

## PERSONAL INFORMATION

### Federico Cazzaniga

📍 Fondazione IRCCS Istituto Neurologico Carlo Besta  
UO Neurologia 5 - Neuropatologia  
Via Giovanni Celoria, 11 – Milano, 20133

✉ [federico.cazzaniga@istituto-besta.it](mailto:federico.cazzaniga@istituto-besta.it)

Gender: M | Nationality: Italian

ORCID: 0000-0003-3744-7124

## WORK EXPERIENCE

January 2022 - Present

### Italian NHS Researcher

Fondazione IRCCS Istituto Neurologico Carlo Besta, 20133, Milan

- Development of innovative and sensitive tests based on PMCA and RT-QuIC analysis for an early and definitive diagnosis of different types of dementia, including Parkinson's disease (and other synucleinopathies) Prion diseases, Alzheimer's disease, Frontotemporal Dementia, Progressive Supranuclear Palsy and Corticobasal Degeneration, using peripheral tissues such as blood, urine, cerebrospinal fluids and olfactory mucosa.

December 2018 – December 2021

### Researcher

Fondazione IRCCS Istituto Neurologico Carlo Besta, 20133, Milan

- Developing an early diagnostic test using body fluids collected from patients with Parkinson's disease and other synucleinopathies (RT-QuIC analysis)
- Developing an early diagnostic test using Olfactory mucosa samples collected from patients with sporadic Creutzfeldt-Jakob disease (PMCA analysis)

December 2017 – December 2018

### Biologist

Fondazione IRCCS Istituto Neurologico Carlo Besta, 20133, Milan

- Management and analysis of biological samples: "Development of operational research diagnostic criteria for diagnosis of Alzheimer's disease in the preclinical/predementia phase and implementation of SOPs for imaging and CSF biomarkers in Memory Clinics". (NET -2011-02346784).

December 2014 – December 2017

### PhD Student in Clinical and Experimental Medicine

University of Milano, Hospital Santi Paolo e Carlo, 20142, Milan

- Infectious disease - Evaluation of the persistent immune activation and chronic inflammation in HIV-infected individuals on antiretroviral therapy. Analysis of the molecular mechanisms involved in impaired bone mineralization in HIV patients.

January 2014 – December 2014

### Post-graduation Internship

Istituto Auxologico Italiano, 20095, Cusano Milanino

- Cytogenetic analysis techniques in diagnostic field (peripheral blood karyotype analysis).

## EDUCATION AND TRAINING

December 2018 – Present

### Postgraduate School of specialization in Clinical Pathology and Clinical Biochemistry

University of Pavia, Pavia

December 2014 – February 2018

### PhD in Clinical and Experimental Medicine

University of Milano, Hospital Santi Paolo e Carlo, Milan

December 2013

### Biological License

University of Insubria, Varese

March 2013

**Master's Degree in Molecular Biology (LM-6)**

University of Milano-Bicocca, Milan

July 2010

**Bachelor's Degree in Biology (L-13)**

University of Milano-Bicocca, Milan

**ACHIEVEMENTS AND AWARD****Awards  
Awarded fellowships**

Best paper award 2022: Translational Neurodegeneration (PMID: 31406572)

- Immune reconstitution in HIV-positive patients in highly effective antiretroviral treatment. ASST Santi Paolo e Carlo (Division of Infectious and Tropical Diseases), 2017.
- Molecular mechanisms that characterize HIV patients with impaired bone mineralization. ASST Santi Paolo e Carlo (Division of Infectious and Tropical Diseases), 2015-2016.

**TECHNICAL SKILLS**

**Biochemistry:** Tissue homogenization; Protein purification and quantification (BCA); SDS-PAGE and Western blot; Protein Misfolding Cycling Amplification (PMCA) and Real Time Quaking-Induced Conversion (RT-QuIC); Sandwich ELISA; EVs extraction from plasma, CSF and Urine; Basic of Transmission Electron Microscopy analyses (TEM).

**Molecular biology:** DNA and RNA extraction (Trizol or QIAGEN tube extraction) from fresh tissues; PCR and Real time-PCR; DNA purification and enzymatic digestion.

**Immunohistochemical analysis:** Tissue processing; Classical staining; Immunohistochemical stainings on paraffin-embedded sections.

**In vivo bioassay** (mouse): Manipulation; Clinical evaluation; Stereotactic injections; Free-hand injections; Intraperitoneal injections; Intra-cardiac perfusion and necropsy.

**Cell culture and Immunology:** Isolation of primary cells and immortalization cells cultures (monocytes, lymphocytes, fibroblasts, 3T3-L1, glial cells); Flow Cytometry (FACSverse); Advanced knowledge of infectious specimen handling (BLS3 level); Excellent knowledge of Ficoll-Paque technique for PBMC separation from peripheral blood.

**IT:** Able to work with Microsoft Office (Word, Power Point, Excel); Able to work with software for data analysis (GraphPad); Able to work with software BD FACSuite and FlowJo; Able to use Adobe PhotoShop and Gwyddion.

**Language:** Italian (mother tongue), English (B2)