Diego Cotella

Curriculum vitae

PERSONAL DATA

Born in Ovada (Italy) in 1974
Living in Novara

BIO AND EDUCATION

1987 – 1993	Secondary School Diploma in Mechanical Engineering, ITIS "C.Barletti", Ovada
1993 – 1999	*Laurea* (MSc) in Biology, *Università del Piemonte Orientale* (UPO) Alessandria
2000 – 2003	Doctorate (PhD) in Environmental Sciences, UPO Alessandria
1999 – 2002	*R&D staff scientist*, Innosense srl, Colleretto Giacosa
2004 – 2006	Postdoctoral researcher, Dresden University of Technology (Germany)
2006 - 2010	Research Associate (*Assegnista di Ricerca*), UPO Novara
2010 – 2011	Postdoctoral researcher, University of Medicine and Dentistry of New Jersey (UMDNJ), Piscataway (USA)

UNIVERSITY CAREER

2021 to date	Associate Professor in Cell and Experimental Biology (BIOS-10/A), UPO
2010 – 2021	Assistant Professor in Experimental Biology (BIO/13), UPO
2006 - 2010	Contract professor, Recombinant DNA Technologies, UPO

UNIVERSITY POSITIONS

2023 to date	Thesis Advisory Committee member, PhD Program "*Food, health & longevity studies*"
2023 to date	Delegate of the International Relations for the School of medicine
2015 to date	Member, State exam and Graduation Commission of the Degrees in Physiotherapy, Biotechnology, Medical Biotechnology, Nursing
2022-2024	Departmental delegate for the University Orientation Programs
2011 - 2018	Thesis Advisory Committee member, PhD Program "Biotechnologies for the Human Health" and Science and Medical Biotechnologies"

TEACHING

2025 to date	Biology (pre-Med course)
2021 to date	Synthetic Biology (MSc Medical Biotechnology)
2019 to date	Biology (BSc in Nursery)
2015 to date	Cell Biology (BSc in Biotechnology)
2011 to date	Applied Biology (BSc in Healthcare Professions)
2006 – 2010	Laboratory of Recombinant DNA technology (BSc in Biotechnology)

THIRD MISSION (ORIENTATION, PUBLIC ENGAGEMENT, ETC.)

2022 to date	University Representative for UniStem
2020 – 2022, 2025	Departmental Representative for "European Researchers' Night"
2019 to date	Teacher, "Scientific Degrees" project. Seminars for high school teachers
2016 to date	Teacher, educational workshops for high schools and "Soft Skills and Orientation Pathways" (PTCO)
2012 – 2024	Departmental Representative for Orientation
2011 – 2024	Teacher, preparation courses for entrance tests in Medicine and Health Professions

SCIENTIFIC MEMBERSHIP

2012 to date	Member, the Italian association of Biotechnologists
2013 to date	Member, the Italian society of Biophysics and Molecular Biology (SIBBM)
2012 to date	Member, the Italian Association of Biology and Genetics (AIBG)

Awards

2019	National Scientific Habilitation to Associate Professor in Molecular Biology (BIO/11)
2016	National Scientific Habilitation to Associate Professor in Applied Biology (BIO/13)
2006	EU Marie European Reintegration Grant (ERG)
2004-2006	EU Marie Curie Host Development Program Postdoctoral Fellowship
2000-2002	PhD Fellowship from the *Fondazione per le Biotecnologie* (Turin)

MAIN FIELDS OF INTEREST

1. Long non-coding RNAs (lncRNAs)
2. Biomolecular interactions
3. Cell biotechnology
4. Phage display
5. Microbial engineering and living therapeutics

CURRENT RESEARCH FOCUS

1. The non-coding genome and the Long noncoding RNAs (lncRNAs)
The discovery of long noncoding RNA (lncRNA) represents a significant advance in cell biology. Our goal is to develop new tools to study the interaction between lncRNA and proteins, to understand their function. To this end, we focus on SINEUP, a family of natural antisense (NAT) lncRNAs, whose effect is to promote the translation of specific target mRNAs. Understanding the interaction between proteins and SINEUP could greatly enhance our understanding of the molecular activity of SINEUP.

2. Engineering cell factories for the sustainable production of biopharmaceuticals.
Recombinant proteins are fundamental resources for basic and applied research, as well as for biotechnological applications. They can be produced in a variety of expression systems although mammalian cells are the first choice when post-translational processing is required for function. This project aims at engineering CHO (Chinese Hamster Ovary) and other mammalian cells, to develop novel cell lines capable to produce proteins at elevated level. To this regard, I use my expertise to design, validate and finally apply the SINEUP^{TM} and other genetic tools to engineer mammalian cell factories to improve the production processes of recombinant proteins.

3. Engineering a new generation of live microbial therapeutics for human disease intervention.
A growing body of research highlights the critical role of microbes in human health and disease, opening new avenues for therapeutic intervention. This project explores the development of engineered live biotherapeutics, non-pathogenic bacteria modified through synthetic biology to detect environmental cues, degrade harmful compounds, and deliver targeted therapies. By addressing key metabolic and immunological pathways implicated in disease, these living medicines offer a promising approach to conditions with significant unmet clinical needs. The research also considers essential design, regulatory, and patient-centred factors for advancing these therapies toward clinical application.

CURRENT FUNDED PROJECTS

FUNDING PROGRAM	TITLE OF THE PROJECT
2023 – Italian Ministry of University and Research (PRIN 2022 PNRR call)	Decoding dysfunctional RNA transcription and processing by dominant haploinsufficiency in autism spectrum disorders (ASD): rescue by SINEUP translational regulators

2023 – Italian Autism Foundation (FIA) (2022 call)	SINEUP RNAs: a novel RNA molecule platform for the treatment of haploinsufficiency in autism spectrum disorders (ASD).

TOP FIVE PAPERS

1] Morra M, Marradi D, Gandini L, Ivagnes V, Ottolini G, Bovio A, Jabali G, Maraschi L, Ayomide Dada I, Chawanda TV, Gorla M, Tarasiuk O, Mocchetti C, Soluri MF, Boccafoschi F, Sblattero D, **Cotella D** (2025). A non-hypothesis-driven practical laboratory activity on functional metagenomics:"fishing" protein-coding DNA sequences from microbiomes. *Front Bieng Biotech* 13, https://doi.org/10.3389/fbioe.2025.1602982

2] Espinoza S, Bon C, Valentini P, Pierattini B, Tettey Matey A, Damiani D, Pulcrano S, Sanges R, Persichetti F, Takahashi H, Carninci P, Santoro C, **Cotella D**, Gustincich S (2021). SINEUPs: a novel toolbox for RNA therapeutics. *Essays Biochem* EBC20200114; https://doi/doi: 10.1042/EBC20200114

3] Fasolo F, Patrucco L, Volpe M, Bon C, Peano C, Mignone F, Carninci P, Persichetti F, Santoro C, Zucchelli S, Sblattero D, Sanges R, **Cotella D***, Gustincich S*. The RNA-binding protein ILF3 binds to transposable elements sequences in SINEUP lncRNAs. *FASEB J,* 33(12):13572-13589. DOI: 10.1096/fj.201901618RR

4] Patrucco L, Peano C, Chiesa A, Guida F, Luisi I, Boria I, Mignone F, De Bellis G, Zucchelli S, Gustincich S, Santoro C, Sblattero D, **Cotella D**. (2015) Identification of novel proteins binding the AU-rich element of α-prothymosin mRNA through the selection of open reading frames (RIDome). RNA Biol. 12(12):1289-300. doi: 10.1080/15476286.2015.1107702.

5] Patrucco L, Peano C, Chiesa A, Guida F, Luisi I, Boria I, Mignone F, De Bellis G, Zucchelli S, Gustincich S, Santoro C, Sblattero D, **Cotella D** (2015). Identification of novel proteins binding the AU-rich element of α-prothymosin mRNA through the selection of open reading frames (RIDome). *RNA Biol*. 12(12):1289-300. doi: 10.1080/15476286.2015.1107702.