

Curriculum Vitæ



Name and Address Professor Dr. Habil. Cecilia V. Cristea

Group of Biosensors and Bioelectrochemistry, Analytical Chemistry Chair,
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Academic Career:

2023 – Present: Director of the Research Center Bioanalysis and Nanotechnologies BioNanoMed
2019 - Present: Director of the Department Pharmacy I, Faculty of Pharmacy, "Iuliu Hațieganu" University of Medicine and Pharmacy (UMFIH)
2019 – Present: Member of the Doctoral School Council of "Iuliu Hațieganu" University of Medicine and Pharmacy (UMFIH)
2019- Present: Member of the Faculty of Pharmacy Professorial Council, "Iuliu Hațieganu" University of Medicine and Pharmacy (UMFIH)
2017 - Present: Group leader of the Biosensors and Bioelectrochemistry group, Department of Analytical Chemistry, Faculty of Pharmacy, UMFIH
2016 - Present: Full Professor at the Chair of Analytical Chemistry, Faculty of Pharmacy, UMFIH
2012 - 2016: Associate Professor at the Department of Analytical Chemistry, Faculty of Pharmacy, UMFIH
2002 - 2012: Assistant Professor, Lecturer at the Department of Analytical Chemistry, Faculty of Pharmacy, UMFIH
1998 - 2002: Research Assistant at the Francophone Associated Laboratory, Faculty of Chemistry, "Babes Bolyai" University

Academic Training:

- *Undergraduate studies:* **Chemistry** (1992 - 1997) at Faculty of Chemistry and Chemical Engineering, "Babes-Bolyai" University, Cluj-Napoca, Romania and **Pharmacy** (2005 - 2009) at Faculty of Pharmacy, UMFIH, Cluj-Napoca, Romania
- *Master of Science* (1997 - 1998) in Applied Electrochemistry from Faculty of Chemistry and Chemical Engineering, "Babes-Bolyai" University, Cluj-Napoca, Romania.
- *PhD in Chemistry* (1997 - 2003) from University of Rennes 1, Rennes (France) and "Babes Bolyai" University, Cluj-Napoca (Romania); French government Fellowship (2001-2003).
- *Post-Doctoral studies* (2004): postdoctoral researcher at the University of Sherbrook, Quebec, Canada.
- *Habilitation thesis* (June 2015) "Modified electrodes for electrochemical sensor design with applications in pharmaceutical, biomedical and environmental analysis".
- *DAAD Fellowship* (2015) in Analytical Chemistry Department, Group of Electroanalysis and Sensors, Ruhr Bochum University, Germany.

Research Interests:

- design and development of modified electrodes; electrochemical sensors for biomedical and pharmaceutical analysis;
- the development of immunosensors/aptasensors for the detection of cancer biomarkers, drugs, drugs of abuse, pollutants, food allergens and toxins;
- electrochemical detection of pathogen bacteria;
- selection of aptamers through SELEX procedure;
- wearables for health and biomedical applications;

- hybrid sensors (electrochemical and SPR) for cancer biomarkers and antibiotics detection;
- organic electrosynthesis;
- targeted drug delivery through electro-driven techniques.

Scientific experience:

- *Research grants*: member in more than 30, of which 14 as *Principal investigator* ;
- Associate Editor of *Microchemical Journal*; Member of the Editorial Board: *Bioelectrochemistry*; *Chemistry Select*; *Biosensors*; *Sensors*.
- *Publications*: more than 200 full papers (Hirsch index: 42; ORCID ID: 0000-0002-4158-3324); 23 chapters in books published by CRC Press-Taylor and Francis, Elsevier, Springer, Wiley, and 6 books for students;
- *Other contributions*: 5 patents; presentations in national (27) and international conferences (over 100 with 16 invited conferences and keynote lectures, 28 oral presentations and over 70 poster presentations).

Honours and Distinctions:

- The "*In hoc signo vinces*" Award, granted by the National Research Council Scientific Studies in Higher Education – UEFISCDI for young researchers (2006).
- The "*Teodor Goina*" Award of Faculty of Pharmacy for the research activity (2010) and for publishing the chapter in Dekker's Encyclopedia of Nanosciences and Nanomaterials (2014) and for outstanding results in research (2019) granted by UMFIH Cluj-Napoca, Romania.
- The Faculty of Pharmacy Award for Excellence in Scientific Research (2018) granted by UMFIH Cluj-Napoca, Romania.
- "*Gheorghe Spacu*" Diploma of the Romanian Chemical Society for special merits in the Research activity (2019).
- "*George Emil Palade*" Award in Life Sciences of the Romanian Ministry of Research and Innovation (2024).

Scientific organizations membership:

- International Society of Electrochemistry – Regional representative
- Bioelectrochemical Society – Member in the BES Scientific Council
- Romanian Society of Chemistry
- Romanian Society of Pharmaceutical Sciences

Selected publications:

M. Casian, O. Hosu-Stancioiu, I. Manea, M. H. Lobo Castagnon, N. de los Santos Alvarez, C. Cristea, Disposable electrochemical aptasensor for rapid and selective vancomycin detection in clinical samples: Bridging affinity selection, computational modeling and clinical validation, *Analytica Chimica Acta* 2025, 1374, 344519;

M. Irimes, A. Pusta, M. Tertis, A. Tabirta, E. Achim, M. Suiu, C. Leostean, O. Pana, R. Oprean, C. Cristea, Specific Detection of Cortisol in Biological Fluids: A Tailored Electrochemical Aptasensing Approach, *ACS Sensors* 2025, 10(7), 4841–4849;

A. Cernat, A. Groza, M. Tertis, F. Bogdan, O. Hosu-Stancioiu, C. Cristea, Where artificial intelligence stands in the development of electrochemical sensors for healthcare applications-A review, *TrAC Trends in Analytical Chemistry* 2024, 181, 117999;

A. Canciu, A.-M. Tataru, D. Bogdan, A. Cernat, C. Cristea, Label-free aptasensor targeting Staphylococcus aureus surface Protein A, *Microchemical Journal* 2024, 201, 110586;

I. Rus, M. Tertis, A. Pop, I. Fizesan, D. Bogdan, E. Matei, D. Oprea, V. Diculescu, R. Sandulescu, C. Cristea The use of a new selective AB3 aptamer for the hematologic tumor cells' detection, *Sensors and Actuators B Chemical* 2023, 394, 134389.