

PERSONAL DATA

Name	SIMONE REANO
Date and place of birth	October 8 th 1985, Cuorgnè (TO), Italy
Citizenship	Italian
Address	Via Quattro Novembre 14, Ciconio (TO) 10080, Italy
Phone	+39 349 1888832
e-mail	simone.reano@med.uniupo.it

EDUCATION

PhD Program in Biotechnology for Human Health (Nov 2009-Apr 2013). University of Eastern Piedmont (UPO), Dept. of Translational Medicine, Novara, (Italy).

Master's Degree "Laurea Magistrale" in Medical and Pharmaceutical Biotechnology (July 2009). University of Eastern Piedmont (UPO) (Italy) with the final result of 106/110.

First Degree "Laurea" in Biotechnology (July 2007). University of Eastern Piedmont (UPO) in Novara (Italy) with the final result of 104/110.

Secondary School Diploma (2003). High school Institute "P. Martinetti" of Caluso (TO) with the result of 95/100.

AWARDS AND FELLOWSHIP

Scholarship (February 2019 - October 2019) Dept. of Translational Medicine. Title: "Analisi istologica, biochimica e molecolare di muscoli di topi WT, sovraespressanti e KO per Ghrl di età 24-28 mesi". Scientific supervisor: Dr. Nicoletta Filigheddu.

Fellowship (January 2018 - December 2018) Dept. of Translational Medicine. Title: "Exploring the role of ghrelin peptides in sarcopenia development during aging". Scientific supervisor: Dr. Nicoletta Filigheddu.

Fellowship (February 2015 - December 2017) Dept. of Translational Medicine. Title: "Exploring the therapeutic potential of unacylated ghrelin for muscular dystrophy". Scientific supervisor: Dr. Nicoletta Filigheddu.

Fellowship (January 2014 - December 2014) Dept. of Translational Medicine. Title: "Identification of unacylated Ghrelin Receptor and its involvement in skeletal muscle wasting". Scientific supervisor: Prof. Andrea Graziani.

Fellowship (February 2013 - December 2013) Dept. of Translational Medicine. Title: "Ghrelin peptide as novel anti-atrophic factors acting directly in the skeletal muscle: identification of their molecular mechanisms and of their role in cancer cachexia". Scientific supervisor: Prof. Andrea Graziani.

Scholarship (December 2012 - February 2013) University of Torino. Title: “Ruolo di ghrelina nei processi di degenerazione e rigenerazione neuromuscolare”. Scientific supervisor: Prof. Stefano Geuna.

RESEARCH AND PROFESSIONAL EXPERIENCE

April 2023 – today: Technician specialized in metabolism and advanced imaging. Research and Development Division, Research Center for Autoimmune and Allergic Diseases (CAAD), University of Eastern Piedmont (UPO).

Main tasks:

1. Responsible for managing the metabolism facility, with specialized expertise in advanced bioenergetic analysis of cells and tissue biopsies.
2. Advanced microscopy unit manager; extensive expertise in advanced imaging technologies and support for research involving live and fixed cells and tissues.

November 2019 – May 2022: Staff Scientist (“tecnologo”). Dept. of Translational Medicine, University of Eastern Piedmont (UPO) (Scientific advisor: Prof. Nicoletta Filigheddu).

My work focused on characterizing the role of the vitamin D system in muscle homeostasis, with particular emphasis on the involvement of vitamin D binding protein (VDBP) in muscle wasting. I was especially interested in the metabolic aspects of this phenomenon, including mitochondrial activity and dynamics. As part of this research, I acquired new technical skills in muscle metabolism, specifically through the use of the Oroboros high-resolution fluo-respirometry system. Thanks to this role, I was also actively involved in collaborative projects with several research groups across different universities, in parallel with my primary research.

2013 - 2019: Post-doctoral position in the Laboratory of Signal Transduction directed by Prof.ssa Nicoletta Filigheddu at the Dept. of Translational Medicine, Università del Piemonte Orientale, Novara.

Projects:

-(2017-present): (i) Investigation of the role of the vitamin D system in skeletal muscle homeostasis, under both physiological and pathological conditions, with a focus on its impact on muscle wasting during cancer cachexia; (ii) phenotypic characterization of the transgenic mice KI-STIM1^{I115F}, a model of tubular aggregate myopathy (TAM); (iii) study of the ghrelin peptides involvement in aging process, focusing the attention on sarcopenia establishment.

-(2013-2017): (i) investigation of the unacylated ghrelin (UnAG) effects on skeletal muscle regeneration, in particular on satellite cell activities, and identification of its physiological role in muscle repair process; (ii) UnAG therapeutic applications in muscular dystrophy.

2009 - 2013: Bio-medical research as a PhD student in the Laboratory of Biochemistry directed by Prof. A. Graziani at Dept. of Translational Medicine of Novara.

Projects: (i) study of the UnAG effects on skeletal muscle regeneration after cardiotoxin-induced damage; (ii) characterization of the acylated ghrelin (AG) and UnAG anti-atrophic effect in skeletal muscle *in vitro* and *in vivo* models and the pathway involved.

2006 - 2009: Studentship training in the Laboratory of Biochemistry directed by Prof. A. Graziani at Dept. of Translational Medicine of Novara.

Projects: (i) Generation of transgenic mouse overexpressing ghrelin gene in cardiac muscle, (ii) preliminary study of the anti-atrophic effect of AG and UnAG in skeletal muscle, through *in vitro* and *in vivo* experiment.

PRACTICAL SKILLS

- Expertise in advanced microscopy with specialized experience in the following microscopes: Leica Thunder widefield, Leica SP8 confocal and Leica SP8 DIVE Two Photons.
- Strong experience in designing microscopy experiments, including sample preparation, live imaging and time-lapse acquisition, 3D rendering, image processing, and quantitative data analysis.
- Assessment of mitochondrial metabolism using the high-resolution Oroboros fluo-respirometer and the Agilent Seahorse (Real-Time Cell Metabolic Analysis).
- Knowledge of a wide range of experimental techniques of cell biology, molecular biology and biochemistry (PCR, real time RT-qPCR, SDS-PAGE and western blotting, immunoprecipitation, immunofluorescence, enzymatic assays, etc...)
- Eukaryotic cell culture (in particular primary myoblast culture)
- Immunological methods (including ELISA immunoassays and other diagnostic assays)
- Ex vivo tissue processing and analysis (histological analysis of tissue slices through chemical and immunofluorescent staining)
- Skills in *in vivo* techniques and mice handling such as:
 - mice colony management
 - organ and muscle harvesting for molecular analysis and for tissue embedding
 - blood sampling
 - hindlimb muscles denervation technique through sciatic nerve resection
 - several types of injection (intravenous, retro-orbital, intraperitoneal, subcutaneous, and intramuscular)
 - hind limb muscle and myocardium damage induction through cardiotoxin (CTX) injection
 - primary myoblast isolation from skeletal muscle
 - myoblast intramuscular transplantation
 - subcutaneous and orthotopic injection of tumor cell to get different cachexia models
 - intact myofibers isolation from EDL muscle for SCs analysis
 - endotracheal intubation
 - basic heart surgery
 - muscle functional tests (grasping and hanging wire test to assess the force and coordination, rotarod and treadmill test)

LANGUAGE SKILLS

- **ITALIAN:** mother language
- **ENGLISH:** reading comprehension: good

Writing skill: good
Speaking: good

COMPUTER SKILLS

Good knowledge of the operating system Microsoft Windows and specific imaging software (Jmicrovision, ImageJ, ImageProPlus, CaseViewer), medical and biological public database (PubMed, Uniprot, Protein Data Bank...).

OTHER SKILLS

2019 – present: Member of the COST Action CA15203 MitoEAGLE (Evolution-Age-Gender-Lifestyle-Environment). This organization is a large-scale network of researchers and linked stakeholders aimed to improve the knowledge on mitochondrial function in health and disease in Evolution-Age-Gender-Lifestyle-Environment.

2017 – 2020: Reviewer ad hoc for “Oxidative Medicine and Cellular Longevity”.

2014 – present: Member of the Interuniversity Institute of Myology (IIM)

2017: Teaching activities during optional course ADO (Attività Didattiche Opzionali) with the topic: “Tecniche di sovra-espressione, silenziamento e knockout” (University of Piemonte Orientale). Course duration: 25 hours.

2012: Course attended: english course ABESCHOOL (American Business English School). Certificate of attendance, scientific english: Level B1, final score: 79/110.

2009: Mentoring experience: tutoring activities during Statistics course for the second-year students of Medicine (University of Eastern Piedmont (UPO))

ATTENDED COURSES

- **“Ciclo di seminari di Microscopia Avanzata e Multimodale”**, Fondazione ANTHEM, Università degli Studi di Milano-Bicocca, Carl ZEISS S.p.a. Veduggio al Lambro, MB, March 3rd and 4th 2025.

- **“Introduction to Microbiological Monitoring in Rodents Facilities”**, Fondazione Guido Bernardini, May 29th 2024.

- **“Il RENTRI in ambito universitario: gestione degli aspetti normativi, tecnici e operativi”**, Gruppo di Lavoro Risorse e Rifiuti della RUS – Rete delle Università per lo Sviluppo sostenibile, Politecnico Milano, May 17th 2024.

- **HR (Form) - Formazione di livello generale in tema di “Conflitto di interessi in ambito universitario”**, University of Eastern Piedmont (UPO), April 7th 2025.

PUBLICATIONS

*co-first/last author; ✉ corresponding author

Provera A, Ramavath NN, Gadipudi LL, Vecchio C, Caputo M, Antonioli A, Tini S, Sheferaw AN, **Reano S**, Filigheddu N, Manfredi M, Barberis E, Cocolin L, Ferrocino I, Locatelli M, Caprio M, Tacke F, Albano E, Prodam F, Sutti S. Vegetal oil-based ketogenic diet improves inflammation and fibrosis in experimental metabolic dysfunction-associated steatohepatitis. *Front Immunol.* 2025 Apr 1;16:1518687.

Dematteis G, Tapella L, Casali C, Talmon M, Tonelli E, **Reano S**, Ariotti A, Pessolano E, Malecka J, Chrostek G, Kulkovienė G, Umbrasas D, Distasi C, Grilli M, Ladds G, Filigheddu N, Fresu LG, Mikoshiba K, Matute C, Ramos-Gonzalez P, Jekabsone A, Calì T, Brini M, Biggiogera M, Cavaliere F, Miggiano R, Genazzani AA, Lim D. ER-mitochondria distance is a critical parameter for efficient mitochondrial Ca²⁺ uptake and oxidative metabolism. *Commun Biol.* 2024 Oct 10;7(1):1294.

Romagnolo A, Dematteis G, Scheper M, Luinenburg MJ, Mühlebner A, Van Hecke W, Manfredi M, De Giorgis V, **Reano S**, Filigheddu N, Bortolotto V, Tapella L, Anink JJ, François L, Dedeurwaerdere S, Mills JD, Genazzani AA, Lim D, Aronica E. Astroglial calcium signaling and homeostasis in tuberous sclerosis complex. *Acta Neuropathol.* 2024 Feb 28;147(1):48. doi: 10.1007/s00401-024-02711-3.

Clemente N, Baroni S, Fiorilla S, Tasso F, **Reano S**, Borsotti C, Ruggiero MR, Alchera E, Corrazzari M, Walker G, Follenzi A, Crich SG, Carini R. Boosting intracellular sodium selectively kills hepatocarcinoma cells and induces hepatocellular carcinoma tumor shrinkage in mice. *Commun Biol.* 2023 May 29;6(1):574.

Antona A, Varalda M, Roy K, Favero F, Mazzucco E, Zuccalà M, Leo G, Soggia G, Bettio V, Tosi M, Gaggianesi M, Riva B, **Reano S**, Genazzani A, Manfredi M, Stassi G, Corà D, D'Alfonso S, Capello D. Dissecting the Mechanism of Action of Spiperone-A Candidate for Drug Repurposing for Colorectal Cancer. *Cancers (Basel).* 2022 Feb 2;14(3):776.

Raiteri T*, Zaggia I*, **Reano S***, Scircoli A, Salvadori L, Prodam F, Filigheddu N. The Atrophic Effect of 1,25(OH)₂ Vitamin D₃ (Calcitriol) on C2C12 Myotubes Depends on Oxidative Stress. *Antioxidants (Basel).* 2021 Dec 12;10(12):1980.

Ronchi G, Tos P, Angelino E, Muratori L, **Reano S**, Filigheddu N, Graziani A, Geuna S, Raimondo S. Effect of unacylated ghrelin on peripheral nerve regeneration. *Eur J Histochem.* 2021 Nov 4;65(s1):3287.

Teixeira MA, De Feudis M, **Reano S**, Raiteri T, Scircoli A, Zaggia I, Ruga S, Salvadori L, Prodam F, Marzullo P, Molinari C, Corà D, Filigheddu N. Cholecalciferol (vitamin D₃) has a direct protective activity against interleukin 6-induced atrophy in C2C12 myotubes. *Aging (Albany NY).* 2021 Feb 22;13(4):4895-4910.

Gnaiger E et al., MitoEAGLE Task Group (2020). Mitochondrial physiology. *Bioenerg Commun* 2020.1.

Agosti E, De Feudis M, Angelino E, Belli R, Alves Teixeira M, Zaggia I, Tamiso T, Raiteri T, Scircoli A, Ronzoni FL, Muscaritoli M, Graziani A, Prodam F, Sampaolesi M, Costelli P, Ferraro E, **Reano S*** and Filigheddu N*. Both ghrelin deletion and unacylated ghrelin overexpression preserve muscles in aging mice. *Aging (Albany NY)*. 2020 Jul 26;12(14):13939-13957.

Roato I, Mussano F, **Reano S**, Boriani F, Margara A, Ferracini R, Adriani E, Sabry O, Fiorini M and Fattori P. A Novel Method to Optimize Autologous Adipose Tissue Recovery with Extracellular Matrix Preservation. *Processes* 2020, 8(1), 88.

Cordero-Sanchez C*, Riva B*, **Reano S***, Clemente N, Zaggia I, Ruffinatti FA, Potenzieri A, Pirali T, Raffa S, Sangaletti S, Colombo MP, Bertoni A, Garibaldi M, Filigheddu N, Genazzani AA. A luminal EF-hand mutation in STIM1 in mice causes the clinical hallmarks of tubular aggregate myopathy. *Dis Model Mech*. 2019 Dec 3;13(2).

Sustova H*, De Feudis M*, **Reano S***, Alves Teixeira M, Valle I, Zaggia I, Agosti E, Prodam F, Filigheddu N. Opposing effects of 25-hydroxy- and 1 α ,25-dihydroxy-vitamin D3 on pro-cachectic cytokine- and cancer conditioned medium-induced atrophy in C2C12 myotubes. *Acta Physiol (Oxf)* 226(3). 2019 Mar 19.

Angelino E*, **Reano S***, Bollo A, Ferrara M, De Feudis M, Sustova H, Agosti E, Clerici S, Prodam F, Tomasetto CL, Graziani A, Filigheddu N. Ghrelin knockout mice display defective skeletal muscle regeneration and impaired satellite cell self-renewal. *Endocrine*, 62(1):129-135. 2018 May 30.

Angelino E*, **Reano S***, Ferrara M, Agosti E, Sustova H, Malacarne V, Clerici S, Graziani A, Filigheddu N. Mouse Satellite Cell Isolation and Transplantation. *BioProtoc*. 2018 Jan 20; 8 (2).

Wyart E, **Reano S**, Hsu M Y, Longo D L, Li M, Hirsh E, Filigheddu N, Ghigo A, Riganti C and Porporato P E. Metabolic alterations in a slow-paced model of pancreatic cancer-induced wasting. *Oxidative Medicine and Cellular Longevity*, 2018 Feb 26.

Reano S, Angelino E, Ferrara M, Malacarne V, Sustova H, Sabry O, Agosti E, Clerici S, Ruozi G, Zentilin L, Prodam F, Geuna S, Giacca M, Graziani A, Filigheddu N. Unacylated Ghrelin Enhances Satellite Cell Function and Relieves the Dystrophic Phenotype in Duchenne Muscular Dystrophy mdx Model. *Stem Cells*. 2017 Jul;35(7):1733-1746.

Angelino E, **Reano S**, Ferrara M, Agosti E, Graziani A, Filigheddu N. Antifibrotic activity of acylated and unacylated ghrelin. *Int J Endocrinol*. 2015;2015:385682.

Oltolina F, Zamperone A, Colangelo D, Gregoletto L, **Reano S**, Pietronave S, Merlin S, Talmon M, Novelli E, Diena M, Nicoletti C, Musarò A, Filigheddu N, Follenzi A, Prat M. Human Cardiac Progenitor Spheroids Exhibit Enhanced Engraftment Potential. *PLoS One*. 2015 Sep 16;10(9):e0137999.

Reano S, Graziani A, Filigheddu N. Acylated and unacylated ghrelin administration to blunt muscle wasting. *Curr Opin Clin Nutr Metab Care*. 2014 May;17(3):236-40.

Porporato PE, Filigheddu N, **Reano S**, Ferrara M, Angelino E, Gnocchi VF, Prodam F, Ronchi G, Fagoonee S, Fornaro M, Chianale F, Baldanzi G, Surico N, Sinigaglia F, Perroteau I, Smith RG,

Sun Y, Geuna S, Graziani A. Acylated and unacylated ghrelin impair skeletal muscle atrophy in mice. *J Clin Invest*. 2013 Feb;123(2):611-22.

Raimondo S, Ronchi G, Geuna S, Pascal D, **Reano S**, Filigheddu N, Graziani A. Ghrelin: a novel neuromuscular recovery promoting factor? *Int Rev Neurobiol*. 2013;108:207-21.

ORAL PRESENTATIONS

Reano S, Agosti E, Angelino A, Sustova H, De Feudis M, Graziani A, Filigheddu N. Role of ghrelin peptides in aging. XIV IIM Annual Meeting October 11-14th, 2018, Interuniversity Institute of myology, Assisi (PG), Italy

Reano S, Angelino E, Ferrara M, Sustova H, Malacarne M, Agosti A, Clerici S, Graziani A, Filigheddu F. Unacylated ghrelin enhances satellite cell function and relieves mdx dystrophic phenotype. XIII IIM Annual Meeting October 13-16th, 2016, Interuniversity Institute of myology, Assisi (PG), Italy

Reano S, Angelino E, Ferrara M, Sabry O, Graziani A, Filigheddu N. Unacylated ghrelin enhances skeletal muscle regeneration. XI IIM Annual Meeting October 2-5th, 2014, Interuniversity Institute of myology, Borgo San Luigi, Monteriggioni (SI), Italy

POSTER PRESENTATIONS

Raiteri T, **Reano S**, Zaggia I, Scircoli A, Antonioli A, Prodam F, Filigheddu N. Divergent biological effects of vitamin D metabolites on skeletal muscle cells. Cell Symposia: Metabolites in Signaling and Disease, April 3-5, 2022 | Lisbon, Portugal.

Reano S, Raiteri T, Zaggia I, Scircoli A, Prodam F, Filigheddu N. Pro-atrophic and anti-atrophic activity of different vitamin D metabolites on skeletal muscle cells: implications for vitamin D supplementation. Keystone e-Symposia, Vitamin D Workshop | 22EK4, October 13-14, 2021.

Reano S, Scircoli A, Raiteri T, Zaggia I, De Feudis M, Alves Teixeira M, Agosti E, Prodam F, Filigheddu N. The role of vitamin D binding protein in the onset of cancer cachexia - beyond vitamin D transport. ABCD Congress, 19-21 September 2019, Bologna, Italy,

Reano S, Agosti E, Angelino E, Formaggio N, Alves Teixeira M, De Feudis M, Graziani A and Filigheddu N. Role of ghrelin peptides in the onset of sarcopenia. International Conference on muscle wasting "Molecular Mechanisms of muscle wasting during aging and disease", September 23-28th, 2018, Monte Verità - Ascona, Switzerland.

Reano S, Agosti E, Angelino E, Sustova H, De Feudis M, Graziani A, Filigheddu N. Role of ghrelin peptides in aging. Keystone symposia, "Pushing the Limits of Healthspan and Longevity", April 15-19th, 2018, Hannover, Germany.

Reano S, Agosti E, Angelino E, Sustova H, Ferrara M, Clerici S, De Feudis M, Graziani A, Filigheddu N. Role of ghrelin peptides in aging. XIV^o IIM Annual Meeting October 12-15th, 2017, Interuniversity Institute of myology, Assisi (PG), Italy

Angelino E, Ferrara M, **Reano S**, Gortan Cappellari G, Sustova H, Agosti E, Clerici S, Barazzoni R, Filigheddu N, Graziani A. Activation of acylated ghrelin receptor, GHSR1, impairs ghrelin anti-atrophic activity in skeletal muscle. 8th International Conference on Cachexia, Sarcopenia and Muscle Wasting. Paris, France. December 4-6th, 2015.

Reano S, Angelino E, Ferrara M, Sustova H, Agosti E, Clerici S, Filigheddu N, Graziani A. Unacylated ghrelin stimulates satellite cells self-renewal and skeletal muscle regeneration. Ascona, Switzerland. September 20-25th. 2015

Angelino E, **Reano S**, Ferrara M, Sustova H, Agosti E, Clerici S, Graziani A, Filigheddu N. Unacylated ghrelin enhances satellite cells activity and promotes skeletal muscle regeneration. International spring research day. Lugano-Vezia, Switzerland. June 19th, 2015.

Sustova H, **Reano S**, Angelino A, Agosti E, Ferrara M, Clerici S, Graziani A, Filigheddu N. Positive effects of unacylated ghrelin on dystrophic muscle in vivo. Biochemical PhD students meeting. Brallo-Pavia, Italy. 2015.

Agosti E, Angelino E, **Reano S**, Sustova H, Ferrara M, Clerici S, Graziani A, Filigheddu N. Protective effects of unacylated ghrelin in aging mice. Brallo-Pavia, Italy. 2015.

Ferrara M, Sabry O, **Reano S**, Angelino E, Ciruolo E, Coletti D, Hirsch E, Costelli P, Filigheddu N, Graziani A. A GHSR1a-independent signaling contributes to ghrelin anti-cachectic activity in skeletal muscle and is reciprocally regulated by PI3-kinase beta and gamma isoforms. 2nd cancer cachexia conference. Montreal, Canada. September 26-28th, 2014.

Reano S, Angelino E, Sabry O, Ferrara M, Graziani A, Filigheddu N. Ghrelin promotes skeletal muscle regeneration. 7th Cachexia Conference. Kobe, Japan. December 9-11th, 2013.

Novara, 22.04.2025



"In compliance with the Italian legislative Decree no. 196 dated 30/06/2003 and with GDPR (General Data Protection Regulation) n. 2016/679, I hereby authorize you to use and process my personal details contained in this document."

"In compliance with what is prescribed by the art. 76 of the Presidential Decree 28 December 2000 n. 445, on the criminal liability which may be incurred in the event of falsification of documents and false declarations, , as well as what is prescribed by the art. 75 of the Presidential Decree 28 December 2000 n. 445, on the forfeiture of any benefits resulting from the provision issued on the basis of untruthful declarations, pursuant to and for the purposes of the aforementioned Presidential Decree. n. 445/2000 and under their own personal responsibility, I DECLARE that all the information contained in the curriculum vitae is truthful"