Resilience Plan)

Within DARE, I am involved in several pilots (studies), where computer modelling and simulations will be employed to improve current clinical standards to manage patient with or at risk of developing osteoarthritis (primary and secondary prevention).

- **HEAL-ITALIA** (funded by Italian Ministry of University and Research, Complementary Plan to the National Recovery and Resilience Plan)
  Within HEAL-ITALIA, I am involved in two projects, aiming to validate and employ in silico medicine applications/solutions for use in in silico clinical trials (BBCT-Hip and ForceLoss).