

PROF. MASSIMO PELLEGRINI

Associate Professor in Food and Dietic Sciences (SSD MEDS-08/C)

GSD: 06/MEDS-08 – Endocrinology, Nephrology, and Food and Wellness Sciences

Affiliation: Department of Biomedical, Metabolic and Neural Sciences, University of Modena and Reggio Emilia

Address: Via Campi 287, 41125 Modena, Italy | **E-mail:** massimo.pellegrini@unimore.it

Centers: Center for the Study of Metabolism, Body Composition, and Lifestyle (CENTRO-MBL) — UNIMORE (Co-head and Co-founder) | BIOGEST-SITEIA

Nationality: Italian

SCIENTIFIC AND ACADEMIC PROFILE

Prof. Massimo Pellegrini holds a Degree in Medicine and Surgery and is an **Associate Professor in Food and Dietic Sciences** (SSD MEDS-08/C) with proven experience in advanced body composition research and obesity phenotype assessment using high-precision instrumental methods (DXA, CT, air displacement plethysmography, classical and vector bioimpedance analysis, indirect calorimetry). His scientific activity integrates anthropometric, densitometric, bioimpedance, and quantitative imaging approaches to characterize lean mass, fat mass, tissue radiodensity, and muscle or fat quality, with a specific focus on pathophysiological and epidemiological determinants of sarcopenia, sarcopenic obesity, and osteosarcopenia. He has coordinated and conducted clinical and observational studies in oncology, metabolic disorders, and both elite and amateur sports populations, correlating body composition with clinical, metabolic, inflammatory, and survival outcomes.

ACADEMIC POSITIONS AND PROFESSIONAL EXPERIENCE

- **Current: Associate Professor in Food and Dietic Sciences** (SSD MEDS-08/C), Department of Biomedical, Metabolic and Neural Sciences, University of Modena and Reggio Emilia
- **1992 Tenured University Researcher**, University of Modena and Reggio Emilia
- **2015 – 2021: Scientific Consultant and Head**, Clinical Nutrition and Oncology Metabolic Center, AUSL-IRCCS Reggio Emilia
- **1991 – 1992: Postdoctoral Researcher**, Max Planck Institute for Biophysical Chemistry, Department of Molecular and Cell Biology, Göttingen, Germany
- **1990: CNR Researcher**, National Research Council (C.N.R.) — Institute of Advanced Biomedical Technologies, Milan, Italy
- **1985 – 1990: Resident Physician & Fellow in General Surgery**, General Surgical Clinic 2, University of Parma

EDUCATION, TRAINING, AND CERTIFICATIONS

- **2026:** Level 2 Reaccreditation Course in Anthropometric Assessment, ISAK - International Society for the Advancement of Kinanthropometry, Reggio Emilia, Italy
- **2023:** Diploma in Sports Nutrition, International Olympic Committee (IOC) Medical and Scientific Commission / Sportsoracle, Lausanne, Switzerland (2-year program with final exam)
- **2022:** Sarco Lab – Theoretical-Practical Course (I Edition): The Role of Muscle Ultrasound and Bioimpedance in Sarcopenia Assessment, Academy of Geriatrics, Verona

- **2021:** Mastermind in Sports Nutrition (ACSM International Certification), Approved by the American College of Sports Medicine
- **2021:** Second Level Course and Qualification in Anthropometric Assessment, ISAK Level 2 Anthropometrist, Reggio Emilia, Italy
- **2020 – 2021:** Certificate in Advanced Sports Nutrition, FC Barcelona Innovation Hub, Barcelona, Spain
- **2018:** First Level Course and Qualification in Anthropometric Assessment, ISAK Level 1 Anthropometrist, Pescara, Italy
- **2016 – 2017:** Advanced Continuing Education Courses (SINPE and ESPEN), 23rd ESPEN Residential Course on Clinical Nutrition (Poland, 2016); SINPE Hospital and Home Artificial Nutrition Courses (2017)
- **2009 – 2010:** II Level Professional Master's Degree in Applied Clinical Nutrition and Dietetics, Catholic University of the Sacred Heart, Rome (Awarded April 28, 2010)
- **1990:** Board Certification in General Surgery (110/110 *cum laude*), University of Parma (Awarded June 25, 1990)
- **1985:** Medical License / Board Examination for Medical Practice (Full marks), University of Parma
- **1985:** M.D. Degree in Medicine and Surgery (110/110 *cum laude*), University of Parma (Thesis: "Acute malnutrition and immune depression in experimental surgery")

RESEARCH ACTIVITIES AND PROJECT COORDINATION

- **ALGENFOR Project — "Use of algae for a new generation of bakery products" (2023 – Present):** Coordinator of Work Unit "Nutritional Evaluation of Products". Funded by PR-FESR Action 1.1.2 (€490,007.16). Nutritional and bromatological screening/characterization of micro and macroalgae for functional bakery foods.
- **International Network on Obesity, Sarcopenia, and Osteosarcopenia (2018 – Present):** Italian Coordinator for the bilateral agreement between UNIMORE and Beirut Arab University (Lebanon). Collaboration with Tor Vergata University of Rome to redefine BMI and sarcopenia cut-offs in Italian and Arab populations.
- **Myopenia, Myosteatorsis, and Body Composition in Oncology and COVID-19 (2015 – Present):** Scientific Head under research contracts between UNIMORE and AUSL-IRCCS Reggio Emilia. Quantitative/qualitative evaluation of muscle mass and visceral/ectopic adipose tissue using CT, DXA, BIVA, and ultrasound in oncology and COVID-19 patients.
- **DIANA-5 Clinical Trial — "Diet, Physical Activity and Breast Cancer Recurrences" (2013 – 2025):** Head of UNIMORE Research Unit for "IGF-I isoforms and Breast Cancer" (Ministry of Health Grant; Lead: IRCCS National Cancer Institute of Milan). Evaluating Mediterranean/macrobiotic diet and physical activity impacts on 1,542 women at risk of recurrence.
- **Telethon Trial — Low-Protein Diet, Autophagy, and Collagen VI Myopathies (2014 – 2016):** Scientific Lead for UNIMORE group. Clinical trial proving mitochondrial autophagy activation (mitophagy) induced by a low-protein diet in Bethlem and Ullrich myopathy patients.
- **European FP7 FLIP Project — "Fatty Liver Inhibition of Progression" (2013):** Scientific Lead for UNIMORE Unit (Grant Agreement 241762). Assessment of nutritional, anthropometric, and energy expenditure parameters in NAFLD/NASH patients.
- **Nutrition, Body Composition, and Athletic Performance (2014 – Present):** Project Coordinator in collaboration with Ausl Modena, Emilia-Romagna Antidoping Center, University of Verona, and professional teams (Series A Basketball, Professional Soccer, Running, Bodybuilding).

- **Body Composition and Metabolism in Anorexia Nervosa (2012 – 2016):** Scientific Collaborator with Villa Garda Hospital and University of Verona on weight recovery, resting metabolic rate, and sleep patterns in eating disorder patients.

ACADEMIC TEACHING ACTIVITIES

- **Bachelor's Degree in Dietetics (UNIMORE):** Course Chair for *Applied Dietetic Sciences* (Module: Dietetics, Nutritional Status Assessment, and Counseling - 5 ECTS) since 2012; Course Chair for *Nutrition and Sports* (3 ECTS) since 2014.
- **Master's Degree in Health and Sports (UNIMORE):** Lead Lecturer for *Nutrition and Nutritional Assessment in Athletes* (3 ECTS, 2026).
- **Master's Degree in Nursing and Midwifery Sciences (UNIMORE):** Lead Lecturer for *Health Education and Nutrition* (1 ECTS) since 2011.
- **Bachelor's Degrees in Nursing and Dental Hygiene (UNIMORE):** Lecturer in Dietetic Sciences and Food Sciences modules.
- **USAC International Program (Reggio Emilia):** Lecturer for the English-taught course "*Nutrition across the lifespan*" for US university students (accredited by NWCCU, Univ. of Nevada, Reno/Las Vegas) since 2015.
- **Postgraduate & PhD Programs:** Faculty member in the PhD program in *Agri-Food Sciences, Technologies and Biotechnologies* (2023–present) and *Molecular and Regenerative Medicine* (2005–2013); Lecturer in Specialization Schools for Food Science and Sports Medicine.

THIRD MISSION AND TECHNOLOGY TRANSFER

- **Public Engagement:** Keynote speaker at scientific dissemination events on nutrition, sports performance, sustainable food systems, and disease prevention (UNIMORE-Prisma 2025, CNA Reggio Emilia 2024, USAC 2023, BeSport 2021).
- **University Spin-Off:** Co-founder (2010–2015) of the university spin-off *Skin Squared* in partnership with Areta International, focusing on 3D cellularized matrices derived from adipose mesenchymal stem cells.

EDITORIAL ACTIVITY, APPOINTMENTS, AND SCIENTIFIC AFFILIATIONS

- **Associate Editor:** *Frontiers in Nutrition* — Nutritional Epidemiology section (IF: 6.59, Q1) since 2022.
- **Ethics Committees:** Nutrition expert on the Ethics Committee of the European Institute of Oncology (IEO) and Monzino Cardiology Center in Milan (2014–2024).
- **Institutional Coordination:** Member of the Steering Committee for Specialization Schools in Food Science and Sports Medicine; Internationalization Coordinator for the Degree in Dietetics.
- **Scientific Societies:** Member of SINU, SCWD, ESPEN, ISAK, SINPE.

PROFESSIONAL AND CLINICAL-INSTRUMENTAL COMPETENCIES

Domain	Core Skills & Methodologies
Nutritional Assessment & Body Composition	Advanced Anthropometry (ISAK L2), Classical and Vector Bioimpedance (BIVA), Densitometry (Air Displacement Plethysmography BOD POD, DXA), Quantitative/Qualitative Muscle Ultrasound, Radiographic Imaging Analysis (CT, MRI).
Metabolism & Physical Exercise	Indirect Calorimetry for Resting Metabolic Rate, Motion Multisensors (Armband, Pedometers), VO2max Testing, Heart Rate Variability (HRV).
Clinical & Sports Nutrition	Personalized/periodized nutritional plans for elite and amateur athletes; clinical nutrition management in oncology, geriatrics (sarcopenia/osteosarcopenia), eating disorders, and metabolic diseases.
Languages	Italian: Native English: Advanced (C1/C2 Reading/Writing/Listening, B2 Speaking) French: Elementary

SELECTED SCIENTIFIC PUBLICATIONS

- Djuric O, Bonvicini L, **Pellegrini M***, Bruno E, Pasanisi P, Gargano G, Curtosi P, Berrino F, Giorgi Rossi P, Villarini A. (2026). Diet, body composition and metabolic and hormonal profile in women at high risk of breast cancer recurrence: a secondary mediation analysis of the DIANA-5 trial. *Clinical Nutrition*, 56:106537. (*Corresponding Author)
- Besutti G, Ottone M, Bonelli E, Canovi S, Farì R, Farioli F, Pecchi A, Ligabue G, **Pellegrini M**, Pattacini P, Giorgi Rossi P. (2025). Inverse Association of Longitudinal Variations in Fat Tissue Radiodensity and Area. *Diagnostics*, 15(13): 1662.
- Cavedon V, Kreidieh D, Milanese C, Itani L, **Pellegrini M**, Saadeddine D, Berri E, El Ghoch M. (2025). The Prevalence of and Factors Associated with Disordered Eating Among Adult Athletes in Italy and Lebanon. *Nutrients*, 17(1): 191.
- De Lorenzo A, Itani L, El Ghoch M, Gualtieri P, Frank G, Raffaelli G, **Pellegrini M**, Di Renzo L. (2024). Difference in Body Composition Patterns between Age Groups in Italian Individuals with Overweight and Obesity. *Nutrients*, 16(15): 2415.
- De Lorenzo A, Itani L, Gualtieri P, **Pellegrini M**, El Ghoch M, Di Renzo L. (2024). Association between Sarcopenia and Reduced Bone Mass: Is Osteosarcopenic Obesity a New Phenotype to Consider in Weight Management Settings?. *Life*, 14(1): 21.
- De Lorenzo A*, **Pellegrini M***, Gualtieri P, Itani L, Frank G, El Ghoch M, Di Renzo L. (2024). The Association between Obesity and Reduced Weight-Adjusted Bone Mineral Content in Older Adults. *Nutrients*, 16(3): 352. (*Co-first author)
- Pellegrini M**, Besutti G, Ottone M, Canovi S, Bonelli E, Venturelli F, Farì R, Damato A, Bonelli C, Pinto C, Ligabue G, Pattacini P, Giorgi Rossi P, El Ghoch M. (2023). Abdominal Fat Characteristics and Mortality in Rectal Cancer: A Retrospective Study. *Nutrients*, 15(2): 374.
- Bardoscia L, Besutti G, **Pellegrini M***, Pagano M, Bonelli C, Bonelli E, Braglia L, Cozzi S, Roncali M, Iotti C, Pinto C, Pattacini P, Ciammella P. (2022). Impact of low skeletal muscle mass and quality on clinical outcomes in patients with head and neck cancer undergoing (chemo)radiation. *Frontiers in Nutrition*, 9: 994499. (*Corresponding Author)

9. Di Renzo L, Itani L, Gualtieri P, **Pellegrini M**, El Ghoch M, De Lorenzo A. (2022). New BMI Cut-Off Points for Obesity in Middle-Aged and Older Adults in Clinical Nutrition Settings in Italy. *Nutrients*, 14(22): 4848.
10. Besutti G, **Pellegrini M***, Ottone M, Bonelli E, Monelli F, Fari R, Milic J, Dolci G, Fasano T, Canovi S, Costi S, Fugazzaro S, Massari M, Ligabue G, Croci S, Salvarani C, Pattacini P, Guaraldi G, Giorgi Rossi P. (2022). Modifications of Chest CT Body Composition Parameters at Three and Six Months after Severe COVID-19 Pneumonia. *Nutrients*, 14(18): 3764. (*Corresponding Author)
11. Besutti G, Massaro F, Bonelli E, Braglia L, Casali M, Versari A, Ligabue G, Pattacini P, Cavuto S, Merlo DF, Luminari S, Merli F, Vaccaro S, **Pellegrini M**. (2021). Prognostic Impact of Muscle Quantity and Quality and Fat Distribution in Diffuse Large B-Cell Lymphoma Patients. *Frontiers in Nutrition*, 8: 620696.
12. Castagnaro S*, Pellegrini C*, **Pellegrini M***, Chrisam M, Sabatelli P, Toni S, Grumati P, Ripamonti C, Pratelli L, Maraldi NM, Cocchi D, Righi V, Faldini C, Sandri M, Bonaldo P, Merlini L. (2016). Autophagy activation in COL6 myopathic patients by a low-protein-diet pilot trial. *Autophagy*, 12(12): 2484–2495. (*Co-first author)
13. El Ghoch M, Milanese C, Calugi S, **Pellegrini M**, Battistini NC, Dalle Grave R. (2014). Body composition, eating disorder psychopathology, and psychological distress in anorexia nervosa: A longitudinal study. *American Journal of Clinical Nutrition*, 99: 771–778.
14. **Pellegrini M**, Pantano S, Lucchini F, Fumi MP, Forabosco A. (1997). Emx2 developmental expression in the primordia of the reproductive and excretory systems. *Anatomy and Embryology*, 196: 427–433.
15. **Pellegrini M**, Mansouri A, Simeone A, Boncinelli E, Gruss P. (1996). Dentate gyrus formation requires Emx2. *Development*, 122: 3893–3898.

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Modena , 01/09/2026

