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| **PERSONAL INFORMATION** | **Marcella Catania** |
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|  | Fondazione IRCCS Istituto Neurologico Carlo Besta  UO Neurology 5 – Neuropathology  Via Amadeo 42, 20133 Milan (Italy) |
| marcella.catania@istituto-besta.it |
| *Gender:* F| *Nationality:* Italian  ORCID: 0000-0003-0370-1905 |

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| **WORK EXPERIENCE** |  |

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| 2019-to date | **Italian NHS Reseacher** |  |
| Laboratory of Genetic and Biochemistry of Dementias, UO Neurology 5 – Neuropathology  Fondazione IRCCS - Istituto Neurologico Carlo Besta, Milan (Italy) | |
| * Study of the molecular basis of dementias * Development of innovative therapeutic strategies for Alzheimer’s Disease | |
| 2019 | **Contract Researcher** |  |
| Laboratory of Genetic and Biochemistry of Dementias, UO Neurology 5 – Neuropathology  Fondazione IRCCS - Istituto Neurologico Carlo Besta, Milan (Italy) | |
| * Study of the role of neurotrophic factors and exosomes in cell and animal models of Alzheimer’s Disease * Generation and characterization of cell models for neurodegenerative diseases | |
| 2016-2019 | **Contract Researcher** |  |
| Laboratory of Genetic and Biochemistry of Dementias, UO Neurology 5 – Neuropathology  Fondazione IRCCS - Istituto Neurologico Carlo Besta, Milan (Italy) | |
| * Extraction and molecular characterization of misfolding proteins associated with dementias * Generation and characterization of cell models of neurodegenerative diseases due to misfolding proteins | |
| 2012-2016 | **Contract Researcher** |  |
| Laboratory of Genetic and Biochemistry of Dementias, UO Neurology 5 – Neuropathology  Fondazione IRCCS - Istituto Neurologico Carlo Besta, Milan (Italy) | |
| * Biochemical and genetic characterization of patients affected by Alzheimer’s and prion diseases * Generation and characterization of cell models of neurodegenerative dementias | |
| 2009-2012 | **Contract Researcher** |  |
| Laboratory of Genetic and Biochemistry of Dementias, UO Neurology 5 – Neuropathology  Fondazione IRCCS - Istituto Neurologico Carlo Besta, Milan (Italy) | |
| * Biochemical and molecular analysis of Alzheimer’s Disease models * Development of a novel therapeutic strategy for Alzheimer’s Disease | |
| 2007-2008 | **Research fellowship** |  |
| UO Neurology 5 – Neuropathology  Fondazione IRCCS - Istituto Neurologico Carlo Besta, Milan (Italy) | |
| * Biochemical and molecular analysis of Alzheimer’s Disease models * Identification and characterization of novel variants in genes associated with dementia | |
| 2006-2007 | **Contract Researcher** |  |
| UO Neurology 5 – Neuropathology  Fondazione IRCCS - Istituto Neurologico Carlo Besta, Milan (Italy) | |
| * Biochemical and molecular analysis of Alzheimer’s Disease models * Identification and characterization of novel variants in genes associated with dementia | |
| 2004-2006 | **Contract Researcher** |  |
| UO Neurology 5 – Neuropathology  Fondazione IRCCS - Istituto Neurologico Carlo Besta, Milan (Italy) | |
| * Transfection of bovine fibroblasts and selection of recombinant clones * Identification and characterization of novel variants in genes associated with dementia | |
| 2002-2004 | **Degree Internship** |  |
| UO Neurology 5 – Neuropathology  Fondazione IRCCS - Istituto Neurologico Carlo Besta, Milan (Italy) | |
| * Generation of a plasmid for the knock-out of the *PRNP* gene * Transfection of bovine fibroblasts and selection of recombinant clones | |

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| **EDUCATION AND TRAINING** |  |

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| 2020-to date | **Post-graduate School in Medical Genetics** |  |
| University of Milan, Milan (Italy) | |
| * Genetics, cellular and molecular biology, bioinformatics | |
| 2016 | **Qualification to the profession of Biologist (Section A)** |  |
| University of Pavia, Pavia (Italy) | |
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| 2009-2012 | **PhD in Translational and Molecular Medicine (DIMET)** |  |
| University of Milano – Bicocca, Monza (Italy) | |
| * Characterization of a genetic variant with anti-amyloidogenic activity and development of a therapeutic strategy for Alzheimer’s Disease | |
| 1998-2004 | **Degree in Medical Biotechnologies** |  |
| University of Milan, Milan (Italy) | |
| * Cell and molecular biology, genetics, chemistry, biochemistry, anatomy, physiology, human pathology, pharmacology, microbiology, diagnosis and gene therapy | |

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| **ACHIEVEMENTS AND AWARD** |  |

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| **Grants** | *The role of the Rho-GTPase proteins in the aetiology of Alzheimer’s Disease* (GR-2011-02348526) Ministero della Salute, Bando Ricerca finalizzata 2011-2012 Giovani Ricercatori. |

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| **TECHNICAL SKILLS** |  |

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|  | ▪ DNA and RNA extraction from blood, tissue, cells.  ▪ DNA and RNA amplification and analysis by PCR, RT-PCR, qPCR, Copy Number Variation  Assay, Sanger sequencing, restriction enzymes, spectrophotometer, Nanodrop and Bioanalyzer, agarose and acrylamide gel electrophoresis, Southern blot.  ▪ Transformation of comptent cells with plasmidic DNA and DNA extraction by minipreps and maxipreps.  ▪ Generation and characterization of cell cultures of human and bovine fibroblasts, as well as of other cell lines (COS, CHO, SH-SY5Y, HeLa, HEK).  ▪ Generation and characterization of cultures of mouse neurons.  ▪ Culture and differentiation of Induced Pluripotents Stem Cells (IPSC).  ▪ Stable and transient transfection of cultured cells by electroporation and liposomes; use of CRISPR/CAS9 technology for the knock-out and knock-in of selected genes; selection and screening of recombinant clones.  ▪ Viability/oxidative stress assays on cell cultures.  ▪ Amyloid extraction and purification from brain tissue and human leptomeninges.  ▪ Proteomic analysis by immunoprecipitation, Dot-Blot, acrylamide gel electrophoresis and  Western blot.  ▪ ELISA.  ▪ Analysis of cell cultures by immunofluorescence.  ▪ Exosome extraction from brain tissue and cell cultures.  ▪ Working experience in Biosafety Level 3 laboratories |