CURRICULUM VITAE

FIRST AND LAST NAME: FEDERICA CENTOFANTI

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ACADEMIC BACKGROUND

Bachelor's Degree in Biotechnology – Graduated on 12/01/2012 from Sapienza University of Rome with a final grade of 98/110. Thesis title: *"Use of chromatin immunoprecipitation to evaluate the effect of histone-demethylase JHD2 on H3 histone methylation"*.

Master's Degree in Genomic Biotechnology (Class LM-8) – Graduated on 18/07/2013 from Sapienza University of Rome with a final grade of 110/110 *cum Laude*. Thesis title: *"Role of the CSN5 subunit of the COP9-signalosome complex in Saccharomyces cerevisiae"*.

State Examination for the License to Practice as a Biologist – Passed in the November 2013 session at Sapienza University of Rome.

Level II Master's Degree in Forensic Genetics – Graduated on 12/12/2014 from the University of Rome "Tor Vergata" with a final grade of 110/110 *cum Laude*.

Registration in the Professional Register of Biologists – Registered from 29/01/2015 to present.

Ph.D. in Medical Biotechnology and Translational Medicine – Obtained on 03/12/2020 from the University of Rome "Tor Vergata" with a final evaluation of Excellent *cum Laude*. Thesis title: *"Cellular Retinol Binding Protein-1 expression in lung carcinoma"*.

Specialisation in Medical Genetics – Obtained on 15/01/2025 from the University of Rome "Tor Vergata" with a final grade of 50/50 *cum Laude*. Thesis title: *"Characterisation of Full-length CNBP-Expanded Alleles in Myotonic Dystrophy Type 2 Patients by Long Read Sequencing (LRS)"*.

PROFESSIONAL, HEALTHCARE, AND ACADEMIC EXPERIENCE

01/09/2026 – Present: Tenure Track Assistant Professor (RTT) in Anatomic Pathology at UniCamillus – Saint Camillus International University of Health Sciences, Rome, Italy.

26/01/2026 – 06/09/2026: Guest Editor for the topic: *"Genetics and Epigenetics in Neurodevelopmental and Neurodegenerative Disorders"* for the journal *Frontiers in Aging Neuroscience*.

15/11/2024 – 14/11/2025: Postdoctoral Research Fellow in Medical Genetics on the project: *"MNESYS – A multiscale integrated approach to the study of the nervous system in health and disease"* (EU - PNRR – Extended Partnership PE12 “MNESYS” - CUP: E83C22004710001) at the Medical Genetics Laboratory, University of Rome "Tor Vergata".

30/12/2020 – 15/01/2025: Medical Genetics Resident involved in the study and genetic diagnosis of Myotonic Dystrophy Types 1 and 2, the two main forms of non-dystrophic myotonia, and the application of third-generation sequencing platforms for patients with Myotonic Dystrophy and Beckwith-Wiedemann syndrome, at the Medical Genetics Laboratory of the University of Rome "Tor Vergata" and the Functional Genomics Laboratory of the University of Verona.

27/06/2024 – 20/06/2025: Guest Editor for the Special Issue *"Biological and Pharmacological Research on Indole-3-Carbinol (I3C) and Its Derivatives"* for the journal *MDPI-Pharmaceuticals* (ISSN 1424-8247).

15/01/2023 – 14/01/2024: Postdoctoral Research Fellow in Medical Genetics on the project: *"Genetic and immunological determinants of clinical manifestations and SARS-CoV-2 infection"* (EU- HORIZON 2020 - UNDINE - CUP: E53C21000100006) at the Medical Genetics Laboratory, University of Rome "Tor Vergata".

01/12/2021 – 30/11/2022: Postdoctoral Research Fellow in Medical Genetics on the project: *"Identifying and characterizing genomic biomarkers to be used in the clinical management and treatment of SARS-CoV-2 infected individuals"* at the Medical Genetics Laboratory, University of Rome "Tor Vergata".

01/11/2017 – 03/12/2020: Ph.D. Student in Medical Biotechnology and Translational Medicine involved in a lung carcinoma project focusing on non-small cell lung cancer (NSCLC), evaluating the impact of retinoids on biomolecular mechanisms associated with the disease to explore new therapeutic avenues at the Anatomic Pathology Laboratory, University of Rome "Tor Vergata".

01/09/2016 – 01/09/2017: Research Fellow in Medical Genetics on the project *"Study of lncRNA expression profile and target prediction analysis through the use of various bioinformatic tools"* at the Medical Genetics Laboratory, University of Rome "Tor Vergata".

02/03/2015 – 19/06/2017: Postgraduate Internship in Forensic Genetics at the Forensic Genetics Laboratories, University of Rome "Tor Vergata".

13/10/2014 – 31/08/2016: Postgraduate Internship in Medical Genetics at the Medical Genetics Laboratory, University of Rome "Tor Vergata".

TEACHING EXPERIENCE

Subject Matter Expert (Cultore della materia) for the Medical Genetics module (MED-03) in the Master's Degree Course in Medical Biotechnology for Academic Years 2022-23 and 2024-25 at the University of Rome "Tor Vergata".

01/03/2016 – 31/03/2016: Tutoring activities for practical exercises in the Level II Master's Program in *"Personalized Nutrition: Molecular and Genetic Bases"* at the University of Rome "Tor Vergata".

PUBLICATIONS

Santoro, M., Fontana, L., Maiorca, F., **Centofanti, F**., Massa, R., Silvestri, G., Novelli, G., & Botta, A. (2018). Expanded [CCTG]n repetitions are not associated with abnormal methylation at the CNBP locus in myotonic dystrophy type 2 (DM2) patients. *Biochimica et Biophysica Acta (BBA) - Molecular Basis of Disease*, 1864(3), 917–924. https://doi.org/10.1016/j.bbadis.2017.12.037

Scimeca, M., **Centofanti, F**., Celi, M., Gasbarra, E., Novelli, G., Botta, A., & Tarantino, U. (2018). Vitamin D Receptor in Muscle Atrophy of Elderly Patients: A Key Element of Osteoporosis-Sarcopenia Connection. *Aging and Disease*, 9(6), 952–964. https://doi.org/10.14336/AD.2018.0215

Costanza, G., Doldo, E., Ferlosio, A., Tarquini, C., Passeri, D., Cascella, R., Bavetta, M., Di Stefani, A., Bonifati, C., Agostinelli, S., **Centofanti, F**., Giardina, E., Campione, E., Bianchi, L., Donati, P., Morrone, A., & Orlandi, A. (2018). Expression and potential role of cellular retinol binding protein I in psoriasis. *Oncotarget*, 9(95), 36736–36749. https://doi.org/10.18632/oncotarget.26314

Centofanti, F., Santoro, M., Marini, M., Visconti, V. V., Rinaldi, A. M., Celi, M., D'Arcangelo, G., Novelli, G., Orlandi, A., Tancredi, V., Tarantino, U., & Botta, A. (2020). Identification of Aberrantly-Expressed Long Non-Coding RNAs in Osteoblastic Cells from Osteoporotic Patients. *Biomedicines*, 8(3), 65. https://doi.org/10.3390/biomedicines8030065

Santoro, M., Nociti, V., Lucchini, M., Loiodice, M., **Centofanti, F**., Botta, A., Losavio, F. A., De Fino, C., & Mirabella, M. (2020). A pilot study of lncRNAs expression profile in serum of progressive multiple sclerosis patients. *European Review for Medical and Pharmacological Sciences*, 24(6), 3267–3273. https://doi.org/10.26355/eurrev_202003_20694

Scioli, M. G., Storti, G., D'Amico, F., Rodríguez Guzmán, R., **Centofanti, F**., Doldo, E., Céspedes Miranda, E. M., & Orlandi, A. (2020). Oxidative Stress and New Pathogenetic Mechanisms in Endothelial Dysfunction: Potential Diagnostic Biomarkers and Therapeutic Targets. *Journal of Clinical Medicine*, 9(6), E1995. https://doi.org/10.3390/jcm9061995

Ferlosio, A., Doldo, E., Agostinelli, S., Costanza, G., **Centofanti, F**., Sidoni, A., & Orlandi, A. (2020). Cellular retinol-binding protein 1 transfection reduces proliferation and AKT-related gene expression in H460 non-small lung cancer cells. *Molecular Biology Reports*, 47, 8981–8988. https://doi.org/10.1007/s11033-020-05744-5

D'Amico, F., Doldo, E., Pisano, C., Scioli, M. G., **Centofanti, F**., Proietti, G., Falconi, M., Sangiuolo, F., Ferlosio, A., Ruvolo, G., & Orlandi, A. (2020). Specific miRNA and Gene Deregulation Characterize the Increased Angiogenic Remodeling of Thoracic Aneurysmatic Aortopathy in Marfan Syndrome. *International Journal of Molecular Sciences*, 21(18), E6886. https://doi.org/10.3390/ijms21186886

Campione, E., Gaziano, R., Doldo, E., Marino, D., Falconi, M., Iacovelli, F., Tagliaferri, D., Pacello, L., Bianchi, L., Lanna, C., Aurisicchio, L., **Centofanti, F**., Di Francesco, P., Del Principe, I., Del Bufalo, F., Locatelli, F., Pistoia, E. S., Marra, E., & Orlandi, A. (2020). Antifungal effect of all-trans retinoic acid against Aspergillus fumigatus in vitro and in a pulmonary aspergillosis in vivo model. *Antimicrobial Agents and Chemotherapy*, 65(1), e01874-20.https://doi.org/10.1128/AAC.01874-20

Visconti, V. V., **Centofanti, F**., Fittipaldi, S., Macrì, E., Novelli, G., & Botta, A. (2021). Epigenetics of Myotonic Dystrophies: A Minireview. *International Journal of Molecular Sciences*, 22(22), 12594. https://doi.org/10.3390/ijms222212594

Ceccarini, M. R., Fittipaldi, S., Ciccacci, C., Granese, E., **Centofanti, F**., Dalla Ragione, L., Bertelli, M., Beccari, T., & Botta, A. (2022). Association Between DRD2 and DRD4 Polymorphisms and Eating Disorders in an Italian Population. *Frontiers in Nutrition*, 9, 838177.https://doi.org/10.3389/fnut.2022.838177

Spitalieri, P., **Centofanti, F**., Murdocca, M., Scioli, M. G., Latini, A., Di Cesare, S., Citro, G., Rossi, A., Orlandi, A., Miersch, S., Sidhu, S. S., Pandolfi, P. P., Botta, A., Sangiuolo, F., & Novelli, G. (2022). Two Different Therapeutic Approaches for SARS-CoV-2 in hiPSCs-Derived Lung Organoids. *Cells*, 11(7), 1235. https://doi.org/10.3390/cells11071235

Alfano, M., De Antoni, L., **Centofanti, F**., Visconti, V. V., Maestri, S., Degli Esposti, C., Massa, R., D'Apice, M. R., Novelli, G., Delledonne, M., Botta, A., & Rossato, M. (2022). Characterization of full-length CNBP expanded alleles in myotonic dystrophy type 2 patients by Cas9-mediated enrichment and nanopore sequencing. *eLife*, 11, e80229. https://doi.org/10.7554/eLife.80229

Centofanti, F., Alonzi, T., Latini, A., Spitalieri, P., Murdocca, M., Chen, X., Cui, W., Shang, Q., Goletti, D., Shi, Y., Duranti, A., Tomino, C., Biancolella, M., Sangiuolo, F., Capobianchi, M. R., Jain, S., Novelli, G., & Pandolfi, P. P. (2022). Indole-3-carbinol in vitro antiviral activity against SARS-Cov-2 virus and in vivo toxicity. *Cell Death Discovery*, 8(1), 491. https://doi.org/10.1038/s41420-022-01280-2

Centofanti, F., Buono, A., Verboni, M., Tomino, C., Lucarini, S., Duranti, A., Pandolfi, P. P., & Novelli, G. (2023). Synthetic Methodologies and Therapeutic Potential of Indole-3-Carbinol (I3C) and Its Derivatives. *Pharmaceuticals*, 16(2), 240. https://doi.org/10.3390/ph16020240

Visconti, V. V., Macrì, E., D'Apice, M. R., **Centofanti, F**., Massa, R., Novelli, G., & Botta, A. (2023). In Cis Effect of DMPK Expanded Alleles in Myotonic Dystrophy Type 1 Patients Carrying Variant Repeats at 5' and 3' Ends of the CTG Array. *International Journal of Molecular Sciences*, 24(12), 10129. https://doi.org/10.3390/ijms241210129

Murdocca, M., Citro, G., Centanini, E., Giannini, R., Latini, A., **Centofanti, F**., Piano Mortari, E., Cocciadiferro, D., Novelli, A., Bernardini, S., Novelli, G., & Sangiuolo, F. (2023). COVID-19: S-Peptide RBD 484-508 Induces IFN-γ T-Cell Response in Naïve-to-Infection and Unvaccinated Subjects with Close Contact with SARS-CoV-2-Positive Patients. *Viruses*, 15(7), 1417. https://doi.org/10.3390/v15071417

Campione, E., Di Prete, M., Costanza, G., Saggini, A., Agostinelli, S., Terrinoni, A., **Centofanti, F**., Rapanotti, M. C., Bianchi, L., Ferlosio, A., Scioli, M. G., & Orlandi, A. (2023). Increased Occurrence of Cutaneous Leiomyomas and Dermatofibromas in Patients with Uterine Leiomyomas without Fumarate Hydratase Gene Mutations. *Dermatopathology*, 10(3), 231–243. https://doi.org/10.3390/dermatopathology10030032

Murdocca, M., Romeo, I., Citro, G., Latini, A., **Centofanti, F**., Bugatti, A., Caccuri, F., Caruso, A., Ortuso, F., Alcaro, S., et al. (2024). A Dynamic and Effective Peptide-Based

Strategy for Promptly Addressing Emerging SARS-CoV-2 Variants of Concern. *Pharmaceuticals*, 17(7), 891. https://doi.org/10.3390/ph17070891

Sax, S. L., Centomo, M. L., **Centofanti, F**., Rizzacasa, B., Cox, S., Cox, C., Latini, A., D'Apice, M. R., Mannucci, L., Novelli, G., & Pandolfi, P. P. (2024). The Senolytic Effect of Indole-3-Carbinol (I3C) on Mouse Embryonic (MEF) and Human Fibroblast Cell Lines. *International Journal of Molecular Sciences*, 25(21), 11652. https://doi.org/10.3390/ijms252111652

Latini, A., Spitalieri, P., **Centofanti, F**., Rizzacasa, B., Amatore, D., Grilli, G., De Santis, R., Vaccaro, L., Colona, V. L., Puleri, G., Nardone, A. M., Biancolella, M., Campione, E., Sarmati, L., Rogliani, P., Cacchiarelli, D., Novelli, A., Sangiuolo, F., Lista, F., & Novelli, G. (2025). Modelling severe COVID-19 in TLR3-mutated hiPSCs-derived lung organoids. *Cell Death Discovery*, 12(1), 74. https://doi.org/10.1038/s41420-025-02936-5

Centofanti, F., Visconti, V. V., D'Apice, M. R., Carlomagno, M., Maestri, S., Ciabini, D., Bengala, M., Marchionni, E., Frezza, E., Massa, R., Petrucci, A., Lupidi, F., Pegoraro, E., Siciliano, G., Garibaldi, M., Origone, P., Delledonne, M., Rossato, M., Botta, A., & Novelli, G. (2026). The novel (TCTG)n motif in CNBP expanded alleles: composition, dynamics and genotype-phenotype correlation in Myotonic dystrophy type 2 (DM2). *Human Genomics*, 20(1), 87. https://doi.org/10.1186/s40246-026-00954-7

Rondot, F., **Centofanti, F**., Micaletto, A., Angheben, L., Fontana, F., Rossi, N., Cerrato, F., Pignata, L., Carta, G., Di Tommaso, S., Bontempo, P., Pasini, B., Novelli, A., Mussa, A., Riccio, A., Ferrero, G. B., Brusco, A., & Delledonne, M. (2026). Targeted long-read sequencing with adaptive sampling enables the integrated genomic and epigenomic profiling of imprinting disorders. *Scientific Reports*. https://doi.org/10.1038/s41598-026-59431-9

Centofanti, F., Rizzacasa, B., Latini, A., Biancolella, M., Pocci, M., Servadei, F., Scimeca, M., Mauriello, A., Palyi, B., Deri, D., Novak, B., Kis, Z., Filippone, C., Pandolfi, P. P., & Novelli, G. (2026). Therapeutic Efficacy of Indole-3-Carbinol Against SARS-CoV-2-Induced Acute Respiratory Distress Syndrome: A Dual Antiviral and Anti-Inflammatory Approach in a Golden Syrian Hamster Model. *Journal of Cellular and Molecular Medicine*, 30(13), e71213. https://doi.org/10.1111/jcmm.71213

Spitalieri, P., **Centofanti, F**., Macrì, E., Scioli, M. G., Serafino, A., Rossetti, M., Ciabini, D., Visconti, V. V., Cardani, R., Orlandi, A., Sangiuolo, F., Novelli, G., & Botta, A. Discovery of RAN proteins in DM2 cerebral organoids unveils their co-localisation with hyper-phosphorylated Tau. *Biology Direct*. (Under Revision)

Ferlosio, A., **Centofanti, F**., Doldo, E., Cenci, T., Qordja, M., Rapanotti, M. C., Scioli, M. G., & Orlandi, A. MiRNA-1915-3p dysregulation characterizes aggressive CRBP1-expressing lung adenocarcinoma cells in vitro and in vivo. *Frontiers in Oncology*. (Submitted)

AWARDS

Best Oral Presentation Award – XIII OrtoMed Congress 2018 (Italian Society of Orthopaedics, Medicine, and Rare Skeletal Diseases). Title: *"Identification of the expression*

profile and characterisation of Long Non-Coding RNAs in osteoblasts of patients with osteoporosis".

Best Poster Presentation Award – XXV AIM Congress 2025 (Italian Association of Myology). Title: *"New Method to Identify Myotonic Dystrophy Type 2 Patients Carrying Variant (TCTG)n Repeats at the 3' Ends of the CNBP Expanded Alleles"*.

CONFERENCES

Poster Presentations at the National Congress of the Italian Society of Human Genetics (SIGU):

- **SIGU 2017:** *"Cdx2 and FokI Polymorphisms of the VDR Gene are Associated with Muscle Atrophy and VDR Nuclear Localisation in Osteoporotic Patients"*.
- **SIGU 2018:** *"Identification of Expression Profiling and Characterisation of Long Non-Coding RNA in Osteoblastic cells from osteoporosis patients"*.
- **SIGU 2021:** *"Characterisation of CNBP expansions in Myotonic Dystrophy type 2 patients using Nanopore long-read sequencing"*.
- **SIGU 2022:** *"NGS analysis of CLCN1 and SCN4A for the differential diagnosis of Myotonic Disorders in a cohort of Italian patients"*.
- **SIGU 2024:** *"New Method to Identify Myotonic Dystrophy Type 2 Patients Carrying Variant (TCTG) n Repeats at the 3' Ends of the CNBP Expanded Alleles"*.

Poster Presentations at the European Conference of Human Genetics (ESHG):

- **ESHG 2019:** *"Identification of aberrantly expressed long non-coding RNAs in osteoblastic cells from osteoporotic patients"*.
- **ESHG 2020:** *"Role of Specific micro-RNAs, Cellular Retinol Binding Protein -1 (CRBP1) and Retinoic Acid Receptor (RARα) in Lung Adenocarcinoma"*.

Poster Presentation at the Human Genome Meeting (HGM):

- **HGM 2024:** *"New Method to Identify Myotonic Dystrophy Type 2 Patients Carrying Variant (TCTG) n Repeats at the 3' Ends of the CNBP Expanded Alleles"*.

Poster Presentation at the National Congress of the Italian Association of Myology (AIM):

- **AIM 2025:** *"New Method to Identify Myotonic Dystrophy Type 2 Patients Carrying Variant (TCTG)n Repeats at the 3' Ends of the CNBP Expanded Alleles"*.

Oral Presentations at the National Congress of the Italian Society of Orthopaedics, Medicine, and Rare Skeletal Diseases (OrtoMed):

- **OrtoMed 2017:** *"The vitamin D receptor in muscle atrophy in elderly patients: a key element of connection between sarcopenia and osteoporosis"*.

- **OrtoMed 2018:** *"Identification of aberrantly expressed long non-coding RNAs in osteoblastic cells from osteoporotic patients"*.

Oral Presentation at the National Congress of the Italian Society of Human Genetics (SIGU):

- **SIGU 2025:** *"Use of combined third-generation long-read sequencing (LRS) and PCR-based approaches identifies novel motifs of CNBP expansions in DM2 patients and redefines the DM2 molecular diagnostic workflow"*.

Oral Presentation at the National Congress of the Italian Association of Myology (AIM):

- **AIM 2026:** *"The novel (TCTG)n Motif in CNBP Expanded Alleles: Composition, Dynamics and Genotype-Phenotype Correlation in Myotonic Dystrophy Type 2 (DM2)"*.

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