Elena Grasselli

Associate Professor of Physiology

University of Genoa · DISTAV

ORCID 0000-0003-4439-4059 | Scopus ID 8322183600

elena.grasselli@unige.it

Research Profile and Scientific Expertise

Research focuses on cellular and molecular physiology, hepatic lipid homeostasis and endocrine disruption; human-relevant 2D/3D tissue models and New Approach Methodologies (NAMs); cosmetic safety and Next Generation Risk Assessment (NGRA); marine bioresources, circular bioeconomy and One Health. Study Director of the University of Genoa laboratory in the international MatTek EpiOcular™ TTT validation study supporting a regulatory submission for consideration under OECD Test Guideline 492B.

Academic Positions and Career History

1 October 2020 – present — Associate Professor of Physiology Scientific Disciplinary Sector (SSD) BIOS-06/A (formerly BIO/09); former Academic Recruitment Field 05/D1.

1 October 2017 – 30 September 2020 — Fixed-term Researcher in Physiology (Type B)

1 October 2011 – 30 September 2017 — Fixed-term Researcher in Physiology

1 March 2006 – 30 September 2011 — Postdoctoral Research Fellow in Physiology

3 March 2003 – 30 October 2005 — Postdoctoral Research Fellow in Microbiology

Education and Qualifications

2022 — National Scientific Qualification for Full Professor (ASN) Physiology (05/D1).

2010 — Postgraduate Specialisation Diploma in Clinical Pathology University of Genoa; 50/50 cum laude.

2003 — PhD in Biophysical Sciences and Technologies University of Genoa.

1999 — Degree in Biological Sciences, Biomolecular Specialisation University of Genoa; 110/110 cum laude.

Research Projects and Funding

Scientific Leadership and Coordination

2021–2027 — EcoeFISHent (Horizon 2020 Green Deal) Scientific Coordinator for the University of Genoa; sustainable valorisation of fisheries and fish-processing side streams. Grant Agreement No. 101036428.

2022–2026 — MatTek EpiOcular™ TTT Validation Study Director, DISTAV–University of Genoa laboratory; interlaboratory validation involving 42 reference chemicals. Submission for OECD TG 492B in 2025, updated in 2026.

PNC–PRACSI — Health, Environment, Biodiversity and Climate Scientific Lead for DISTAV; PNC Investment 1.1, strengthening of SNPS–SNPA; national implementing body: ISS.

2024 — CALUX-based Environmental Monitoring Scientific Lead; Regione Liguria / ARPAL.

2021 — Regione Liguria: Emerging Contaminants Scientific Lead; environmental and molecular monitoring.

2021 — Angel Consulting: Industry-funded Doctoral Scholarship Industrial support for doctoral training; scientific supervision.

2020–2021 — ARPAL: Molecular Environmental Monitoring Scientific and technical support for the UniGe–ARPAL collaboration.

2020 — PASHA: Amphibian Peptides Scientific Lead; University of Genoa support for proposal development.

2020–2021 — Angel Consulting: Research Fellowship Scientific supervision of an industry-funded research fellowship.

2017 — European Commission: Salamander Disease Mitigation Lead of the Italian research unit; ENV B.3/SER/2016/0028.

2000–2001 — Cytochrome P450 2B4 Scientific Lead; University of Genoa research project.

Participation in Funded Research Projects and Networks

- **2025–ongoing — LASER (LCA – Shelling – Circular Economy – Reuse), PNRR.** Member of the DISTAV Research Unit, within the "SHELL WE…SEA THE FUTURE?!?" supply-chain programme. CUP B35C22023590001.
- **2022–2026 — CN Agritech, National Centre for the Development of New Technologies in Agriculture (PNRR), Spoke 6.** Member of DISTAV research activities; project CN00000022, CUP D33C22000950007.
- 2020 — SARI: National SARS-CoV-2 Wastewater Surveillance
- **2014–2016 — Rett Syndrome and Oxidative Stress** Research team member, University of Genoa.
- 2011–2014 — Compagnia di San Paolo: Alcoholic Liver Disease and Oxidative Stress
- 2010–2012 — PRIN 2008: Metabolic Homeostasis
- 2007–2009 — PRIN 2006: Iodothyronines and Hepatic Steatosis
- 2001–2005 — Swiss National Science Foundation: Antimicrobial Resistance and Virulence in E. coli
- 2001–2002 — CNR: Human Protein Kinase CK2
- 1996–2001 — Swiss National Science Foundation: Bacterial Phylogenetics

Teaching and Supervision

Current Teaching (2026–2027) Colture cellulari e laboratorio; Fisiologia cellulare ed eccitabilità; Fisiologia umana e nutrizione; Fisiologia e nutrizione umana.

Previous Teaching Interferenti endocrini e salute; Fisiologia animale; Introduzione ai sistemi di gestione aziendale: qualità, sicurezza e ambiente.

Supervision More than 30 Bachelor's and Master's dissertations; supervision of 9 PhD students (cycles XXXVI–XLII, 2020–2029).

PhD students supervised: Lorenzo Dondero (cycle XXXVI): 1 November 2020 – 30 October 2023; Francesca Rispo (cycle XXXVII): 1 November 2021 – 30 October 2024; Giorgia Allaria (cycle XXXVII): 1 January 2022 – 31 December 2024; Federica Robino (cycle XXXVIII): 1 November 2022 – 30 October 2025; Elisabetta Perata (cycle XXXVIII): 1 November 2022 – 30 October 2025; Francesca Tardanico (cycle XXXIX): 1 November 2023 – 30 October 2026; Irene Tommesani (cycle XXXIX): 1 November 2023 – 30 October 2026; Erica Lertora (cycle XL): from 1 November 2024; Matteo Sergiampietri (cycle XLII): 1 November 2026 – 30 October 2029.

PhD Programme Board Member of the Academic Board of the STAT PhD Programme, University of Genoa (since 2019).

2023–2024 — Director, University of Genoa Postgraduate Advanced Course "La valorizzazione dei co-prodotti della pesca e delle industrie ittiche: il fondamento scientifico alla base del progetto EcoeFISHent" (Valorisation of fisheries and fish-industry co-products: the scientific foundations of the EcoeFISHent project).

Institutional Responsibilities and Scientific Advisory Roles

2025–present — Vice-President, Italian 3Rs Centre (Centro 3R)

2023–present — Member, NAMs Advisory Board, CTPA (United Kingdom)

2022–2024 — Member, Scientific Advisory Board, Horizon 2020 ASINA project

2026–present — Regione Liguria Regional Working Group PP9 Environment, Climate and Health; DISTAV representative.

2026–present — Member, Joint Teaching–Student Committee (Commissione Paritetica Docenti-Studenti) University of Genoa, School of Mathematical, Physical and Natural Sciences.

2025–present — Co-Responsible, University of Genoa One Health Research Infrastructure "Ambiente e Salute con Approccio One Health".

COST Action IMPROVE (CA21139), 21 October 2022 – 20 October 2026 General Assembly member; dates refer to the official duration of the Action.

2023 — ONTOX Stakeholder Network First stakeholder meeting, Brussels; co-author of the resulting published scientific report.

Invited Lectures and Selected Scientific Talks

2026 — 5th National SIPNEI Congress, Rome, 2–4 October 2026 Invited lecture: Cosmetici e interferenti endocrini.

2025 — 15th BioDetectors Conference, Genoa, 26–27 June 2025 Endocrine Disruptors, Polyphenols, and Hormonal Modulation in Hepatic Steatosis Models and Skin Applications.

2024 — Non-Animal Approaches in Biomedical Education, Sarajevo, 14–15 November 2024 Testing Safety and Efficacy of Cosmetic Products by Means of 2D and 3D Cellular Models.

2024 — SMART CIRCUIT, Genoa, 10 April 2024 Good Practices for Sustainability in Cosmetics.

2024 — CRCC2024, Brussels, 26–27 February 2024 New Generation Risk Assessment.

2023 — BIOLIG / Bioeconomy Day, Alessandria, 25 May 2023 Valorizzazione dei sottoprodotti della pesca in ambito ligure.

2023 — CRCC2023, Brussels, 2–3 February 2023 Sustainable Cosmetics – A Case Study: The EcoeFISHent Project.

2022 — Ulysseus International Summer School, Innsbruck, 12–16 September 2022 Two scientific presentations, including one on EcoeFISHent.

2022 — CRCC2022, online, 2–3 February 2022 Innovative In Vitro Strategy for Assessing Aluminium Bioavailability of Oral Care Cosmetics.

2021 — CRCC2021, online, 26–27 January 2021 Endocrine Disruptors in Cosmetic Products: Evaluation of Safety of Daily Exposure to the Invisible Enemy.

2019 — CRCC2019, Brussels, 28–29 October 2019 Endocrine Disruptors: Unknown and Unwanted Human Exposure to Exogenic Hormones.

Selected Oral Communications and Workshops

2024 — FEPS and Spanish Society of Physiology Congress, Granada, 4–6 September 2024 Skin Homeostasis and Sustainable Cosmetic Products. Symposium co-chair with Arti Ahluwalia.

2024 — 14th BioDetectors Conference, Amsterdam, 27–28 June 2024 Evaluation of the Effects of Phytoestrogens on 3D Skin Models: Friend or Foe? (presented by Francesca Rispo).

2024 — 22nd ESTIV Congress, Prague, 3–6 June 2024 Evaluation of Physiological Repeated Exposure of Aluminum in a 3D Intestinal Tissue (presented by Giulia De Negri Atanasio).

2023 — European Congress of Marine Biotechnology, Málaga, 21–24 November 2023 Benzophenone-3: Remediation with Microalgae and the Following Investigation of Endocrine Disruptor Potential (presented by Giulia De Negri Atanasio).

2022 — 6th International Cosmetics Congress, Belek (Antalya), 1–3 December 2022 Workshop: ToxTool: A New Advanced Toxicological Database for Safety Assessment (with Matteo Zanotti Russo).

2022 — 21st ESTIV Congress, Barcelona–Sitges, 21–25 November 2022 Two Steps Approach for Investigating Bioavailability of Aluminium in Accidentally Ingested Oral Care Products.

2021 — 13th Societas Herpetologica Italica Congress, Lipari, 22–26 September 2021 Skin Amphibian Peptides: More Than Short Proteins.

2018 — 12th Societas Herpetologica Italica Congress, Rende, 1–5 October 2018 Batrachochytrium salamandrivorans in Europe: The Italian Contribution to the International Mitigation Project.

2013 — SIF–ESCPB Workshop, Portonovo (Ancona), 18–20 September 2013 Thyromimetic Effects of Tetrabromobisphenol A (TBBPA) on Lipid Metabolism in Steatotic FaO Rat Hepatoma Cells.

2011 — 62nd Italian Society of Physiology Congress, Sorrento, 25–27 September 2011 3,5-Diiodo-L-thyronine (T2) Modulates the Expression of Genes of Lipid Metabolism in a Rat Model of Fatty Liver.

2010 — 83rd SIBS Congress, Genoa, 21–23 October 2010 Effetti antisteatosici della T2 su colture primarie di epatociti di ratto.

2010 — 83rd SIBS Congress, Genoa, 21–23 October 2010 Effetti di distruttori endocrini sull'accumulo lipidico in epatociti di ratto.

2010 — 61st Italian Society of Physiology Congress, Varese, 15–17 September 2010 Hypolipemic Effect of Iodothyronines in Adult Rat Fatty Hepatocytes.

2008 — 59th Italian Society of Physiology Congress, Cagliari, 17–19 September 2008 Direct Effects of 3,5-Diiodo-L-thyronine (T2) on Fat Accumulation in Rat Hepatocytes.

2005 — Conference on New Frontiers in Microbiology and Infection, Villars-sur-Ollon, 4–8 September 2005 Comparison of 19 Commensal Human and Animal Escherichia coli Genomes Using Oligoarrays.

2005 — 3rd SWIMM Workshop, Zurich, 15–17 March 2005 Genomics and Epidemiology of Escherichia coli Using Microarrays.

2001 — INBB Workshop, Bressanone, 6–8 September 2001 Mutagenesi e caratterizzazione strutturale della subunità alfa dell'enzima protein-chinasi CK2 umana, con particolare rilievo al rapporto struttura/funzione.

1998 — Italian Society of Biochemistry Congress, Pavia, 15 May 1998 A HIF-1α Homologue in Saccharomyces cerevisiae.

Scientific Conference Organisation and Professional Training

2025 — CTPA Practical Course: NAMs and NGRA for Chemical Safety Assessment London, 29 September 2025; attendee.

2025 — COST Action IMPROVE: 3Rs Centres Workshop University of Genoa, 17–18 September 2025; local organiser.

2025 — 15th BioDetectors Conference Genoa, 26–27 June 2025; organising committee member.

2025 — Summer School: Advances in Biomedical Sciences: Human and Environmental-Related Research and Testing Organiser and lecturer.

2024 — FEPS Congress, Granada 4–6 September 2024; symposium co-chair with Prof. Arti Ahluwalia: New In Silico and In Vitro Approach Methodologies for Designing Physiologically Relevant Models of Human Tissues.

2023 — CTPA Practical Course: NGRA and NAMs – Meet the Experts! London, 21 June 2023; attendee.

2021 — Horizon 2020 EcoeFISHent Project Kick-off Meeting University of Genoa, November 2021; local organiser.

2018 — 19th SIICS Congress Genoa, 7–9 February 2018; organising committee member.

2004 — Swiss Society for Microbiology Congress Lugano, 11–12 March 2004; member of the organising team.

Third Mission, Public Engagement and Knowledge Transfer

2026 — Documentary and Festival della Comunicazione di Camogli: Elia: un racconto di mare per il mare Camogli, 11 September 2026; documentary contributor and panellist.

2026 — Accelerare l'Innovazione: Le Infrastrutture di Ricerca UniGe, strumenti e competenze per il tessuto produttivo University of Genoa, 17 June 2026; representative of the research infrastructure "Ambiente e Salute con Approccio One Health".

2026 — Public Seminar: Dal mare alla pelle: una nuova filiera circolare per la cosmesi sostenibile Teatro Carlo Felice, Genoa, 7 June 2026; speaker.

2026 — DISTAV Research and Technology Transfer Day University of Genoa, 20 January 2026; speaker on Horizon research projects.

2025 — Circular Value Forum Genoa, 9 April 2025; invited speaker.

2024 — Conference on Circular Industry Futures SMART CIRCUIT Project, Genova Blue District, 10 April 2024.

2024 — Waste Management Europe (WME) Bergamo, 9 April 2024; Theatre Zone speaker.

2023 — Festival della Scienza: Anche nel mare lasciamo impronte G. Doria Natural History Museum, Genoa, 27 October 2023; panellist.

2023 — The Ocean Race Genova: Ocean Live Park Genoa, 1 July 2023; speaker.

2022 — Blue Sea Land: Sustainable Bioeconomy for the Regeneration of Land and Sea Mazara del Vallo, 8 December 2022; panellist.

2022 — Vivi l'esperienza sostenibile: scoprire, provare, essere Genoa Chamber of Commerce, 30 November 2022; invited speaker.

2022 — Regione Liguria: Research Contributions to Combating the COVID-19 Pandemic Regione Liguria, Genoa, 1 March 2022; speaker on wastewater monitoring.

2021–2027 — EcoeFISHent, Horizon 2020 Green Deal Project Scientific coordination, dissemination and knowledge transfer.

2020–2021 — ARPAL: Molecular Biology Laboratory for Environmental Surveillance Scientific and technical support for establishing the ARPAL Liguria laboratory; collaboration from 1 October 2020 to 11 June 2021.

Editorial Activities

2020–2021 — Guest Editor, Molecules Special Issue.

2020–2021 — Guest Editor, Frontiers in Endocrinology Research Topic.

2019 — Guest Editor, Nutrients Special Issue.

2018 — Review Editor, Frontiers in Physiology, Redox Physiology (former role; end date unspecified).

2016 — Editorial Board Member, BioMed Research International, Hepatology (former role; end date unspecified).

Scientific Publications and Bibliometric Indicators

Scopus Profile (30 October 2026) 79 indexed documents; 1,868 citations; h-index 29. Scopus ID 8322183600; ORCID 0000-0003-4439-4059.

Selected publications in which Elena Grasselli is first or last author (reverse chronological order). The full publication list is available via the Scopus Author ID.

- 2026 — Repeated aluminum ingestion alters human intestinal structure: focus on advanced 3D tissue models. Pflügers Archiv – European Journal of Physiology, 478(7), 61. (last author)
- 2025 — Effects of a single application of hydrolyzed fish collagen on dermal protein expression and tissue architecture in human skin models. Scientific Reports, 15, 29391. (last author)
- 2023 — An extensive review on phenolic compounds and their potential estrogenic properties on skin physiology. Frontiers in Cell and Developmental Biology, 11, 1305835. (last author)
- 2022 — Innovative In Vitro Strategy for Assessing Aluminum Bioavailability in Oral Care Cosmetics. International Journal of Environmental Research and Public Health, 19(15), 9362. (last author)
- 2012 — 3,5-Diiodo-L-thyronine modulates the expression of genes of lipid metabolism in a rat model of fatty liver. Journal of Endocrinology, 212(2), 149–158. (first author)
- 2004 — C-terminal region of protein kinase CK2α: How the structure can affect function and stability of the catalytic subunit. Journal of Cellular Biochemistry, 92(2), 270–284. (first author)
- 2003 — Expression, purification and characterisation of a novel mutant of the human protein kinase CK2. Molecular Biology Reports, 30(2), 97–106. (first author)

Language Skills

Italian (native); English (C1 listening, reading and writing; B1 speaking); French (A2, writing A1).