

## AWARD REQUEST

**The research Group "Biosensors and Bioelectrochemistry" from Discipline of Analytical Chemistry, Pharmacy Department 1, Faculty of Pharmacy, "Iuliu Hatieganu" University of Medicine and Pharmacy Cluj-Napoca, Str. Victor Babes no. 8, 400021 Cluj-Napoca, Romania**

**1. Candidate:**

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Family name: Cristea

PhD since: 2003

Position: Professor, Director of Department

Institution: Iuliu Hatieganu" University of Medicine and Pharmacy Cluj-Napoca

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**2. Edition of the Gala of Romanian Researchers: 2024**

**3. The award and the category for which the application is made:**

**LIFE SCIENCES "GEORGE EMIL PALADE" PRIZE / RESEARCH TEAM**

**4. Leader of the team: Prof. Dr. Cecilia Cristea**

**5. Team members: Lecturer Dr. Mihaela Tertiș ((PhD degree obtained in 2014)**

Lecturer Dr. Andreea Cernat (PhD degree obtained in 2013)

Lecturer Dr. Bogdan Feier (PhD degree obtained in 2013)

Assistant Professor Dr. Oana Hosu-Stăncioiu (PhD degree obtained in 2017)

## Outline

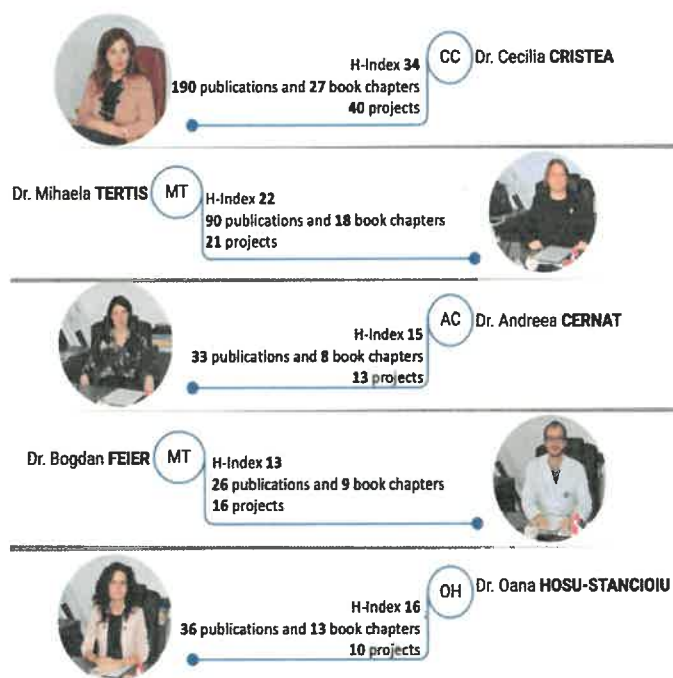
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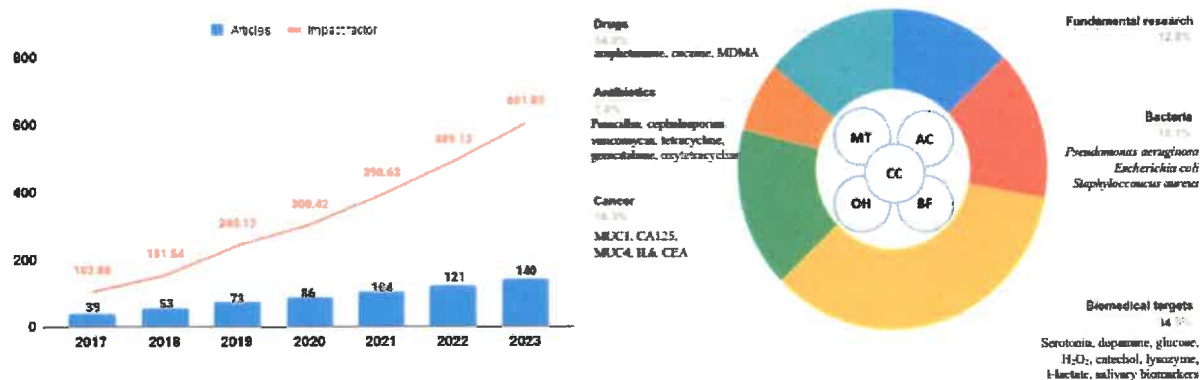
**Prof. Dr. Cecilia Cristea** ([U-1700-035U-3814](#)) is the team leader of Biosensors and Bioelectrochemistry Group (BBG) of the Analytical Chemistry, Department 1, Faculty of

Pharmacy, University of Medicine and Pharmacy "Iuliu Hațieganu" (UMFIH) Cluj Napoca alongside other members: **Lecturer Dr. Mihaela Tertîș** ([U-1700-039U-0807](#)), **Lecturer Dr. Andreea Cernat** ([U-1700-039E-3330](#)), **Lecturer Dr. Bogdan Feier** ([U-1700-032N-0109](#)), and **Assistant Professor Dr. Oana Hosu-Stăncioiu** ([U-1700-037M-6614](#)), 1 Postdoc researcher, 7 PhD students under the supervision of Prof. Dr. Cristea, and 20 undergraduate students engaged in the Scientific Research Group.



**Figure 1.** Meet the team

The central focus of the BBG research activity is to **be in the avant-garde of the rapid detection of various biomedical targets** through integrated, portable electrochemical devices that have the potential to update conventional methods in biomedicine, pharmaceuticals, environmental monitoring, and food safety. While the early stages of the research activity were centered *mainly on fundamental research*, recent years have necessitated the **development of new analysis methods**, yielding results with the *potential for implementation in the biomedical, environmental, and security domains*. The evolution and quality of the results are confirmed by numerous publications in prestigious international journals (**Figure 2**).



**Figure 2.** Publication dynamic of BBG team (cumulative impact factor and number of articles)

The expertise gained through active participation in international consortia validates the quality of multidisciplinary research and, more importantly, the cohesion of the team in critically addressing current topics. BBG has sustained international collaborations with prestigious laboratories in the field of (bio)electrochemistry (**Figure 3**), that have contributed to enhancing the quality of research through training stages, co-supervised doctoral theses, and joint involvement in various international consortia.



**Figure 3.** International collaboration map

In all implementation steps of each project, undergraduate and PhD students have been involved and are contributing to the final outcome. The main goal has been the training of independent researchers with an extensive understanding of the topic, since "the scientific research activity is one of the fundamental components of our university's mission and must be considered an essential producer of excellence", as stipulated in the UMFIH Charter. Several international undergraduate and PhD students, and postdoc researchers from different countries (Iran, Tunisia, France, Algeria, the United Kingdom, the Republic of Moldova, Kazakhstan, Poland, Turkey) have conducted their activities within BBG laboratories, benefiting from AUF, Erasmus+ scholarships, or self-funded initiatives. They have been actively involved and guided in research activities based on their chosen themes, with the results being disseminated through scientific articles and international conferences. The research directions of the BBG are correlated with those mentioned in the CV of Prof. Dr. Cristea and will be detailed underlining the potential impact in the biomedical and food safety domains and the overall visibility (publications and research projects):

1. **Detection of biomarkers and targeted drug delivery** represent consistent research directions of BBG and have been gradually developed over the past 5 years. While the assessment of biomarkers aims to provide insight to early forms of cancer or other systemic/ inflammatory disorders, therapy management, targeted drug delivery involves transporting substances through

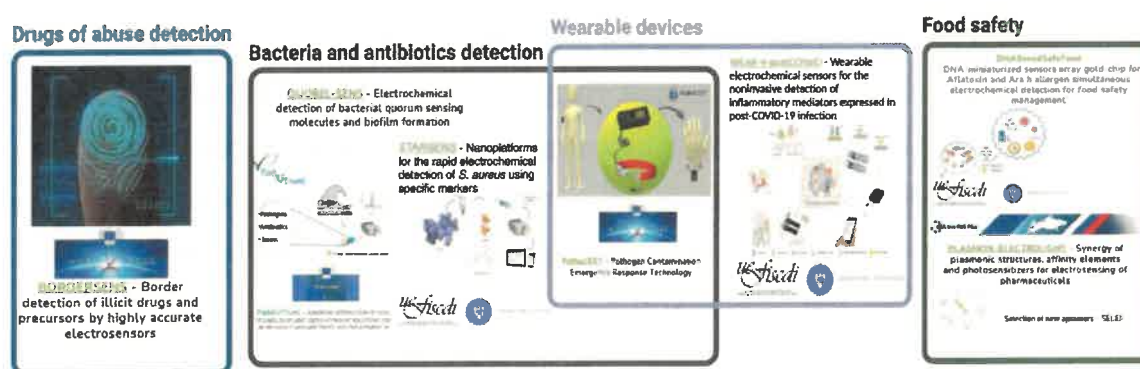
carriers with a high selectivity for specific tissues. The results have been obtained within the framework of (inter)national projects ([Salivages](#), [WEAR-4-postCOVaID](#)) and published in **50 research articles and reviews**.

2. **Rapid detection of bacteria** has a significant impact in the biomedical and food safety domains and has been a major focus of BBG in the last 6 years. Various configurations of nanoplateforms have been successfully tested for the detection of *Pseudomonas aeruginosa*, *Escherichia coli*, and *Staphylococcus aureus*. These results have been obtained within the framework of competitive (inter)national projects won by the research team ([PathoCert](#), [FishEuTrust](#), [QuorelSens](#), [StarSens](#)) and published in **16 research article and reviews** and prove the importance of this research direction, approached by different perspectives.
3. **A related topic is the electrochemical assessment of antibiotics** in pharmaceutical products and biological samples, considering the global context that indicates an increasing antibiotic resistance known as "the silent pandemics" with implications in various domains: biomedical, food-related, economic, and social. The results are encompassed in (inter)national projects ([Plasmon-Electrolight](#), [nSensOFWater](#), [VanGelDet](#)) won by the research team and published in **6 research articles and reviews**.
4. Considering the upward global and national trend, a sustained interest has been directed towards **the detection of substances of abuse**, including New Psychoactive Substances (NPS), with the aim of revolutionizing on-site analysis in situations linked to trafficking and consumption of illicit substances. The results have been generated within the framework of an international project, [BorderSens](#), that reunites an international consortium: universities, national institutes, and law enforcement agencies within the EU. The research has also been supported within a national project PN-III-P3-3.6-H2020-2020-0095 "Drug and precursor detection at border points using precise electrochemical sensors," and published in **12 research articles and reviews**.
5. Considering the evolution of decentralized, portable/wearable devices, numerous **portable sensors** have been developed that are suitable for decentralized analysis, involving miniaturization, reduced analysis time, and cost-effectiveness for all the addressed research topics. **This point is a distinct research trajectory**, building upon the above-mentioned initiatives. It spans from the detection of inflammatory and salivary biomarkers, to the detection of bacteria (on surfaces and blood samples) and the analysis of NPS, where the methodology was applied to actual street samples. *The results encompassing this approach are presented above for each topic.*

Therefore, these results showcase the important research output of the BBG and the fact *that the main research lines are in tune with relevant and impactful societal concerns*.

The ongoing battle against cancer, labeled as a "public health concern" by the World Health Organization (WHO), prioritizes the development of early diagnostic tools and therapeutic management strategies aimed at minimizing side effects. Detection of bacteria through out-of-the box methods and studies addressing antimicrobial resistance are particularly noteworthy, as supported by the WHO alarming statement "The impact of healthcare associated infections and antimicrobial resistance on people's lives is incalculable". Additionally, the detection of NPS outside certified laboratories could have implications for the healthcare system as noted by *The European Monitoring Centre for Drugs and Drug Addiction (EMCCDA)*, which highlights health concerns related to potent substances, market adaptation, and increasing seizures. However, such detection methods could also mitigate security issues associated with trafficking and distribution of these drugs of abuse. The main research activities of BBG received support from both national and international funding sources, facilitating the activities implied.

Despite the fact that the BBG was officially formed in 2017 and has only 5 permanent members (with an average age of 40 years), in 2023, it managed to be simultaneously involved in 3 European projects, 2 "Young researchers team" national projects, as well as in other national projects (see [Annex 2](#)). Not only did the BBG group successfully accomplish every task, but it was appraised by the other partners and acknowledged as an important contributor of the consortia. This has materialized in the invitation to participate in other European projects and 2 proposals have already been submitted and are currently under evaluation. *The total sum of funds attracted within the research group from nationally and internationally won research projects amounts to 2 million EUR and were employed for promoting the growth of young human resource and equipment to improve the infrastructure.* The key projects as well as the research trajectories are illustrated in Figure 4.



**Figure 4.** Key achievements of the BBG depending on the topic and project funding (2019-2023)



## 7. Narrative CV of the team leader and of the team members:

### *Curriculum vitae of Professor Dr. Cecilia Victoria CRISTEA*

**Prof. Dr. Cecilia CRISTEA** ([U-1700-035U-3814](mailto:U-1700-035U-3814), 50 years old) graduated from the Babeş-Bolyai University (UBB), Faculty of Chemistry and Chemical Engineering (1997) and from UMFIH Cluj-Napoca, Faculty of Pharmacy (2009). She earned a M.Sc. in Applied Electrochemistry in 1998 from UBB Cluj-Napoca.

She completed her PhD in Chemistry at the University of Rennes 1, France (French Government scholarship for joint PhD thesis) and UBB Cluj-Napoca (2003), under the supervision of Prof. Dr Claude Moinet and Prof. Dr Cătălin Popescu (joint thesis), acquiring expertise in electrochemistry and organic electrosynthesis.

She worked as a postdoctoral researcher at the University of Sherbrooke, Quebec, Canada, in 2004 with Prof. Jean Lessard, where she increased her knowledge in physical chemistry, organic electrosynthesis and electroanalysis.

She spent 5 months in 2000 at the Joseph Fourier University, Grenoble, in Dr Serge Cosnier's lab, where she acquired expertise in the use of conductive polymers and enzymes for the design and development of biosensors.

In 2015, she spent two months as a DAAD fellow in the Laboratory of Sensors led by Prof. Wolfgang Schuhmann, Ruhr University, Bochum, Germany, working on the design of DNA sensors and the use of SECM for biomedical analysis.

She has two research stays in 2004 and 2012 in the University of Firenze, Italy, Department of Chemistry Ugo Schiff. She acquired expertise in the use of aptamers in aptasensor design in collaboration with Prof. Marco Mascini and Prof. Giovanna Marrazza. In 2017 she was invited researcher in Prof. Joseph Wang's laboratory from the University of California San Diego, USA where she specialized in wearable sensors and nanorobots for treating different pathologies.

She joined the UMFIH as Assistant Professor in 2002, she became an Associate Professor in 2012 and Full Professor in February 2016. In June 2015, she defended her habilitation thesis, having currently 8 PhD students enrolled, of whom currently two with joint theses between UMFIH and universities from Oviedo, Spain and Rennes, France. She coordinated also another two joint theses defended in 2021 (with University of Antwerp, Belgium) and 2022 (with University of Florence, Italy).

From November 2019, reelected in October 2023, she is the Director of Department Pharmacy 1 and a member of the Council of the Doctoral School of UMFIH. From May 2023 she is also the Director of the Faculty Research Center in Bioanalysis and Nanotechnologies - BioNanoMed.



In the Department of Analytical Chemistry, she is responsible for lectures and practical sessions for undergraduate students in Pharmacy from the first and second year and PhD students' lectures on electrochemistry and biosensors applied in the biomedical field.

**Eligibility criteria:**

1. Publications as the main author or co-author, categorized as articles, published in journals indexed in Web of Science JCR, with a quartile Q1 according to AIS (considering the latest classification available at the time of application submission) – minimum of 7. In the case of humanities, the requirement is the publication of 4 books with prestigious international publishers or publishers classified by CNCS - **23 publications (see [Annex 1](#))**.
2. Being ranked in the top 1% based on citations qualifies /Highly Cited Researcher – **no**
3. National and international research projects, competitively won, each with a minimum value of 100,000 euros, and a team comprising at least 3 members, where the individual served as the principal/investigating project leader – minimum 1 - **4 international projects and 1 national project from a total of 10 (see [Annex 2](#))**
4. Experience as a researcher/invited lecturer at prestigious foreign universities – minimum 1 - **yes (see [Annex 3](#))**

**Dr. Cristea has been accepted as guest lecturer at the Jagiellonian University Faculty of Pharmacy in Krakow Poland, within the "Visiting Professors" programme.**

5. Position of Editor-in-Chief for a journal indexed in the Journal Citation Reports – minimum 1 - **no (see [Annex 4](#))**
6. Cumulative influence score A, calculated as the sum of weighted influence scores corresponding to articles published in the last 5 years (where the weighted influence score for an article is defined as the article's influence score - AIS, divided by the number of authors of the article) – A minimum of 5- **22.59 (see [Annex 5](#))**

**C1. The results of the research activity evaluated through books/articles/patents**

Prof. Dr. Cecilia Cristea research interest is primarily focused on electrodes modified with nanomaterials and biomimetic elements for applications in biomedical, pharmaceutical, environmental fields and food analysis. She also has an important activity in developing novel analytical methods for sensors, biosensors and immunosensors characterization. Lately, she is interested in developing optical sensors and integrating optical and electrochemical sensors on the same platform, developing hybrid approaches. The use of different biomimetic receptors, like aptamers (selected through SELEX technology) and molecular imprinted polymers-MIPs in the design of sensors is currently being developed in her group. In this regard, the selection of aptamers

was a theme of research developed for the first time in Romania, the main objective being theranostic approaches. The development of MIPs started ten years ago, the group headed by Prof. Cristea being among the first groups in the country using and improving this technology.

Professor Cristea has a high number of scientific contributions 190 documents (see [Annex 6](#)), from which, 173 found in [Web of Science Core Collection](#) publications: 156 research articles and reviews and 5 book chapters. 88 articles were published in Q1 (red zone) and 34 articles in Q2 (yellow zone) leading to 73.05% of the published articles being published in journals from Q1 and Q2. The articles published in Q1 journals are listed in [Annex 1](#). The AIS calculated for the articles published in the last 5 years is 23.051 (please see the table in [Annex 5](#)).

H-Index 34, 3348 citations and 2993 without self citations. She has also published 27 chapters in books (see [Annex 7](#)) (14 as the main author) published by Elsevier, Wiley, Taylor and Francis, CRC Press and 6 books and manuals. She is also co-author of 5 patents (see [Annex 8](#)).

## **C2. The impact of the research activity evaluated by the quality of citations and by the presentation of concrete applications**

The main research interest, as well as the main contributions, are in the field of the design and development of modified electrodes, the elaboration of various nanoplateforms for electrochemical sensors development, the use of nanomaterials, antibodies, aptamers, DNA and MIPs for sensor development for the detection of cancer biomarkers, pharmaceuticals and drugs of abuse; the design of hybrid sensors (electrochemical, optical), selection of aptamers by SELEX procedure, targeted drug delivery monitored by electrochemical methods etc. Due to her complementary education, Physical Chemistry and Pharmacy, Prof. Cristea has always been interested in bringing electrochemical solutions to biomedical and pharmaceutical issues.

According to [Web of Science Core Collection](#), Prof. Cristea was cited 3348 (2993 times without self-citations having an average citations per publication 19.31) and according to [Scopus](#) (3728 citations) and [Google Scholar](#) (4883 citations).

The international visibility is proved not only by the H-Index and the number of citations but also by the important number of collaborations with well-known groups from Europe and the USA as well as by the numbers of projects led as PI or key member.

The highest number of citations is 135 (average per year 19.29) for the manuscript published in [Advanced Healthcare Materials](#), followed by 120 (average per year 12) for the manuscript published in [Analytica Chimica Acta](#) and 100 citations (average per year 11.11) for the manuscript published in [Food Control](#).

### **C3. The ability to attract funds/cooperation/speaker at congresses/universities**

Professor Cristea has been involved in multiple national, European, and international research projects, both as principal investigator (14, out of which three H2020 projects - [H2020-SU-SEC-2018](#), [H2020-SU-SEC-2018-2019-2020](#), [FishEuTrust](#) and 1 Rus Era-Net project ([PlasmonElectroLight](#)) as national coordinator, beside the projects granted by UEFISCDI - TE, PED, PCCDI) and key member (26 – ERA.NET (SALIVAGE), PED, PCCDI, PD). In the last seven years more than 2 millions EUR were attracted from research grants by the members of BBG.

The full list of all the national and international projects won by the BBG members is detailed in [Annex 9](#).

Dr. Cristea has been accepted as **guest lecturer** at the Jagiellonian University Faculty of Pharmacy in Krakow Poland, within the “Visiting Professors” programme, where she had lectures on (bio)electrochemistry, design of biosensors, nanomaterials, bioelements, aptamers and Selex procedures and wearables for master and PhD students, her main areas of expertise..

In the past years, Professor Cristea was frequently asked to give **invited keynote lectures** (>10) or an invited lectures (>10) at international meetings, such as International Society of Electrochemistry (ISE), Regional Symposium on Electrochemistry of South-East Europe (RSE-SEE [2015](#)), [SMOBE 2016](#), International Conference on Electroanalysis 2024 (ESEAC), Interdisciplinary Conference on Drug Sciences ([ACCORD 2024](#)), Romanian National Conference of Pharmacists ([CNFR 2023](#)), Group Français de Bioélectrochimie Conférence (GFB Conferences), International Conference on Analytical and Nanoanalytical Methods for Biomedical and Environmental Sciences ([IC-ANMBES](#)), International Electronic Conference on Biosensors ([IECB 2022](#)), Serbian International Conference on Fundamental and Applied Aspects of Physical Chemistry (PHYSICAL CHEMISTRY), International workshop on "Biosensors for food safety and environmental monitoring" (BioCap).

### **C4. Professional prestige assessed by the degree of recognition/appreciation of the candidate's activity at the international level**

An important aspect that must be mentioned is related to the quality of the scientific act practiced within the research group led by Prof. Cristea, which is validated by the publications in a number of renowned international journals, projects, presentations at congresses and specialized conferences, but also by the involvement of young researchers, PhD students and students in all stages of research, starting with the concept part, experimental implementation, analysis and interpretation of results, contributing to the formation of independent researchers. In addition, Prof. Cristea maintained and developed new international collaborations, which provided training internships for

group members, which are useful for acquiring complementary knowledge. Besides the jointly articles and the european projects in which the group led by professor Cristea was involved, the joint theses with universities from Antwerp (Belgium), Rennes (France), Oviedo (Spain) and Florence (Italy) were signed and achieved, allowing the young researchers to be involved in an dynamic international scientific environment.

Professor Cristea is the promoter of an important number of Erasmus agreements (Bochum, Oviedo, Rennes, Paris, Florence, Torino, Krakow, Warsaw) allowing the exchanges of PhD students and researchers.

The BBG is also attractive to PhD and postdocs from different countries (France 1, Poland 3, UK 4, Morocco 2, Tunis 2 , Algeria 1, Iran 1, Nigeria 1, Azerbaijan 2); an important number of young researchers visited the lab in the last 10 years and specialized in the design of new electrochemical (bio)sensors.

Prof. Dr. Cristea was invited as an external reviewer for four PhD defense at the University of Antwerp.

Dr. Cristea ranks among the top 2% of researchers globally, a significant achievement considering the relatively short period during which she have led the BBG (see the 161858 position in the document: Table\_1\_Authors\_singleyr\_2022\_pubs\_since\_1788\_wopp\_extracted\_202310.xlsx at the following [link](#)).

Prof. Cristea is a member of the Editorial Board of [Journal of Pharmaceutical Analysis](#) (IF 8.08; Elsevier), [Chemistry Select](#) (Springer), [Current Analytical Chemistry](#) (Bentham), [Sensors](#) (MDPI) and [Biosensors](#) (Section Editor Biosensors and Bioelectronics Devices), **Associate Editor** of [Microchemical Journal](#) (IF 5,304, Elsevier) and served as Guest Editor or Section Editor in several issues of *Bioelectrochemistry* (Elsevier), *Sensors* (MDPI), [Biosensors](#) (MDPI), [Current Opinion in Electrochemistry](#) (Elsevier) and [Frontiers in Bioengineering and Biotechnology](#) (Frontiers) (see [Annex 4](#)).

Prof. Cristea has also published **more than 20** chapters in international books (see [Annex 7](#)) (14 as the main author) published by Elsevier, Wiley, Taylor and Francis, CRC Press and 6 books and manuals.

**Several Honors&Awards** of Professor Cristea: "*In hoc signo vinces*", awarded by National Council of Scientific Research in Higher Education in 2006 for young researcher; "**Teodor Goina**" award of the Faculty of Pharmacy, UMFH for scientific activity (2010, 2014, 2019); "**Gheorghe Spacu**" Diploma and medal of the Romanian Society of Chemistry (2019). In January 2023, the team led by Prof. Cristea was a finalist in the research [gala organized by the Romanian Ministry of Research](#), from 523 research teams, being elected in the first eight teams.

Since February 2023, Prof. Cristea is a member of the Body of Experts of the National Registry of Experts for the certification of research and development activity (Ministerial Order no. 20242/13.02.2023). Prof. Cristea is a member of the scientific council of the Bioelectrochemistry Society and the regional representative of the International Society of Electrochemistry. In 2019 the BBG was affiliated to the [Groupe Français de Bioélectrochimie](#).

As for the representation and prestige at national and international levels, Prof. Cristea is an active member of different professional association being elected or nominated in:

*At national level:* Member of [National Council of Scientific Research, Chemistry Commission](#) since 2020, Vicepresident of [Electrochemistry Section of Romanian Society of Chemistry](#), Member in the [Doctoral Studies Council at UMFIH](#), Member in the Scientific Board of The [Romanian Antidrug Agency](#) -ANA, [Member of the national register of experts](#) (Advanced functional materials for expertise in order to certify research and development activities).

*At International level:* member in the [Scientific Council of BioElectrochemical Society](#) BES elected for the second mandate, Regional Representative of [International Society of Electrochemistry](#) ISE, Member in the Scientific Committee of “Journées d’Electrochimie”. She is Project Evaluator for UEFISCDI Romania, MIUR Italy, FWO Belgium, NWO The Netherlands, National Science Center, Poland, ERC grants.

Prof. Cristea is actively involved in the organization of summer schools and international conferences, being a member in organizing scientific committees of: (1) “Journées d’electrochemistry” 2009, Sinaia, Romania; (2) The International Workshop “Nouveaux Matériaux pour la Reconnaissance electrochimique minéraux et des espèces biologiques - NOMARES”, Bucharest, May 2012; (3) the “3<sup>rd</sup> Regional Symposium on Electrochemistry: South-East Europe”, Bucharest 13-17 May 2012; (4) The “3<sup>rd</sup> International Workshop on "Specific Methods for food safety and quality", Beograd, Serbia, September, 2012; (5) the International Summer School “Electrochemistry for environment and biomedical applications” June 2013, Cluj-Napoca; (6) the "International Conference on Advancements of Medicine and Health Care through Technology", June 2014 and October 2016 Cluj-Napoca, Romania; (7) the Summer school in Bioelectrochemistry-SMOBE, August 2016, Antwerp, Belgium; (8) the 26<sup>th</sup> edition of the Bioelectrochemistry and Bioenergetics Symposium, May 2021, Cluj-Napoca (on line), (9) the 19<sup>th</sup> Romanian National Congress of Pharmacy, Cluj-Napoca, September 2023, (10) the 28<sup>th</sup> edition of the Bioelectrochemistry and Bioenergetics Symposium, Madrid 2024, Spain.



### **C5. Organizational capacity**

Prof. Cristea created a young, dynamic, inclusive environment in the BBG, stimulating the curiosity and active involvement in the undergraduates and PhD students. Prof. Cristea, together with the BBG members, puts a lot of effort in the selection and coordination of the Pharmacy undergraduate students that are members of the Analytical chemistry scientific club. She encourages them to participate with lab research at national and international student conferences. She helps the undergraduate and the PhD students to apply for research stays in the foreign laboratories from prestigious Universities with which Prof. Cristea has developed close collaborations, allowing them to fully develop as researchers. Prof. Cristea has 8 PhD students currently enrolled, of whom currently two with joint theses between UMFIH and universities from Oviedo, Spain and Rennes, France and she has been closely working with other 4 PhD students that have other PhD coordinators. She also coordinated two other joint theses, with University of Antwerp, Belgium (defended in 2021) and with University of Florence, Italy (defended in 2022).

Prof. Cristea helped crystalized the BBG by facilitating the transfer of know-how among all members of the BBG and the development of individual professional careers.

Prof. Cristea was/is the work package leader in 3 international projects, her organizational skills allowing her to successfully implement the work package activities envisaged in the project, coordinate all involved research teams' work, organize meeting and to properly report the scientific and technological results.

The strategic vision of BBG aims at a portfolio of innovative fundamental sensor concepts and technologies that can be applied in different markets/sectors embracing the idea of responsible research and innovation. Research activities within BBG investigate game-changing strategies for the electrochemical detection of key targets for industry and society – ranging from pollutants to health biomarkers – to provide affordable and rapid, robust solutions for reliable decision-making processes. Future end users of the sensing devices are always involved in the projects performed at BBG: NTT Data Company, Compania de Ape Someș, BOSCH Romania, Dropsens and Micrux (Spain).

As a recognition of her organizational skills, at the university level, Prof. Cristea was elected for the second term as Director of Department Pharmacy 1 (Farmacie 1), managing over 30 person teaching personnel. She is also a member in CSUD (The council of the university doctoral studies) and in the Faculty Council of the Faculty of Pharmacy, UMFIH. To prove her leadership skills she was also elected as Director of one of the Faculty interdisciplinary research centers - BioNanoMed.



### Curriculum Vitae of Dr. Mihaela Claudia TERTIȘ

**Dr. Mihaela TERTIȘ** (previous last name Balla, [U-1700-039U-0807](tel:+40390807), 46 years old) obtained her Bachelor's degree in Chemical Engineering - Technological Organic Chemistry in 2006 Faculty of Chemistry and Chemical Engineering, UBB and her MSc in Applied electrochemistry in 2007 at the same university. Dr. Tertiș defended her PhD thesis in Chemistry entitled: "Contributions regarding the redox and adsorption properties of some phenolic derivatives applied in the environmental analysis" at UBB in 2013 - **Magna cum laudae** - under the supervision of Prof. Univ. Dr. Luminița Silaghi Dumitrescu. She received her PhD in Chemistry in April 2014. The abstract of the PhD thesis can be found at the following [link](#). The doctoral studies were followed by a **Postdoctoral fellowship** in Analytical Chemistry (won by competition, ranking 15<sup>th</sup> of 200 candidates), funded by European Social Fund, Human Resources Development Operational Programme 2007-2013 Project POSDRU TRANSCEND" (POSDRU/159/1.5/S/138776) at UMFIH.

After her graduate studies, she joined the Francophone Associated Laboratory (LAF-INT-ECOL) as a research assistant (2006-2008) and later as a researcher (2008-2009).

The activity in this research group greatly contributed to the development of Dr. Tertiș as a **highly specialized researcher in the field of electrochemistry**, and, more specifically, in the elaboration and characterization of modified electrodes, preparative electrochemical synthesis and electrolysis, electroanalysis, and spectrophotometric methods for environmental applications and sensors development. She benefited from **2 research stays** of 2 months each (2006 and 2007) **in Italy at Ca Foscari University of Venice**, under the supervision of Prof. Dr. Lidia Szpyrkowicz, where she **gained expertise in electrochemical methods and ionic chromatography** for environmental applications. In 2009, she started the collaboration with the Analytical Chemistry Department, and in 2012 she joined **the Biosensors and Bioelectrochemistry research group (BBG)** within UMFIH. Since then, she has refined her professional skills in the **functionalization/characterization of electrodes, and development of (bio)electrochemical sensors**. With a very **strong foundation in analytical chemistry**, she easily assimilated new analytical methods: HPLC, electrophoresis and quartz crystal electrochemical microbalance. She joined the Department of Analytical Chemistry (UMFIH) as Assistant Professor in 2013 and since 2019 she is a lecturer, where she is responsible for the Qualitative Chemistry classes and practical sessions for undergraduate students in Pharmacy; and Fundamentals Notions of General Chemistry classes and practical sessions for undergraduate students in Medicine; practical sessions of Quantitative Analysis and Separation techniques for undergraduate students in 2<sup>nd</sup> year, in Pharmacy. She has been coordinating over 20 undergraduate and 10 PhD students from the Department of Analytical Chemistry that are contributing to the experimental activities on studied

topics. She coordinated 17 undergraduate theses, and another 3 are currently in progress, their topics being related to the development of nanoplatfroms for electrochemical (bio)sensors for biomedical applications (website: [www.umfcluj.ro](http://www.umfcluj.ro)). She was **member of the organizing committee**: "Summer School on Electrochemistry for Environmental and Biomedical Applications", Cluj-Napoca 2013; "[XXVI<sup>th</sup> International Symposium on Bioelectrochemistry and Bioenergetics of the Bioelectrochemical Society](#)", Cluj-Napoca 2021; **is a member of professional associations**: International Society of Electrochemistry (ISE), Bioelectrochemical Society (BES), Romanian Society of Chemistry (SCR), Balkan Environmental Agency (BENA). In December 2022, Dr. Tertiş received the "Prize for scientific excellence" from the Faculty of Pharmacy of UMFIIH, for the research activity carried out in 2022. She won the III Prize in 2016, respectively the I Prize in 2020, at the Poster Section organized within the UMFIIH Cluj-Napoca Days. In January 2023, Dr. Tertiş was part of the team finalist in the [research gala](#) organized by the Romanian Ministry of Research (8 finalist teams out of 523 applying research teams).

**The eligibility criteria are mentioned in [Annex 10](#).**

#### **C1. The results of the research activity evaluated through books/articles/patents**

**The main research topic** of Dr. Tertiş, fully documented and perfected since 2012, is **the elaboration of innovative platforms for electrochemical sensor development**. Bioelements (enzymes and antibodies), biomimetic elements (aptamers and molecularly imprinted polymers - MIPs), and nanomaterials (graphene, carbon nanotubes, magnetic particles, metallic nanoparticles, etc.) were successfully used for the functionalization of (bio)sensors applied for:

- (i) the detection of virulence factors of pathogen bacteria (9 publications), cancer biomarkers (4 publications), neurotransmitters (5 publications), drugs (6 publications), drugs of abuse (6 publications), food allergens (one publication);
- (ii) the use of clays for sensors development for heavy metals (2 publications);
- (iii) the design of electrochemical and SPR hybrid sensors for antibiotics (one publication).

Recently, Dr. Tertiş research interest has been focusing on developing **screen-printed sensors**, due to their suitability for miniaturization and decentralized analysis - requirements in the design of innovative tools for healthcare applications. The implementation of **wearable electrochemical sensors** was possible due to the collaboration with Prof. Dr. Joseph Wang from the University of San Diego, California. To date, two such sensors have been developed, namely wearable sensors printed on a laboratory glove for the simultaneous detection of two virulence factors of *Pseudomonas aeruginosa* and a cavitas wearable sensor for the intra-oral simultaneous detection of two salivary biomarkers involved in nutritional disorders. The latter was subjected to a patent

**proposal (No. 2020 00171/ 01.04.2020).** This patent application entitled “Electrochemical Screen-Printed Sensor Integrated on an Intra-oral Device for Direct and Simultaneous Detection of Two Important Advanced Glycation End Product in Human Saliva” was awarded with two gold medals, the 6<sup>th</sup> edition Excellence Award at the International Exhibition of Inventions and Innovations "Traian Vuia", Timișoara, 13-15 October 2020 and at the 18<sup>th</sup> edition of the Exhibition of Scientific Research, Innovation and Inventions - ProInvent, Cluj-Napoca, 18-20 November 2020.

A new research direction concerns **the development of drug encapsulation systems for drug delivery and targeted therapy**, paired with the monitoring by electrochemical methods. Although it all started only 5 years ago, the results (4 publications) are promising and enable a higher research level, namely the development of nanorobots for diagnosis and targeted therapy.

The quality of the research was acknowledged through the granting of patent membership in two applications:

- “Electrochemical Screen-Printed Sensor Integrated on an Intra-oral Device for Direct and Simultaneous Detection of Two Important Advanced Glycation End Product in Human Saliva” A 2020 00171/ 01.04.2020;
- "Procedeu pentru detectarea electrochimică simultană a bacteriilor patogene Escherichia coli și Pseudomonas aeruginosa prin intermediul unor factori de virulență utilizând electrozi imprimați serigrafic pentru testarea pe teren" A 00845/18.12.2023.

**To conclude section C1, Dr. Tertîș has a high number of scientific contributions, namely 18 book chapters, 90 publications, from which 48 articles published in Q1 (red zone) and 17 in Q2 (yellow zone).**

**C2. The impact of the research activity evaluated by the quality of citations and by the presentation of concrete applications**

**Dr. Mihaela TERTÎȘ** ([U-1700-039U-0807](https://orcid.org/0000-0003-2572-6724); ORCID ID: <https://orcid.org/0000-0003-2572-6724>) has a prominent international visibility. Up to date she has **99 scientific publications** in international peer-reviewed journals according to the [Web of Science Core Collection](#), of which 90 are scientific original articles. She is co-author for 18 book chapters edited by international publishers such as Elsevier, Springer, Wiley, Intech and MDPI. **48 articles** were published in **Q1** (red zone) and **17 articles** in **Q2** (yellow zone). **The H-Index is 22** according to the [Web of Science Core Collection](#) (ID: F-2124-2013 with 1649 citations and 1483 without self-citations, with an average citations per publication of 16.66,), **24** according to [Scopus](#) (Scopus Author ID:

35106153200 and 1851 citations), and **29** according to [Google Scholar](#) (2446 citations). **She has an AIS score of 13.7131(the last 5 years) (see [Annex 10](#)).**

The highest number of citations is 120 (average per year 12) for the manuscript published in [Analytica Chimica Acta](#), followed by 84 citations (average per year 14) for the study published in [Biosensors and Bioelectronics](#), and 83 citations (average per year 10.4) for the manuscript published in [Electrochemistry Communications](#).

The involvement of **Dr. Tertiş** in several research projects with national (15) and international (6) funding, the results of which have been disseminated at numerous conferences all over the world, further prove the international visibility of the scientific contribution of the project leader. During her PhD studies, Dr. Tertiş had two research stays of 2 months each at Ca Foscari University of Venice, Italy, under the supervision of Prof. Dr. Lidia Szpyrkowicz, where she gained valuable experience related to environmental issues and improved her expertise in analytical chemistry, electrochemical methods applied for depollution and environmental protection. Another research stay of one week was carried out in 2019 at the University of Rennes 1, France, under the supervision of Prof. Dr. Florence Geneste, where she gained expertise related to 3D materials application in sensors for environmental analysis.

### **C3. The ability to attract funds/cooperation/speaker at congresses/universities**

Dr. Tertiş was involved as a member/**key member** in several national (15) and international (6) grants for environmental and biomedical applications (the most important are mentioned below).

**International grants:** Border detection of illicit drugs and precursors by robust sensors ([Bordersens](#), H2020/833787) - key member; Pathogen contamination emergency response technologies ([PathoCERT](#), H2020/883484) – key member; Innovative Technological, European integration of new technologies and social-economic solutions for increasing consumer trust and engagement in seafood products ([FishEuTrust](#), H2020/952644) key member; Approaches for validation of Salivary AGEs as novel biomarkers in the evaluation of risk factors in diet-related diseases (Biomarkers for Nutrition and Health, [SALIVAGES](#) COFUND-ERA-HDHL ERANET PNCDI III/P3 Programme) – member; Synergy of plasmonic structures, affinity elements and photosensitizers for electrosensing of pharmaceuticals ([RUS ERA NET](#) – PNCDI III/P3 Programme) – member; CliniMARK - "good biomarker practice" to increase the number of clinically validated biomarkers ([CliniMARK](#) - COST Action CA16113) – member. **National grants:** Smart material for medical applications, [INTELMAT](#), 2018-2021 (PN-III-P1-1.2-PCCDI-2017-0407) – member; Development of platforms for sensors used in detection and quantification of biomarkers involved in neurologic disorders (PN-II-RU-TE-2014-4-0460) – key member;

Amperometric immunosensors for ovarian and uterine cancer biomarkers (PN-II-ID-PCE-2011-3-0355) – member. The full list of all the national and international projects won by the BBG members is detailed in [Annex 9](#).

Dr. Tertiș has successfully managed **one UMFIH internal research grants** won by competition ("Smart sensors for food safety assessment" (35180/17.12.2021) having Prof. Dr. Cecilia Cristea as mentor and a theme related to the development of sensing platforms for biomedical targets. The results generated 3 research articles published in *Electroanalysis* (IF=3; Q2), *ChemElectroChem* (IF=4; Q2) and *Microchemical journal* (IF=4.8; Q1). Also, she mentored an internal UMFIH research students grant "Detection of kynurenic acid in saliva using wearable electrochemical sensors" (35184/17.12.2021) which was successfully completed by publishing the results in *Analytical and Bioanalytical Chemistry journal* (IF=4.3; Q1). Throughout this period, she acquired research expertise, but more importantly, she developed the capability to manage small projects. She is currently coordinating a TE grant Wearable electrochemical sensors for the noninvasive detection of inflammatory mediators expressed in post-COVID-19 condition ([WEAR-4-postCOVaID](#) PN-III-P1-1.1-TE-2021-1543) that was ranked **1<sup>st</sup> out of 58 proposals in the field of Medicine in the 2021 competition**.

#### **C4. Professional prestige assessed by the degree of recognition/appreciation of the candidate's activity at the international level**

**Dr. Mihaela Tertiș**, is an experienced researcher and key member of the BBG research group coordinated by Prof. Cristea. Her prominent international visibility is validated by the publications in prestigious international peer-reviewed journals, (**C1 section**), participation in international and national research projects (**C2 section**), and presentations at specialized conferences and symposiums.

Dr. Tertiș, served as **Section Board Member** of *Sensors* (IF=3.9; Q1) and as **Guest Editor** of: Special Issue "Graphene-Based Materials for Biomedical and Environmental Applications" *Sensors* (IF=3.9; Q1), and Special Issue "Feature Issue of Biosensors and Bioelectronic Devices Section" *Biosensors* (IF=5.4; Q1). She also served as **volunteer peer-reviewer** in [Electrochimica acta](#) (IF=6.6; Q1); [Sensors and Actuators B Chemical](#) (IF=8.4; Q1); [Bioelectrochemistry](#) (IF=5; Q1); [Microchemical Journal](#) (IF=4.8; Q1); [Antioxidants](#) (IF=7; Q1); [Biosensors](#) (IF=5.4; Q1); [Sensors](#) (IF=3.9; Q1), etc..

She was **Member of the organizing committee**: "Summer School on Electrochemistry for Environmental and Biomedical Applications", Cluj-Napoca 2013; ["XXVI<sup>th</sup> International Symposium on Bioelectrochemistry and Bioenergetics of the Bioelectrochemical Society"](#), Cluj-Napoca 2021. **Dr. Tertiș is a member of professional associations**: International Society of



Electrochemistry, Bioelectrochemical Society, Romanian Society of Chemistry, Balkan Environmental Agency. In December 2022, Dr. Tertiș received the "Prize for scientific excellence" from the Faculty of Pharmacy of UMFIH, for the research activity carried out in 2022, and in January 2023, was part of the team finalist in the [research gala](#) organized by the Romanian Ministry of Research (8 finalist teams out of 523 applying research teams).

#### **C5. Organizational capacity**

The organizational capacity of **Dr. Tertiș** was demonstrated first of all by the fact that she successfully coordinated many undergraduate students within the Department of Analytical Chemistry. Overseeing 10 PhD students and more than 20 undergraduate students members of the Analytical chemistry research group, she has adeptly managed their involvement in various experimental activities related to the topics of her interests. She also published more than 15 papers having undergraduate students as co-authors and coordinating **17 Bachelor diplomas**. **Dr. Tertiș** has been involved in overseeing the research activity of **4 international incoming students and 2 international PhD students**, mentoring 1 internal grants dedicated for students. In addition to her role in student mentorship, she also serves as **the director of a research grant comprising 8 members**. This leadership position underscores her capability to not only manage large teams but also to oversee the strategic direction and execution of research projects.



## Curriculum Vitae of Dr. Andreea CERNAT

Dr. Andreea Cernat ([U-1700-039E-3330](#), 38 years old) graduated head of her class (from 119 students enrolled in Faculty of Pharmacy) and received her **Bachelor's degree in Pharmacy** in 2009 from UMFIH. In November 2013, Dr Cernat **defended her co-supervised PhD thesis, "Nanostructured surfaces for biosensing design"**, under the supervision of Prof Dr Robert Săndulescu (UMFIH) and Dr. Fethi Bedioui (Renee Descartes University Paris).

During this timeframe, Dr Cernat had **two doctoral stays** at Ecole Nationale Supérieure de Chimie ParisTech (5 months each in 2011/2012) granted by Agence Universitaire de la Francophonie. In this period, she improved her expertise in the development of structured nanoplateforms based on polymeric films with applications in the development of electrochemical biosensors. She studied the generation of highly ordered polymeric surfaces *via* nanosphere lithography and electrochemical strategies for the controlled immobilization of biocompounds, such as affinity interactions and click chemistry. **The 3rd doctoral stay** at Grenoble Alpes University (3 months, 2012-2013) under the supervision of Dr Serge Cosnier, a worldwide remarkable personality in the field of bioelectrochemistry, brought **novelties regarding the immobilization of enzymes** with complementary methods such as coordination for the development of biosensors.

In **2014-2015**, she worked as a postdoctoral researcher at UMFIH Cluj-Napoca (POSDRU/159/1.5/S/136893) where she developed protocols for the **elaboration of immunosensors based on innovative platforms with tailored features** that can be integrated in sensing devices. She studied various associations between metallic/carbon-based nanomaterials, successfully applied in the generation of nanostructures. She joined UMFIH at the Department of Analytical Chemistry as a teaching assistant in 2012. Since October 2018, she has worked as a lecturer where she is responsible for Qualitative Chemistry classes and practical sessions for undergraduate students in Pharmacy from 1st and 2nd year, in both Romanian and French study lines. Since 2015, she successfully implemented an optional class **"Electrochemistry application in biomedical analysis"** for 3rd year Pharmacy students focused on the development of integrated devices and modern concepts related to the bioelectrochemistry field. She coordinates students from the Research group of Analytical Chemistry that are contributing to experimental activities on studied topics. She coordinated 7 undergraduate theses, their topic related to the development of nanoplateforms for electrochemical applications. The quality of Dr Cernat's research results in the field of this project proposal was recently validated by winning the **"Poster presentation award"** for the paper entitled *Detection of pyocyanin with a thermosensitive hydrogel and Au/Ag nanoalloy* (Andreea Cernat, Alexandra Canciu, Mihaela Tertiș, Cecilia Cristea) at the International Conference "New Trends on Sensing-Monitoring-Telediagnosis for Life Sciences, Bucharest, 3-4 July 2020.

The next section is described following the instructions outlined in the eligibility criteria and quantitative items.

The eligibility criteria are mentioned in [Annex 10](#).

#### C1. The results of the research activity evaluated through books/articles/patents

Dr. Cernat aligned herself with the focus of the Biosensors and Bioelectrochemistry research group and she continuously advanced her expertise in bioelectrochemistry in bioelectrochemistry. Just like her colleagues, she upheld the values of fairness, transparency and ethical conduct in her research activities. She cultivated important and complementary skills that established her valuable role within this team. Some of her major contributions to the performances of the BBG are listed below:

- Dr. Cernat primary research focus consists in the **development of nanostructured platforms** for the detection of relevant biomedical and pharmaceutical compounds. This topic was approached since her PhD years when she pioneered platforms utilizing functionalized polypyrrole to explore click chemistry as a novel approach in electrochemistry. Her work demonstrated the efficacy of this technique as a potent tool for the specific and covalent immobilization of biomolecules onto electrode surfaces. As a complementary method to elaborate nanoplateforms, the electrochemical generation of various architectures of conductive polymers (wires, spheres) was studied by different electrochemical techniques and modulating the polymerization solution composition. This topic encompassed **5 research articles** in Electrochemistry communication (Q1 2012, 2019) and Electroanalysis (Q2 2013, 2018), Sensors (Q2 2020) and **one review** in International Journal of Electrochemical Science (2015)
- Furthermore, Dr. Cernat expanded her research skills by exploring the use of nanomaterials, such as graphene, carbon nanotubes, and metallic nanoparticles, to increase the platform's sensitivity towards a biomedical and pharmaceutical targets and effectively discriminate the signal from others especially when operating in complex matrices. The achievements encompassed **2 research articles** in Electrochemistry Communications (Q1 2017), Chempluschem (Q1 2017) and **2 reviews** in Analytica chimica acta (Q1 2015) and Bioelectrochemistry (Q1 2020);
- She has acquired expertise in the **immobilization of biomolecules** (tyrosinase, histidine-tagged glucose oxidase, horseradish peroxidase, antibodies) with applications in the development of **(bio)sensors**. In addition, a complementary approach was taken to elaborate **non-enzymatic biosensors** for glucose and hydrogen peroxide, based on metallic architectures. as an alternative to the enzymatic sensors currently in use for detecting these compounds. This strategy ensures analytical performances in the absence of an enzymatic

molecule and reduces the limitations linked to the immobilization protocol and enzymes' stability. The achievements encompassed **5 research articles** in Analytical Bioanalytical Chemistry (Q1 2014), Electroanalysis (Q2 2015), International Journal of Electrochemical Science (2015), Materials (Q2 2020), Electrochemistry Communications (Q1 2018),

- Recently, the research activity has been directed towards **the electrochemical detection of bacterial strains** involved in healthcare-associated infections, like *Pseudomonas aeruginosa*, *Escherichia coli*, and *Staphylococcus aureus* through different metabolites and virulence factors with very promising results to be implemented in healthcare practices. The achievements encompassed **6 research articles** in Bioelectrochemistry (Q1 2018), Electrochemistry Communications (Q1 2018), Analytical Chemistry (Q1 2018), Materials (Q2 2019), Analytical Bioanalytical Chemistry (Q1 2019), International Journal of Molecular Science (2021) and **3 reviews**: Sustainability (Q2 2021), Trends in Analytical Chemistry (Q1 2023), Bioelectrochemistry (Q1 2023)
- Dr Cernat also participated in the **electrochemical fingerprinting of different drugs of abuse**, an exhaustive study conducted on different types of electrodes, with various nanomaterials and in the presence of common adulterants/cutting agents that aimed to find the optimum conditions for their simultaneous detection with applications on real street samples. Frontiers in Chemistry (Q2 2020, 2021).

These topics were also addressed in [a book](#) (single author) published by an international publisher and several book chapters with other members of the team as detailed in [Annex 7](#).

The quality of the research was acknowledged through the granting of patent membership in two applications: (1) "Electrochemical process for obtaining bismuth nanowires from ionic liquids based on choline chloride" A 00807/03.12.2020 (L. Anicai, A. Petica, M. Enachescu, V. Anastasoiaie, O. Lazar, C. Cristea, A. Cernat, T. Poteca); "Procedeu pentru detectarea electrochimică simultană a bacteriilor patogene *Escherichia coli* și *Pseudomonas aeruginosa* prin intermediul unor factori de virulență utilizând electrozi imprimați serigrafic pentru testarea pe teren" A 00845/18.12.2023 (Victoria-Cecilia Cristea, Mihaela-Claudia Tertiș, Andreea Cernat, Bogdan-George Feier, Oana-Alexandra Hosu-Stăncioiu, Alexandra Canciu).

**To conclude, Dr. Cernat has a high number of scientific contributions, namely 33 articles, 8 book chapters, 1 international book as a single author, and 1 proceedings, elaborated in collaboration with other members of BBG.**

## **C2. The impact of the research activity evaluated by the quality of citations and by the presentation of concrete applications**

Dr. Cernat ([U-1700-039E-3330](#)) has a very good international visibility. The H-Index according to [Web of Science Core Collection](#) is 15 (a total number of citations of 706 and 625 without self-citations, *with an average citations per publication of 21.39*), [Scopus 16](#) (703 citations), and [Google Scholar 17](#) (925 citations) and being registered until the date of completion of this document. From the total of 33 visible in **Web of Science Core Collection**, 14 articles were published in Q1 (red zone) and 9 in Q2 (yellow zone) and were elaborated in collaboration with other members of BBG. Also she has a cumulative AIS score of 4.0958 (see [Annex 10](#)).

The highest number of citations is 120 (average per year 12) for the manuscript published in [Analytica Chimica Acta](#), followed by 83 citations (average per year 10.38) for the study published in [Electrochemistry communications](#), and 43 citations (average per year 8.6) for the manuscript published in [Bioelectrochemistry](#).

## **C3. The ability to attract funds/cooperation/speaker at congresses/universities**

Dr. Cernat has demonstrated valuable research skills and project management capabilities since their doctoral studies. She benefited from **two AUF scholarships** won by competition in 2011 and 2012, a **POSDRU doctoral scholarship** (88/1.5/S/56949) and **postdoctoral scholarship POSDRU/159/1.5/S/136893** (ranked 26/100) from 2015-2017. Dr. Cernat has successfully managed **two UMFIH internal research grants** won by competition ("Novel structured surfaces for biosensing" (1491/5/28.01.2014) and "Graphene tailored with polypyrrole or Au nanoparticles: an efficient platform for the detection of some catecholamines" (4945/13/08.03.2016) having as topic the development of sensing platforms for biomedical targets. Also, she mentored an internal UMFIH research students grant "New molecular imprinted polymers biomimetic receptors for the detection of some biogenic amines" (4995/23/08.03.2016) which was successfully completed by publishing the results in ChemPlusChem journal. Throughout this period, she acquired research expertise, but more importantly, she developed the capability to manage intricate projects

Hence, she currently coordinates a national research grant **"Nanoplatforms for the rapid electrochemical detection of Staphylococcus aureus by specific markers"** (PN-III-P1-1.1-TE-2021-0846, PNCDI III. TE 89/23.05.2022), *addressing a topic that is of outmost concern in the medical field: the detection of bacteria by alternative methods*

She was involved as member/key member in **3 international (3) and national (10) grants in biomedical/pharmaceutical analysis**: (1) Border detection of illicit drugs and precursors by highly accurate electrosensors – [BorderSens](#), 2019-2023 Horizon 2020 RIA H2020-SU-SEC-2018-2019-2020, 833787/05.04.2019, 535.625 EUR-key member; (2) Pathogen Contamination Emergency

Response Technologies - [Pathocert](#), 2020-2023 Horizon 2020 RIA, H2020-SU-SEC-2018-2019-2020, Contract no. 883484/2020, 230.375 EUR-key member; (3) European integration of new technologies and social-economic solutions for increasing consumer trust and engagement in seafood products, [FishEuTrust](#) HORIZON-CL6-2021-FARM2FORK-01-10 101060712/2022, 251.326 Eur); (4) Amperometric immunosensors for ovarian and uterine cancer biomarkers (PN-II-ID-PCE-2011-3-0355); (5) Summer school Electrochemistry for Environmental and Biomedical Applications 2013 (PN-II-ID-SSA-2012-2-027); (6) Functionalized nanomaterials with chromophores and nanostructured platforms for biosensors applied in pharmaceutical and biomedical fields (PN-II-CT-EN-FR-2014-2-0008); (7) Smart materials for medical applications' ([INTELMAT](#)), 2018-2021, PN-III-P1-1.2-PCCDI-2017-0407, Contract nr. 39PCCDI/2018, 37.171 EUR); (8) Innovative high-precision approach to robotically assist intraoperative treatment of liver tumors based on integrated imaging-molecular diagnosis ([IMPROVE](#), PN-III-P1-1.2-PCCDI2017-0221); (9) Development of platforms for sensors used in the detection and quantification of biomarkers involved in neurological disorders", 2015-2017, PN-II-RU-TE-2014-4-0460, Contract no. 78/2015, 550.000 RON (110.000 EUR); (10) Electrochemical detection of molecules involved in bacterial sensitivity by quorum and biofilm formation ([QuorelSens](#), PN-III-P1-1.1-TE-2019-1360, 432.000 RON); (11) Detection of drugs and precursors at customs points using precise electro sensors" 2020-2022PN-III-P3-3.6-H2020-2020-0095/Contract no. 32/2020 95.721,21 RON (40.775 EURO); (12) European integration of new technologies and social-economic solutions for increasing consumer trust and engagement in seafood products, [FishEuTrust](#), 2023-2025, PN-IV-P8-8.1-PRE-HE-ORG-2023-076, Contract no. 29356/08.11.2023, 125.663 RON (25.132,6 EUR); (13) Wearable electrochemical sensors for the noninvasive detection of inflammatory mediators expressed in post-COVID-19 infection" ( [WEAR-4-postCOValD](#) PN-III-P1-1.1-TE-2021-1543 35184/17.12.2021)

#### **C4. Professional prestige assessed by the degree of recognition/appreciation of the candidate's activity at the international level**

The scientific work conducted within the BBG overseen by Prof. Cristea is validated by publications in numerous international journals ([Annex 6](#)), participation in projects ([Annex 2](#)) and presentations at congresses and specialized conferences. She has published one book as a single author at an international publisher, Lambert Academic Publisher, [Nanostructured platforms for biosensing design](#) and 8 book chapters at international publishers such as Elsevier, Springer, Intech (see [Annex 7](#)).

She received in 2012 "The award for young researchers" from UMFIH Cluj-Napoca for the publication with the highest impact factor which was published in Electrochemistry



Communications (IF 4.425) and in 2014, the **"Teodor Goina Award"** for exceptional scientific results, as co-author of a chapter in Dekker Encyclopaedia of Nanoscience and Nanotechnology. She won the **"Poster presentation award"** for the paper entitled *Detection of pyocyanin with a thermosensitive hydrogel and Au/Ag nanoalloy* (Andreea Cernat, Alexandra Canciu, Mihaela Tertiș, Cecilia Cristea) at the International Conference "New Trends on Sensing-Monitoring-Telediagnosis for Life Sciences, Bucharest, 3-4 July 2020.

Dr. Cernat serves also as a Guest Editor in Sensors that belongs to the section "Physical Sensors" and **volunteer peer-reviewer** in [Microchemical Journal](#) (IF=4.8), [International Journal of molecular science](#) (IF=5.6), [Biosensors](#) (IF=5.4), [Sensors](#) (IF=3.9).

In January 2023, she was part of the team led by Prof. Cristea, finalist in the [Research Gala](#) organized by the Romanian Ministry of Research (among the 8 finalist teams from 523 applying research teams).

She is also a **member in several international and national societies**: Bioelectrochemical Society (BES), International Society of Electrochemistry (ISE), Romanian Society of Pharmaceutical Sciences (SSFR). Dr. Cernat was Member of the organizing committee of the "Summer School on Electrochemistry for Environmental and Biomedical Applications", Cluj-Napoca (2013), [26<sup>th</sup> International Symposium on Bioelectrochemistry and Bioenergetics of the Bioelectrochemical Society](#) (BES) conference Cluj-Napoca (Romania) 2021, and [Congresul Național de Farmacie 2023 Ediția a XIX-a](#), Farmacia azi: de la tradiție la interdisciplinaritate și inteligență artificială.

### C5. Organizational capacity

Dr. Andreea Cernat has continuously developed organizational skills and an important point is the mentorship for students in the **Analytical chemistry scientific club**, expertise in securing research grants, and leadership in coordinating national projects. Dr. Cernat has successfully managed several scholarships during her PhD, a **Postdoctoral fellowship** and two research UMFIH internal grants. She holds the position of director for a research grant that includes 5 members: **"Nanoplatfroms for the rapid electrochemical detection of Staphylococcus aureus by specific markers"** (PN-III-P1-1.1-TE-2021-0846, PNCDI III. TE 89/23.05.2022)-[StarSens](#).

This leadership role highlights her ability not only to oversee large teams but also to manage the strategic direction and implementation of research projects.

Dr. Cernat has been coordinating the research activity of more than 15 Pharmacy undergraduate students, members of the **Analytical chemistry scientific club**, and 3 of them decided to continue the research as PhD students. She also published seven papers having undergraduate students as co-authors. She has been guiding 7 bachelor dissertations and poster or oral presentations for the students' participation in national student conferences.



### Curriculum Vitae of Dr. Bogdan FEIER

Dr. Bogdan-George FEIER (U-1700-032N-0109 38 years old) received his **Bachelor's degree in Pharmacy** in 2009 from the UMFIH. His college years were characterized by outstanding academic performance, he was ranked 4<sup>th</sup> among the 119 students enrolled at Faculty of Pharmacy, he was involved in research activity since 2005 and he benefited in 2007 of a two-month **research stay at University Rennes 1**, in UMR-CNRS 6226, Chemical Sciences of Rennes, Team MaCSE, under the supervision of dr. Florence Geneste and in 2009 a four-month ERASMUS stay at **Free University of Brussels**, in Laboratory of Instrumental analysis and Bioelectrochemistry, at Pharmaceutical Institute, under the supervision of Prof. Jean-Michel Kauffmann. During these stays, Dr. Feier acquired the basic skills associated with electrochemical analysis and he got familiarized with different electrochemical techniques, with the development and use of electrochemical biosensors and with HPLC-MS analyses.

In 2010, he graduated from the **one-year programme of the Doctoral school** from UMF Cluj that covers the methodology, the ethics, the design and management of research grants.

In November 2013, Dr. Feier **defended his Ph.D. thesis**, entitled "New types of modified electrodes for the detection of heavy metals and their application in the pharmaceutical field", with the mention *Excellent*, gaining a **double Ph.D. diploma in Pharmacy and in Chemistry**, under the supervision of Prof. dr. Robert Săndulescu from Faculty of Pharmacy, UMFIH, Romania and of dr. Florence Geneste from University Rennes 1, France (**joint thesis**). Link: <http://www.theses.fr/2013REN1S093>.

During his PhD, Dr. Feier had **3 doctoral research stays of 4 months each** at University Rennes 1, under the supervision of Dr. Florence Geneste; during these stays he improved his knowledge in designing and performing different electrochemical analyses, he acquired the theoretical and practical skills needed for the synthesis of different organic molecules and their characterization by <sup>1</sup>H NMR and by X-ray crystallography, he modified electrodes by electrochemical and chemical ways and characterized them using electrochemical techniques and by surface analyses, like AFM and XPS.

The one-month **post-doctoral research stay** in 2017 at University Rennes 1, in Team MaCSE, under the supervision of Dr. Phillipe Hapiot and Dr. Florence Geneste allowed dr. Feier to develop the theoretical and practical aspects of the scanning electrochemical microscopy (SECM).

In order to improve his theoretical and practical skills, dr. Feier attended several **summer and thematic schools** on topics related to research areas in which he operates.

Dr. Feier received in 2013 and 2017 the **"Young Researcher" Prize**, awarded to researchers younger than 40 by the "Iuliu Hațieganu" University of Medicine and Pharmacy for excellence in research.

Between 2012 and 2019, Dr. Bogdan Feier was assistant professor and since October 2019 he is **lecturer** at the Department of Analytical Chemistry and Instrumental Analysis, from Faculty of Pharmacy, UMFIIH He is responsible with organizing and conducting the laboratory sessions and lectures of “Qualitative analytical chemistry” (1st year Pharmacy students) and “Quantitative analytical chemistry and instrumental analysis” (2nd year Pharmacy students).

The eligibility criteria are mentioned in [Annex 10](#).

#### **C1. The results of the research activity evaluated through books/articles/patents**

Dr. Feier has a very good expertise in the field of analytical chemistry, pharmacy and electrochemistry, proved by his contribution to 9 chapters in national and international books, 6 in international books and 3 as main author (see [Annex 7](#))

Dr. Feier fully embraced the inclusive, daring, open-to-novelty, idea-sharing spirit of the BBG and he is on a continuous journey of increasing his know-how in the field of analytical chemistry, (bio)sensors and (bio)electrochemistry. His valuable scientific contributions to the BBG are listed below:

- Dr. Feier’s research activity has been focusing on the development of electrochemical (bio)sensors, applied in the pharmaceutical, biomedical, environmental field. During his PhD studies, he helped the development of a new research direction, using carbon-based **3D electrodes (graphite felt) as electrochemical sensors** for the detection of heavy metals from environmental and pharmaceutical samples, using an original electrochemical cell designed to accommodate the 3D electrode. This translated into 3 ISI articles in Talanta (Q1, 2012), Electrochemistry communications (Q2, 2013) and Journal of Electroanalytical Chemistry (Q2, 2015).
- His focus continued to be the **flow electrochemical analysis**, with very good sensitivity and reproducibility, developing a lab-made flow-injection cell adapted to 2D electrodes for the detection of heavy metals and classes of antibiotics, with articles published in International Journal of Electrochemistry Science (2015), Analytica chimica acta (Q1, 2017) and New Journal of Chemistry (2017)
- He also studied the *in vitro* behaviour of acetaminophen using electrochemical enzymatic biosensors, with one article published in Electroanalysis (2011)
- Another direction of his studies consisted in increasing the selectivity of electrochemical analyses by using different electrode materials and by **modification of 2D and 3D electrodes with receptors specific for the target analyte**, like chemical ligands, enzymes, aptamers, molecularly imprinted polymers (MIPs). The heavy metals detection with **ligand-modified**

**electrodes** was published in *Electrochimica acta* (Q2, 2023). Dr. Feier also applied an **innovative method** for the electrochemical detection of Cu(II) using a **highly specific ligand in the electrolyte solution**, the study being published in *International Journal of Electrochemistry Science* (2015)

- Dr. Feier's research also focused on the **detection of antibiotics** from pharmaceutical, biological and environmental samples. His studies concentrated on the detection of  $\beta$ -lactam antibiotics, the detection of the entire class or of individual molecule by **direct electrochemical detection**, by using a hyphenated technique (label-free **electrochemical-surface plasmon resonance (SPR) aptamer-based sensor**), by a sensor based on electrochemically generated **molecularly imprinted polymer (MIP)**, by aptasensor and by employment of electrostriction phenomenon for label-free electrochemical immunosensing, with **6 articles** published in *Analytica chimica acta* (Q1, 2017), *New Journal of Chemistry* (2017), *Analytical and Bioanalytical Chemistry* (Q2, 2019), *Biosensors* (Q1, 2019), *Food chemistry* (Q1, 2022), *Bioelectrochemistry* (Q2, 2020) and one review in *Current Opinion in Electrochemistry* (Q1, 2018).
- The study of electrochemical sensors for monitoring the vancomycin treatment led to the development of the concept of **complex electrochemical fingerprint**, incorporating the results of a battery of electrochemical sensors modified with different nanomaterials, with two articles published in *Electrochemistry communications* (Q2, 2019) and *Coatings* (2019).
- Dr Feier also participated in the determination of the **electrochemical fingerprint** of different **drugs of abuse**, involving electrochemical analyses on different types of electrodes, modified with various nanomaterials and in the presence of common adulterants/cutting agents that aimed to find the optimum conditions for their simultaneous detection with applications on real street samples and **HPLC-MS/MS analyses for redox pathways investigation**. The results were published in *Frontiers in Chemistry* (Q2 2021), *Nanomaterials* (Q2, 2023) and one review in *Trends in Analytical Chemistry* (Q1, 2021).
- In the recent years, Dr. Feier focused on facilitating the fast identification of **nosocomial infections** and their proper antibiotic treatment, by developing portable (bio)sensors for the electrochemical detection of molecules involved in **quorum sensing and biofilm formation** from microbiological cultures and different biological samples, leading to 2 articles published in *Biosensors* (Q1, 2022) and 2 reviews published in *Analytica Chimica Acta* (Q1, 2022) and *Journal of Clinical Medicine* (Q2, 2022)

The practical application of his research was acknowledged through the granting of **patent** membership in one applications:

- "Procedeu pentru detectarea electrochimică simultană a bacteriilor patogene Escherichia coli și Pseudomonas aeruginosa prin intermediul unor factori de virulență utilizând electrozi imprimați serigrafic pentru testarea pe teren" A 00845/18.12.2023 (Victoria-Cecilia Cristea, Mihaela-Claudia Tertiș, Andreea Cernat, Bogdan-George Feier, Oana-Alexandra Hosu-Stăncioiu, Alexandra Canciu).

All the mentioned research directions are reflected in his published work: **9 book chapters** (6 in international books), **26 ISI articles (15 as main author)**, 3 proceedings papers, 1 patent application.

## **C2. The impact of the research activity evaluated by the quality of citations and by the presentation of concrete applications**

Dr. Feier's research has a good impact on the analytical chemistry and electrochemistry fields. Dr. Feier published **9** articles published in **Q1** (red zone) and **11** in **Q2** (yellow zone). The H-Index according to [Web of Science Core Collection](#) is 13 (486 citations and 454 without self-citations), to [Scopus](#) is 14 (558 citations), and to [Google Scholar](#) 16 (731 citations), respectively. **Dr. Feier has a cumulative AIS score for the articles published in the last 5 years of 4.528 (see [Annex 10](#)).**

The highest number of citations is 57 (average per year 7.13) for the manuscript published in [Analytica Chimica Acta](#), followed by 51 citations (average per year 8.5) for the study published in [Analytical and Bioanalytical Chemistry](#), and 49 citations (average per year 7) for the manuscript published in [Current Opinion in Electrochemistry](#).

## **C3. The ability to attract funds/cooperation/speaker at congresses/universities**

Dr. Feier has been improving his skills in applying for grants, attracting research funds, and managing research grants since his PhD years, benefiting from two AUF scholarships won by competition in 2011 and 2012, and European Union-funded POSDRU doctoral scholarship (88/1.5/S/56949). Dr. Feier has an organic evolution regarding the implication in research grants. Thus, after obtaining the PhD. Degree, he won a postdoctoral scholarship POSDRU/159/1.5/S/136893 between 2015 and 2017. And he has successfully managed two UMF internal research grants won by competition: ("Electrochemical sensors and biosensors for heavy metals detection in the pharmaceutical and biomedical field" (1491/8/28.01.2014) and "Development of electrochemical platforms for the simultaneous detection of  $\beta$ -lactam antibiotics" (4945/17/08.03.2016, of around 8,000 EUR each. Dr. Feier continued with a 55,000 EUR **post-doctoral research grant**, won after a national competition: "Development of electrochemical sensors for monitoring the vancomycin and gentamicin treatments" (128/2018 (PN-III-P1-1.1-PD-

2016-1132). This post-doctoral research project helped improving the monitoring of the treatment with two antibiotics, in order to avoid the adverse reaction associated with the treatment. Dr. Feier's maturity in managing projects was confirmed by the **successful management of a national around 90,000 euros "Young researchers teams"** project, "[Electrochemical detection of bacterial quorum sensing molecules and biofilm formation](#)" (PN-III-P1-1.1-TE-2019-1360 (93 / 28.09.2020), addressing a hot topic in the medical field – early diagnosis of bacterial infections and the fight against antimicrobial resistance.

Dr. Feier was involved as **member / key member** in 5 international and 10 national projects in biomedical/pharmaceutical analysis: **(i) International grants:** (1) Border detection of illicit drugs and precursors by robust sensors ([Bordersens](#), H2020/833787) - member; (2) Pathogen contamination emergency response technologies ([PathoCERT](#), H2020/883484) – key member; (3) Innovative Technological, European integration of new technologies and social-economic solutions for increasing consumer trust and engagement in seafood products ([FishEuTrust](#), H2020/952644) key member; (4) Synergy of plasmonic structures, affinity elements and photosensitizers for electrosensing of pharmaceuticals (RUS ERA NET – PNCDI III/P3 Programme) – member; (5) CliniMark: good biomarker practice to increase the number of clinically validated biomarkers - COST Action CA16113 (OC-2016-1-20724) – member; **(ii) National grants:** (1) Summer school Electrochemistry for Environmental and Biomedical Applications 2013 (PN-II-ID-SSA-2012-2-027); (2) Smart materials for medical applications' ([INTELMAT](#)), 2018-2021, PN-III-P1-1.2-PCCDI-2017-0407, Contract nr. 39PCCDI/2018, 37.171 Euro); (3) Innovative high-precision approach to robotically assist intraoperative treatment of liver tumors based on integrated imaging-molecular diagnosis ([IMPROVE](#)) (PN-III-P1-1.2-PCCDI2017-0221); (4) Development of platforms for sensors used in the detection and quantification of biomarkers involved in neurological disorders", 2015-2017, PN-II-RU-TE-2014-4-0460, Contract no. 78/2015, 550.000 RON; (5) New electrochemical sensors for the sensitive and selective detection of biogene amines, 2017-2018, PN-III-P3-3.1-PM-RO-FR-2016-0003 PAI Brâncuși, Contract nr 87 BM/29.03.2017; (6) Nanobiosensor with smartphone interface for rapid and selective detection of antibiotics in water, [nSensOFWater](#) 2017-2018, Contract nr. 67/2017 (PN-III-P2-2.1-PED-2016-0172); (7) Detection of drugs and precursors at customs points using precise electro sensors 2020-2022PN-III-P3-3.6-H2020-2020-0095/Contract no. 32/2020; (8) European integration of new technologies and social-economic solutions for increasing consumer trust and engagement in seafood products, FishEuTrust, 2023-2025, PN-IV-P8-8.1-PRE-HE-ORG-2023-076, Contract no. 29356/08.11.2023; (9) Wearable electrochemical sensors for the noninvasive detection of inflammatory mediators expressed in post-COVID-19 infection", ([WEAR-4-postCOVaID](#), PN-III-P1-1.1-TE-2021-1543



35184/17.12.2021); (10) Nanoplatfroms for the rapid electrochemical detection of *Staphylococcus aureus* by specific markers" ([StarSens](#), PN-III-P1-1.1-TE-2021-0846, PNCDI III. TE 89/23.05.2022). The full list of all the national and international projects won by the BBG members is detailed in [Annex 9](#).

#### **C4. Professional prestige assessed by the degree of recognition/appreciation of the candidate's activity at the international level**

The scientific activity conducted by Bogdan Feier, within the BBG overseen by Prof. Cristea, is validated by the international academic community through publications in numerous prestigious international journals (Annex 6), several research stays at prestigious universities from France and Belgium, presentations at congresses and specialized conferences. Dr. Feier has given 10 oral presentation at international conferences, one invited lecture at the Food Safety and Healthy Living Summer school, held in Bucharest, 3-6 september 2023 and one plenary lecture at the 19<sup>th</sup> Romanian National Congress of Pharmacy, organized with international participation at Cluj-Napoca, 27-29 September 2023. The professional prestige of BBG is also demonstrated by its participation in international projects ([Annex 2](#)) (as work package leader in 3 projects).

Dr. Feier served as a Guest Editor of the [Special issue](#) "Sensors – a Weapon in the Fight against Antimicrobial Resistance" in *Sensors* and he was invited to peer-review manuscripts for important journals: [Biosensors and bioelectronics](#) (IF=12.54), [Microchemical Journal](#) (IF=4.8), [Sensors and actuators A](#) (IF=4.29), [Electrochemistry communications](#) (IF=5.44), [Pharmaceuticals](#) (IF=4.6), [Journal of Applied Electrochemistry](#) (IF=2.9), [PlosOne](#) (IF=3.75), [Biosensors](#) (IF=5.4), [Sensors](#) (IF=3.9).

The members of the BBG have been invited to contribute with chapters in international books, published by prestigious scientific publishers, like Springer and Elsevier. Dr. Feier contributed as main author or co-author to 6 chapters in international books.

Dr. Feier received in 2013 and 2017 the "Young Researcher" Prize, awarded to researchers younger than 40 by the "Iuliu Hațieganu" University of Medicine and Pharmacy for excellence in research.

In January 2023, Dr. Feier was part of the team led by Prof. Cristea, finalist in the Research Gala organized by the Romanian Ministry of Research (among the 8 finalist teams from 523 applying research teams).

Dr. Feier was Member of the organizing committee of the (i) Summer school on Electrochemistry for Environmental and Biomedical Applications, organized at Cluj-Napoca, Romania (2013), (ii) 26<sup>th</sup> International Symposium on Bioelectrochemistry and Bioenergetics of the Bioelectrochemical Society (BES) conference, Cluj-Napoca, Romania (online) (2021) and (iii) the 19<sup>th</sup> Romanian



National Congress of Pharmacy, Cluj-Napoca, 2023. Bogdan Feier is also a member in several international and national societies: Bioelectrochemical Society (BES), International Society of Electrochemistry (ISE), Romanian Society of Pharmaceutical Sciences (SSFR), Romanian Society of Chemistry, National College of Pharmacists.

### **C5. Organizational capacity**

Dr. Bogdan Feier puts a lot of effort in student mentoring activities: he has been coordinating the research activity of more than 25 Pharmacy undergraduate students, members of the Analytical chemistry scientific club, and 7 of them decided to continue the research as PhD students. His ability to efficiently coordinate a research team is proven by the six papers having co-authors undergraduate students. He has been guiding several bachelor dissertations and poster or oral presentations for the students' participation to national and international student conferences. Dr. Feier is also founding president and coordinator of the "Analytical thinking" Student Debate Club and of the Pharma Book Club for the Pharmacy students of UMFIH.

Dr. Feier's organizational skills have been demonstrated by the successful implementation of the "Young research teams" project, "[Electrochemical detection of bacterial quorum sensing molecules and biofilm formation](#)" (PN-III-P1-1.1-TE-2019-1360 (93 / 28.09.2020), that involved 3 PhD students, one post-doctoral researcher expert in microbiology and the other experienced researcher of the BBG.

His organizational capacity is proved by his active involvement in national and international funding applications and the management of parts of international projects, Dr. Feier being sometimes the BBG representative in work meetings with the project consortia.

## Curriculum Vitae of Dr. Oana Alexandra HOSU-STĂNCIOIU

**Dr. Oana Alexandra Hosu-Stăncioiu** (Brainmap code [U-1700-037M-6614](#)) (34 years old) graduated from Faculty of Pharmacy,UMFIH, Cluj-Napoca (Romania) in 2013 (the degree holder is ranked 14 out of 154 graduates with a 9.32 average score out of 10). Dr. Hosu-Stăncioiu carried out her PhD at the same university under the supervision of Prof. Dr. Robert Săndulescu and co-supervision of Prof. Dr. Christopher Brett and obtained the PhD title in 2017 with excellent rating/SUMMA CUM LAUDE ([PhD Thesis Oana Hosu](#)). The PhD work elaborated by Dr. Oana Hosu-Stăncioiu brought a significant contribution in the field of bioelectrochemistry and sensors, with elements of originality, focusing on the development of **optical and electrochemical sensors** using different strategies to design new platforms with analytical and bioanalytical applications. Therefore, Dr. Hosu-Stăncioiu contribution has led to the development of new types of **affinity-based sensors and immunosensors** for the detection of **tumour biomarkers or pharmaceuticals**, as well as the development of **new strategies in the design of electrochemical biosensors** by means of **conducting functionalized nanostructured platforms** (organic polymers in eutectic solvents, aryl diazonium salts and photo-electrochemical hybrid materials) and the **synthesis of new compounds with the ability to anchor biological elements to the electrode surface** (pyrene-diazirine).

She received training in several different laboratories of leading researchers in the field of analytical chemistry and electrochemistry in the numerous research stages she has performed in the framework of several **fellowships (4 Erasmus, AUF, POSDRU)** or **projects (PostDoc grant)** as Bachelor and PhD student, and postdoctoral researcher. Dr. Hosu-Stăncioiu had the opportunity to achieve complementary skills in hyphenated analytical techniques among: research stays focusing on **smartphone-based optical sensors** at University of Florence, Italy (Prof. Giovanna Marrazza, 4 months in 2014), electrochemical measurements in the field of biosensors, in particular **hybrid composites consisting of poly(methylene blue) films** made by electropolymerisation in **deep eutectic solvents and carbon nanotubes** at Coimbra University, Portugal (Prof. Christopher Brett, 7 months in 2016), **nanostructured photoactivatable electrode materials** based on pyrene diazirine at Université Grenoble-Alpes, France (Dr. Serge Cosnier, 5 months in 2016-2017) and a **PostDoc research** stay in Florence, Italy (Prof. Giovanna Marrazza, 10 months in 2017-2018).

Dr. Oana Hosu-Stăncioiu is currently **Assistant Professor** at the Department of Analytical Chemistry and Instrumental Analysis, from Faculty of Pharmacy of UMFIH Cluj-Napoca since **October 2018**, just one year after completing her PhD. She is responsible with organizing and conducting the laboratory sessions of Qualitative, Quantitative and Instrumental Analytical Chemistry (1<sup>st</sup> and 2<sup>nd</sup> year Pharmacy students) where students achieve theoretical and practical skills. Dr. Oana Hosu-Stăncioiu gained experience in **coordinating research activities** of Bachelor,

Master and PhD students, as well as in the field of **genosensors** based on **DNA** oligonucleotide sequences and **nanstructured aptasensors**. She has successfully coordinated a PostDoctoral project financed by UEFISCDI in 2020 (1 ranking out of 73 proposals in the Medical Domain) She showed herself to be a highly motivated and conscientious researcher who takes the initiative and took the opportunity to learn many experimental techniques and to constantly upgrade her knowledge. To that, Dr. Hosu-Stăncioiu applied for Erasmus+ fellowships for short-term traineeships in the laboratories of Prof. Dr. Wolfgang Schuhmann (Bochum, Germany) and Prof. Dr. María Jesús Lobo Castañón (Oviedo, Spain) where she achieved knowledge of new technologies based on the use of **gold microchips for the development of DNA-sensors** and the field of **selection of aptamers by SELEX technology**, respectively, which she further implemented in the laboratory from UMFH Cluj-Napoca.

The eligibility criteria are mentioned in [Annex 10](#).

#### **C1. The results of the research activity evaluated through books/articles/patents**

Dr. Hosu-Stăncioiu's research activity has been focusing on electroanalytical chemistry, in particular new electrochemical sensor and biosensor platforms for application to important analytes of biological significance.

- She has gained experience in developing several **innovative architecture designs** based on different **electrode modifiers** such as conductive organic polymer films, diazonium salt-based films, carbon nanotubes, graphene, metallic and magnetic nanoparticles. These integrated **nanstructured materials** improved the sensitivity of the developed sensors as well as facilitated the immobilization of biomolecules when needed. Thus, the results have an important impact in the field of sensors as the developed systems showed good reproducibility and recovery rates as well as good sensitivities for the analytes of interest from **pharmaceutical and biomedical field**.
- Dr. Hosu-Stăncioiu's on-going research focuses on the **development of DNA-biosensors** and **aptasensors** using multi-array gold micro-chips, the **detection food allergens and contaminants** and the **selection of new aptamers by SELEX technology**.
- Moreover, her recent work is focusing on the **development of new gold nanopatterned platforms for antibiotics detection** under the frame of an ERA-NET project (Plasmon Electrolight).
- The research activity realized since 2013 has led to an impressive number of **36 articles** in international peer-reviewed journals out of which **13 articles** in **Q1 journals** (red zone) such as Trends in Analytical Chemistry, Food Chemistry, Analytica Chimica Acta,

Microchimica Acta, **13 chapters** edited by international publishers such as Elsevier, Springer, Wiley and **2 proceedings papers**.

- The list of articles (2019-2023) with the contribution of Dr. Hosu-Stăncioiu can be found in the [Annex 6](#)
- The quality of the research was acknowledged through the granting of patent membership in "Procedeu pentru detectarea electrochimică simultană a bacteriilor patogene Escherichia coli și Pseudomonas aeruginosa prin intermediul unor factori de virulență utilizând electrozi imprimați serigrafic pentru testarea pe teren" A 00845/18.12.2023 (Victoria-Cecilia Cristea, Mihaela-Claudia Tertiș, Andreea Cernat, Bogdan-George Feier, **Oana-Alexandra Hosu-Stăncioiu**, Alexandra Canciu).

## **C2. The impact of the research activity evaluated by the quality of citations and by the presentation of concrete applications**

Dr. Hosu-Stăncioiu has a good international visibility with a HIRSCH index of **16** according to [Web of Science Core Collection](#) (801 total citations and 746 without self-citations, with an average of 22.33 citations per item), **16** according to [Scopus](#) (894 total citations) and **19** according to [Google Scholar](#) (1116 total citations). Also, she has a cumulative AIS score of **7.466** (see [Annex 10](#)).

The highest number of citations is 73 (average per year 12.17) for the manuscript published in [Sensors](#), followed by 69 citations (average per year 11.5) for the study published in [TRAC-Trends in Analytical Chemistry](#), and 60 citations (average per year 7.5) for the manuscript published in [Electrochimica Acta](#).

## **C3. The ability to attract funds/cooperation/speaker at congresses/universities**

Dr. Hosu-Stăncioiu is the author or co-author of over **80 oral and poster communications** at national and international scientific conferences (France, Sweden, The Netherlands, Italy, Ireland, Portugal, and Belgium).

By far, her personal greatest profesional achievement by now is **leading a postdoctoral project** after her proposal was **first ranked out of 73 proposals** within the PostDoctoral grant national competition in **Health domain**. The main objective of **DNASens4SafeFood project** consisted in facilitating the determination of **aflatoxin B1** (AFB1, mycotoxin) and **Ara h1** (allergen) by sensitive and selective electrochemical detection of their concentrations from different food products, in order to **diminish the occurrence of food-induced diseases and allergic symptoms** among sensitized subjects and thus **improve their life-quality**.

Besides the scholarships dedicated to receive training in highly-ranked international laboratories that were funded by **Erasmus (4)**, **AUF**, **POSDRU** or **Italian PostDoc grant**, Dr. Oana Hosu-Stăncioiu has been a member of **4 international** and **8 national research projects**, such as: (1) Pathogen contamination emergency response technologies ([PathoCERT](#), H2020/883484); (2) Innovative Technological, European integration of new technologies and social-economic solutions for increasing consumer trust and engagement in seafood products ([FishEuTrust](#), H2020/952644); (3) Synergy of plasmonic structures, affinity elements and photosensitizers for electrosensing of pharmaceuticals ([RUS ERA NET](#) – PNCDI III/P3 Programme) - key member; (4) Nanostructured microfluidic analytical platform for dual SERS-electrochemical detection of emerging environmental pollutants (RO-NO-2019-0517) - 32/2020; (5) Development of platforms for sensors used in the detection and quantification of biomarkers involved in neurological disorders”, 2015-2017, PN-II-RU-TE-2014-4-0460, Contract no. 78/2015; (6) New electrochemical sensors for the sensitive and selective detection of biogene amines, 2017-2018, PN-III-P3-3.1-PM-RO-FR-2016-0003 PAI Brâncuși; (7) Nanobiosensor with smartphone interface for rapid and selective detection of antibiotics in water, [nSensOFWater](#) 2017-2018, Contract nr. 67/2017 (PN-III-P2-2.1-PED-2016-0172); (8) Electrochemical detection of molecules involved in bacterial sensitivity by quorum and biofilm formation ([QuorelSens](#), PN-III-P1-1.1-TE-2019-1360, 432.000 RON); (9) Nanostructured plasmonic platform for dual electrochemical/SERS detection of some pharmaceutical environmental pollutants, (PharmExER) (2020-2022) - 477PED/2020 PN-III-P2-2.1-PED-2019-5360; (10) Wearable electrochemical sensors for the noninvasive detection of inflammatory mediators expressed in post-COVID-19 infection", ([WEAR-4-postCOVaiD](#), PN-III-P1-1.1-TE-2021-1543 35184/17.12.2021); (11) Nanoplatfroms for the rapid electrochemical detection of *Staphylococcus aureus* by specific markers" ([StarSens](#), PN-III-P1-1.1-TE-2021-0846, PNCDI III. TE 89/23.05.2022); (12) European integration of new technologies and social-economic solutions for increasing consumer trust and engagement in seafood products, FishEuTrust, 2023-2025, PN-IV-P8-8.1-PRE-HE-ORG-2023-076, Contract no. 29356/08.11.2023; The full list of all the national and international projects won by the BBG members is detailed in [Annex 9](#).

She led other **doctoral** (POSDRU 2014-2015 and 2 internal research projects) and **postdoctoral grants** (**1 international** and **1 ACAMed (Acamed- Academia cercetatorilor antreprenori in medicina)-POCU for Project Management**) where she genuinely proved to successfully accomplish performance rates much over 100%. She also **mentored two internal UMFH student research grants**, namely „Selection and characterization of an aptamer for Golgi protein 73” (35185/17.12.2021) and „Optical-electrochemical aptasensor for the sensitive detection of aflatoxin from milk” (35183/17.12.2021), which were successfully completed by publishing two papers in **Biosensors (IF 5.4, Q1)** and **Analytica Chimica Acta (IF 6.2, Q1)**.



#### **C4. Professional prestige assessed by the degree of recognition/appreciation of the candidate's activity at the international level**

Although Dr. Hosu-Stăncioiu's research activity has only begun six years ago, her findings are already **visible both nationally and internationally**. She won the **"Ion Baci" 2018 Award** of UMFIH Cluj-Napoca for the PhD thesis with the highest overall **Impact Factor (29.016)** outscoring all PhD Thesis defended by then at UMFIH. She won numerous prizes such as the **ISE Travel Award 2018 for Young Electrochemists** and **3 awards for the best poster/presentation** in conferences as Journées d'Electrochimie 2017 (Bordeaux, France), the 19<sup>th</sup> International Symposium and Summer School on Bioanalysis 2019 (Șuitor, Romania), the 25<sup>th</sup> International Symposium on Bioelectrochemistry and Bioenergetics of the BES conference 2019 (**Elsevier Poster Award**, Limerick, Ireland), and ZUMF and multiple **UEFISCDI** prizes in the framework of "Awards for research results-papers".

#### **C5. Organizational capacity**

Dr. Hosu-Stăncioiu is very active in her professional field and has developed organizational skills being an active **member in organizing committees** and **volunteering activities** in the Italian–French Workshop on Chemical Sensors and Biosensors 2018, Florence (Italy) and the 24<sup>th</sup> International Symposium on Bioelectrochemistry and Bioenergetics of the Bioelectrochemical Society (BES) conference 2017, Lyon (France). Dr. Hosu-Stăncioiu was involved in the organizing committee of the 26<sup>th</sup> edition of the above-mentioned conference which was held at Cluj-Napoca in 2021. Therefore, Dr. Hosu-Stăncioiu is a **member in several international and national societies**: Bioelectrochemical Society (**BES**), International Society of Electrochemistry (**ISE**), Romanian Society of Pharmaceutical Sciences (**SSFR**). She also acts as a **volunteer peer-reviewer** for Analytica Chimica Acta (IF 5,256), Bioelectrochemistry (IF 4,474), ACS Chemical Neuroscience Journal (IF 4.486), Sensors (IF 3.275), Biosensors (IF 3.240), Chemosensors (IF 3.108), ACS Journals, Tailor and Francis Journals, etc.

As the project manager of the PostDoctoral research grant entitled **"DNA-miniaturized sensors array gold-chip for Aflatoxin and Ara h allergen simultaneous electrochemical detection for food safety management"** (PN-III-P1-1.1-PD-2019-0631) - [DNASens4SafeFood](#), she has managed to successfully accomplish the milestones from the project proposal, highlighted by the large number of publications (**10 papers and 1 chapter**) and presentations (**15 oral and poster presentations**) given at national and international conferences. The skills developed during the **AcaMed-POCU Project Management** training have definitely contributed to the successful implementation of the PD project.

She has been involved in overseeing the research activity overtime of **4 PhD students**, overseeing the research activity of **4 International incoming students**, mentoring **2 internal grants** dedicated for students, and **coordinating 7 Bachelor students** and **co-supervising 1 Master and 1 Bachelor diploma at the University of Florence, Italy**.

## 8. List of publications

*(for the individual candidate or each member of the research team, in the case of the "individual candidate," emphasizing the candidate's relevant publications in the last 5 years, and the shared publications of the members of a research team, in the case of the "research team" candidate).*

The publication list for all the members of BBG is available in [Annex 6](#).

In the last 5 years, the BBG has published 12 original articles in prestigious journals found in Q1 (red zone), according to AIS score:

1. Dragan AM, Parrilla M, Slegers N, Slosse A, Van Durme F, van Nuijs A, Oprean R, **Cristea C**, De Wael K. Investigating the electrochemical profile of methamphetamine to enable fast on-site detection in forensic analysis. *Talanta*. 2023 Apr 1;255:124208.
2. Melinte G, Hosu O, **Cristea C**, Marrazza G. Ara H1 peanut allergen detection using a labelled electrochemical aptasensor based on GO-COOH@ bimetallic composite platform. *Food Chemistry*. 2023 Jan 30;400:134074.
3. Capatina D, Lupoi T, Feier B, Olah D, **Cristea C**, Oprean R. Highly sensitive detection of PQS quorum sensing in *Pseudomonas aeruginosa* using screen-printed electrodes modified with nanomaterials. *Biosensors*. 2022 Aug 13;12(8):638.
4. Capatina D, Lupoi T, Feier B, Blidar A, Hosu O, Tertis M, Olah D, **Cristea C**, Oprean R. Label-Free Electrochemical Aptasensor for the Detection of the 3-O-C12-HSL Quorum-Sensing Molecule in *Pseudomonas Aeruginosa*. *Biosensors*. 2022 Jun 22;12(7):440.
5. Marc G, Stana A, Franchini AH, Vodnar DC, Barta G, Tertiş M, Şanta I, **Cristea C**, Pîrnău A, Ciorîţă A, Dume B. Phenolic thiazoles with antioxidant and antiradical activity. Synthesis, in vitro evaluation, toxicity, electrochemical behavior, quantum studies and antimicrobial screening. *Antioxidants*. 2021 Oct 27;10(11):1707.
6. Blidar A, Hosu O, Feier B, Ştefan G, Bogdan D, **Cristea C**. Gold-based nanostructured platforms for oxytetracycline detection from milk by a “signal-on” aptasensing approach. *Food Chemistry*. 2022 Mar 1;371:131127.
7. Rus I, Tertiş M, Barbălată C, Porfire A, Tomuţă I, Săndulescu R, **Cristea C**. An electrochemical strategy for the simultaneous detection of doxorubicin and simvastatin for their potential use in the treatment of cancer. *Biosensors*. 2021 Jan 3;11(1):15.
8. Blidar A, Trashin S, Carrión EN, Gorun SM, **Cristea C**, De Wael K. Enhanced photoelectrochemical detection of an analyte triggered by its concentration by a singlet oxygen-generating fluoro photosensitizer. *ACS sensors*. 2020 Oct 29;5(11):3501-9.
9. Hosu O, Lettieri M, Papara N, Ravalli A, Sandulescu R, **Cristea C**, Marrazza G. Colorimetric multienzymatic smart sensors for hydrogen peroxide, glucose and catechol screening analysis. *Talanta*. 2019 Nov 1;204:525-32.

10. Tertis M, Leva PI, Bogdan D, Suciu M, Graur F, **Cristea C**. Impedimetric aptasensor for the label-free and selective detection of Interleukin-6 for colorectal cancer screening. *Biosensors and Bioelectronics*. 2019 Jul 15;137:123-32.
11. Feier B, Blidar A, Pusta A, Carciuc P, **Cristea C**. Electrochemical sensor based on molecularly imprinted polymer for the detection of cefalexin. *Biosensors*. 2019 Feb 27;9(1):31.
12. Ciui B, Tertis M, Feurdean CN, Ilea A, Sandulescu R, Wang J, **Cristea C**. Cavitas electrochemical sensor toward detection of N-epsilon (carboxymethyl) lysine in oral cavity. *Sensors and Actuators B: Chemical*. 2019 Feb 15;281:399-407.

Several publications of the BBG from the **last 5 years** have been highly cited on the WOS platform, underlining the international visibility and the relevance of the BBG research activities and directions:

- **Tertis Mihaela**, Leva PI, Bogdan D, Suciu M, Graur F, **Cristea Cecilia**. Impedimetric aptasensor for the label-free and selective detection of Interleukin-6 for colorectal cancer screening. *Biosensors and Bioelectronics*. 2019 Jul 15;137:123-32 - **83 citations**
- I. Tiuca-Gug, **Mihaela Tertiş**, **Oana Hosu**, **Cecilia Cristea**, Salivary biomarkers detection: Analytical and immunological methods overview, *TrAC-Trends in Analytical Chemistry*, 113, 2019, 301-316 - **69 citations**
- A. Blidar, **Bogdan Feier**, **Mihaela Tertis**, R. Galatus, **Cecilia Cristea**, Electrochemical surface plasmon resonance (EC-SPR) aptasensor for ampicillin detection, *Analytical and Bioanalytical Chemistry*, 2019, 411(5), 1053-1065 - **53 citations**
- Geanina Ştefan, **Oana Hosu**, Karolien De Wael, María Jesús Lobo-Castañón, **Cecilia Cristea**. Aptamers in biomedicine: Selection strategies and recent advances. *Electrochimica Acta* 2021 376 137994 - **53 citations**
- **Hosu Oana**, Lettieri M, Papara N, Ravalli A, Sandulescu R, **Cristea Cecilia**, Marrazza G. Colorimetric multienzymatic smart sensors for hydrogen peroxide, glucose and catechol screening analysis. *Talanta*. 2019 Nov 1;204:525-32 - **39 citations**
- **Andreea Cernat**, G. Ştefan, **Mihaela Tertis**, **Cecilia Cristea**, I. Simon, An overview of the detection of serotonin and dopamine with graphene-based sensors (Review), *Bioelectrochemistry*, 136 2020, 107620 - **43 citations**

For each publication at least 2 members of the team were involved, underlining the strong cohesion of the research members and activities among BBG.

The publications list can be also found for each member in the Brainmap profiles:

Dr. Cecilia Cristea (<https://www.brainmap.ro/victoria-cecilia-cristea>),

Dr. Mihaela Tertiş (<https://www.brainmap.ro/mihaela-tertis>),

Dr. Andreea Cernat (<https://www.brainmap.ro/andreea-ilioaia-cernat>),

Dr. Bogdan Feier (<https://www.brainmap.ro/bogdan-feier>),

Dr. Oana Hosu-Stăncioiu (<https://www.brainmap.ro/oana-alexandra-hosu-stancioiu>).



**9. List of research projects won by the candidate and their value**

The BBG has proved a high capacity to apply for research projects and to win research grants in national and international competitions gaining international recognition as highly reliable partners. The list is fully detailed in [Annex 9](#) and includes the position in the project of each member of BBG

**10. List of submitted and accepted patents**

The BBG's research is oriented towards practical applications, the 5 patents of the BBG validating the innovative character of the BBG's research (see [Annex 8](#)).

## Annex 1

List of publications as main author or co-author classified as *article* document type, published in Web of Science JCR quartile Q1 indexed journals according to AIS (the last available classification is taken into account in relation to the year of submission of the application)

1. Dragan AM, Parrilla M, Slegers N, Slosse A, Van Durme F, van Nuijs A, Oprean R, **Cristea Cecilia**, De Wael K. Investigating the electrochemical profile of methamphetamine to enable fast on-site detection in forensic analysis. *Talanta*. 2023 Apr 1;255:124208.
2. Melinte G, Hosu O, **Cristea Cecilia**, Marrazza G. Ara H1 peanut allergen detection using a labelled electrochemical aptasensor based on GO-COOH@ bimetallic composite platform. *Food Chemistry*. 2023 Jan 30;400:134074.
3. Capatina D, Lupoi T, Feier B, Olah D, **Cristea Cecilia**, Oprean R. Highly sensitive detection of PQS quorum sensing in *Pseudomonas aeruginosa* using screen-printed electrodes modified with nanomaterials. *Biosensors*. 2022 Aug 13;12(8):638.
4. Capatina D, Lupoi T, Feier B, Blidar A, Hosu O, Tertis M, Olah D, **Cristea Cecilia**, Oprean R. Label-Free Electrochemical Aptasensor for the Detection of the 3-O-C12-HSL Quorum-Sensing Molecule in *Pseudomonas Aeruginosa*. *Biosensors*. 2022 Jun 22;12(7):440.
5. Marc G, Stana A, Franchini AH, Vodnar DC, Barta G, Tertiş M, Şanta I, **Cristea Cecilia**, Pîrnău A, Ciorîţă A, Dume B. Phenolic thiazoles with antioxidant and antiradical activity. Synthesis, in vitro evaluation, toxicity, electrochemical behavior, quantum studies and antimicrobial screening. *Antioxidants*. 2021 Oct 27;10(11):1707.
6. Blidar A, Hosu O, Feier B, Ştefan G, Bogdan D, **Cristea Cecilia**. Gold-based nanostructured platforms for oxytetracycline detection from milk by a “signal-on” aptasensing approach. *Food Chemistry*. 2022 Mar 1;371:131127.
7. Rus I, Tertiş M, Barbălată C, Porfire A, Tomuţă I, Săndulescu R, **Cristea Cecilia**. An electrochemical strategy for the simultaneous detection of doxorubicin and simvastatin for their potential use in the treatment of cancer. *Biosensors*. 2021 Jan 3;11(1):15.
8. Blidar A, Trashin S, Carrión EN, Gorun SM, **Cristea Cecilia**, De Wael K. Enhanced photoelectrochemical detection of an analyte triggered by its concentration by a singlet oxygen-generating fluoro photosensitizer. *ACS sensors*. 2020 Oct 29;5(11):3501-9.
9. Hosu O, Lettieri M, Papara N, Ravalli A, Sandulescu R, **Cristea Cecilia**, Marrazza G. Colorimetric multienzymatic smart sensors for hydrogen peroxide, glucose and catechol screening analysis. *Talanta*. 2019 Nov 1;204:525-32.
10. Tertis M, Leva PI, Bogdan D, Suciu M, Graur F, **Cristea Cecilia**. Impedimetric aptasensor for the label-free and selective detection of Interleukin-6 for colorectal cancer screening. *Biosensors and Bioelectronics*. 2019 Jul 15;137:123-32.

11. Feier B, Blidar A, Pusta A, Carciuc P, **Cristea Cecilia**. Electrochemical sensor based on molecularly imprinted polymer for the detection of cefalexin. *Biosensors*. 2019 Feb 27;9(1):31.
12. Ciui B, Tertis M, Feurdean CN, Ilea A, Sandulescu R, Wang J, **Cristea Cecilia**. Cavitas electrochemical sensor toward detection of N-epsilon (carboxymethyl) lysine in oral cavity. *Sensors and Actuators B: Chemical*. 2019 Feb 15;281:399-407.
13. Ciui B, Martin A, Mishra RK, Nakagawa T, Dawkins TJ, Lyu M, **Cristea Cecilia**, Sandulescu R, Wang J. Chemical sensing at the robot fingertips: Toward automated taste discrimination in food samples. *ACS sensors*. 2018 Sep 18;3(11):2375-84.
14. Ciui B, Tertiş M, Cernat A, Săndulescu R, Wang J, **Cristea Cecilia**. Finger-based printed sensors integrated on a glove for on-site screening of *Pseudomonas aeruginosa* virulence factors. *Analytical chemistry*. 2018 May 31;90(12):7761-8.
15. Jeerapan I, Ciui B, Martin I, **Cristea Cecilia**, Sandulescu R, Wang J. Fully edible biofuel cells. *Journal of Materials Chemistry B*. 2018;6(21):3571-8.
16. Ciui B, Martin A, Mishra RK, Brunetti B, Nakagawa T, Dawkins TJ, Lyu M, **Cristea Cecilia**, Sandulescu R, Wang J. Wearable wireless tyrosinase bandage and microneedle sensors: toward melanoma screening. *Advanced healthcare materials*. 2018 Apr;7(7):1701264.
17. Hosu O, Barsan MM, **Cristea Cecilia**, Săndulescu R, Brett CM. Nanocomposites based on carbon nanotubes and redox-active polymers synthesized in a deep eutectic solvent as a new electrochemical sensing platform. *Microchimica Acta*. 2017 Oct;184:3919-27.
18. Feier B, Gui A, **Cristea Cecilia**, Săndulescu R. Electrochemical determination of cephalosporins using a bare boron-doped diamond electrode. *Analytica chimica acta*. 2017 Jul 11;976:25-34.
19. Hosu O, Ravalli A, Piccolo GM, **Cristea Cecilia**, Sandulescu R, Marrazza G. Smartphone-based immunosensor for CA125 detection. *Talanta*. 2017 May 1;166:234-40.
20. Bougrini M, Florea A, **Cristea Cecilia**, Sandulescu R, Vocanson F, Errachid A, Bouchikhi B, El Bari N, Jaffrezic-Renault N. Development of a novel sensitive molecularly imprinted polymer sensor based on electropolymerization of a microporous-metal-organic framework for tetracycline detection in honey. *Food Control*. 2016 Jan 1;59:424-9.
21. Florea A, Guo Z, **Cristea Cecilia**, Bessueille F, Vocanson F, Goutaland F, Dzyadevych S, Săndulescu R, Jaffrezic-Renault N. Anticancer drug detection using a highly sensitive molecularly imprinted electrochemical sensor based on an electropolymerized microporous metal organic framework. *Talanta*. 2015 Jun 1;138:71-6.
22. Guo Z, Florea A, **Cristea Cecilia**, Bessueille F, Vocanson F, Goutaland F, Zhang A, Săndulescu R, Lagarde F, Jaffrezic-Renault N. 1, 3, 5-Trinitrotoluene detection by a molecularly

imprinted polymer sensor based on electropolymerization of a microporous-metal-organic framework. *Sensors and Actuators B: Chemical*. 2015 Feb 1;207:960-6.

23. Feier B, Floner D, **Cristea Cecilia**, Bodoki E, Sandulescu R, Geneste F. Flow electrochemical analyses of zinc by stripping voltammetry on graphite felt electrode. *Talanta*. 2012 Aug 30;98:152-6.



## Annex 2

List of research grants (higher than 100,000 EUR) and the values of each:

No.	Type of the project	Informations related to projects	PI/responsible of the project	Members of the BBG
1.	International Grant	Horizon 2020 RIA H2020-SU-SEC-2018-2019-2020 Contract no. 833787/05.04.2019 <b>Title:</b> "Border detection of illicit drugs and precursors by highly accurate electrosensors – <b>BorderSens</b> " 2019-2023 <b>535.625 EUR</b>	Prof. Dr. Cristea Cecilia	Dr. Mihaela Tertiș Dr. Andreea Cernat Dr. Bogdan George
2.	International Grant	ERA.Net RUS Plus Call 2017 - Science & Technology; Contract no. 46/2018 <b>Title:</b> "Synergy of plasmonic structures, affinity elements, and photosensitizers for electrochemical sensors of pharmaceutical products. - <b>PlasmonElectroLight</b> " 2018-2021 <b>609.040 RON (125.000 EUR)</b>	Prof. Dr. Cristea Cecilia	Dr. Mihaela Tertiș Dr. Bogdan Feier Dr. Oana Hosu-Stăncioiu
3.	International Grant	Horizon 2020 RIA H2020-SU-SEC-2018-2019-2020 Contract no. 883484/2020 <b>Title:</b> "Pathogen Contamination Emergency Response Technologies - <b>PATHOCERT</b> " 2020-2023 <b>230.375 EUR</b>	Prof. Dr. Cristea Cecilia	Dr. Mihaela Tertiș Dr. Andreea Cernat Dr. Bogdan Feier Dr. Oana Hosu-Stăncioiu
4.	International Grant	Horizon Europe HORIZON-CL6-2021-FARM2FORK-01-10 Grant Agreement 101060712/2022 <b>Title:</b> "European integration of new technologies and social-economic solutions for increasing consumer trust and engagement in seafood products - <b>FishEuTrust</b> " 2022-2025 <b>251.326 EUR</b>	Prof. Dr. Cristea Cecilia	Dr. Mihaela Tertiș Dr. Andreea Cernat Dr. Bogdan Feier Dr. Oana Hosu-Stăncioiu

5.	National Grant	PN-II-RU-TE-2014-4-0460/ Contract no. 78/2015 <b>Title:</b> “Development of platforms for sensors used in the detection and quantification of biomarkers involved in neurological disorders” 2015-2017 <b>550.000 RON (110.000 EUR)</b>	Prof. Dr. Cristea Cecilia	Dr. Mihaela Tertiș Dr. Andreea Cernat Dr. Bogdan Feier Dr. Oana Hosu- Stăncioiu
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## Annex 3

The quality of researcher/invited teaching staff at prestigious universities abroad – minimum 1;



JAGIELLONIAN  
UNIVERSITY  
IN KRAKÓW

Kraków, February 13, 2020

406.7341.1.2020

To Whom It May Concern,

Dear Sirs,

This is to confirm that Professor Cecilia Cristea from Iuliu Hatieganu University of Medicine and Pharmacy, Romania has been accepted as a guest lecturer at the Jagiellonian University, Faculty of Chemistry in Kraków, Poland, within the "Visiting Professors" Programme.

Faculty of Chemistry

The above-named will be a guest of the JU in the periods: 23 March – 4 April 2020 and 29 May – 6 June, during which time they will conduct a minimum of 60h of tuition for the JU students. The guest will receive remuneration for their work to the tune of 15 000 PLN (gross). The JU will provide the above-named guest with accommodation for the duration of their stay in one of the apartments rented by the university. Location: Poznańska 11 street, flat no. 55, Kraków.

Should you have any questions regarding our university or the "Visiting Professors" Programme, do not hesitate to contact me.

Yours sincerely,

Prof. Piotr Kuśtrowski  
Dean  
Faculty of Chemistry  
Jagiellonian University

ul. Gronostajowa 2  
30-337 Kraków, Poland  
tel: +48 12 686 26 00  
fax: +48 12 686 27 50  
sekretar@chemia.uj.edu.pl  
www.chemia.uj.edu.pl

**Annex 4**

The quality of editor-in-chief / associate editor at a journal indexed Journal Citation Reports – minimum 1;



## Annex 5

Cumulative influence score A, calculated as the sum of the weighted influence scores related to the articles published in the last 5 years (where the weighted influence score related to an article is defined as the influence score - AIS related to the article related to the number of authors of the article ) – A minimum of 5: **22.59022**

No	Authors	An	Jurnal/DOI	AIS 2023	No authors	AIS C. Cristea
1	Cernat, Andreea; Gyorfi, Szabolcs Janos; Irimes, Maria-Bianca; Tertis, Mihaela; Bodoki, Andreea; Pralea, Ioana-Ecaterina; Suciu, Maria; Cristea, Cecilia	2019	Electrochemistry communications <a href="https://doi.org/10.1016/j.elecom.2018.11.008">https://doi.org/10.1016/j.elecom.2018.11.008</a>	1.422	8	0.17775
2	Gandouzi, Islem; Tertis, Mihaela; Cernat, Andreea; Saidane-Mosbahi, Dalila; Ilea, Aranka; Cristea, Cecilia	2019	Materials DOI: 10.3390/ma12071180	1.659	6	0.2765
3	Hosu, Oana; Mirel, Simona; Sandulescu, Robert; Cristea, Cecilia,	2019	Analytical letters <a href="https://doi.org/10.1080/00032719.2017.1391826">https://doi.org/10.1080/00032719.2017.1391826</a>	0.515	4	0.12875
4	Tertis, Mihaela; Melinte, Gheorghe; Ciui, Bianca; Simon, Ioan; Stiufiuc, Rares; Sandulescu, Robert; Cristea, Cecilia	2019	Electroanalysis DOI: 10.1002/elan.201800620	0.792	7	0.113143
5	Blidar, Adrian; Feier, Bogdan; Tertis, Mihaela; Galatus, Ramona; Cristea, Cecilia,	2019	Analytical and Bioanalytical Chemistry <a href="https://doi.org/10.1007/s00216-018-1533-5">https://doi.org/10.1007/s00216-018-1533-5</a>	1.436	5	0.2872
6	Pascalau, Violeta; Pall, Eموke; Tertis, Mihaela; Suciu, Maria; Cristea, Cecilia; Borodi, Gheorghe; Bodoki, Andreea; Topala, Tamara; Stiufiuc, Rares; Moldovan, Alin; Pavel, Codruta; Marinca, Traian; Popa, Catalin	2019	International Journal of Polymeric Biomaterials DOI: 10.1080/00914037.2018.1525724	0.938	13	0.072154
7	Ilea, Aranka; Andrei, Vlad; Feurdean, Claudia Nicoleta; Babant, Anida-Maria; Petrescu, Nausica Bianca; Campian, Radu Septimiu; Bosca, Adina Bianca; Ciui, Bianca; Tertis, Mihaela; Sandulescu, Robert; Cristea, Cecilia	2019	Biosensors <a href="https://doi.org/10.3390/bios9010031">https://doi.org/10.3390/bios9010031</a>	1.747	11	0.158818
8	Ciui, Bianca; Tertis, Mihaela; Feurdean, Claudia N.; Ilea, Aranka; Sandulescu, Robert; Wang, Joseph; Cristea, Cecilia	2019	Sensors and actuators B-Chemical <a href="https://doi.org/10.1016/j.snb.2018.10.096">https://doi.org/10.1016/j.snb.2018.10.096</a>	2.123	7	0.303286
9	Feier, Bogdan; Blidar, Adrian; Pusta, Alexandra; Carciuc, Paula; Cristea, Cecilia	2019	Biosensors <a href="https://doi.org/10.3390/bios9010031">https://doi.org/10.3390/bios9010031</a>	1.747	5	0.3494
10	Florea, Anca; Melinte, Gheorghe; Simon, Ioan; Cristea, Cecilia	2019	Biosensors <a href="https://doi.org/10.3390/bios9010038">https://doi.org/10.3390/bios9010038</a>	1.747	4	0.43675



11	Gug, Ioana Tiuca; Tertis, Mihaela; Hosu, Oana; Cristea, Cecilia	2019	TRAC - Trends in analytical chemistry DOI: 10.1016/j.trac.2019.02.020	4.493	4	1.12325
12	Tavakolian-Ardakani, Zahra; Hosu, Oana; Cristea, Cecilia; Mazloum-Ardakani, Mohammad; Marrazza, Giovanna	2019	Sensors <a href="https://doi.org/10.3390/s19092037">https://doi.org/10.3390/s19092037</a>	1.314	5	0.2628
13	Cernat, Andreea; Canciu, Alexandra; Tertis, Mihaela; Graur, Florin; Cristea, Cecilia	2019	Analytical and Bioanalytical Chemistry DOI: 10.1007/s00216-019-01857-4	1.436	5	0.2872
14	Melinte, Gheorghe; Hosu, Oana; Lettieri, Mariagrazia; Cristea, Cecilia; Marrazza, Giovanna	2019	Sensors <a href="https://doi.org/10.3390/s19102279">https://doi.org/10.3390/s19102279</a>	1.314	5	0.2628
15	Feier, Bogdan; Blidar, Adrian; Vlase, Laurian; Cristea, Cecilia	2019	Electrochemistry communications <a href="https://doi.org/10.1016/j.elecom.2019.05.023">https://doi.org/10.1016/j.elecom.2019.05.023</a>	1.422	4	0.3555
16	Adumitrachioaie, Alina; Tertis, Mihaela; Suciu, Maria; Graur, Florin; Cristea, Cecilia	2019	Electrochimica acta DOI: 10.1016/j.electacta.2019.04.128	1.607	5	0.3214
17	Tertis, Mihaela; Leva, Petrica Ionut; Bogdan, Diana; Suciu, Maria; Graur, Florin; Cristea, Cecilia	2019	Biosensors & Bioelectronics DOI: 10.1016/j.bios.2019.05.012	3.522	6	0.587
18	Blidar, Adrian; Feier, Bogdan; Pusta, Alexandra; Dragan, Ana-Maria; Cristea, Cecilia	2019	Coatings <a href="https://doi.org/10.3390/coatings9100652">https://doi.org/10.3390/coatings9100652</a>	1	5	0.2
19	Hosu, Oana; Lettieri, Mariagrazia; Papara, Nicoleta; Ravalli, Andrea; Sandulescu, Robert; Cristea, Cecilia; Marrazza, Giovanna	2019	Talanta <a href="https://doi.org/10.1016/j.talanta.2019.06.041">https://doi.org/10.1016/j.talanta.2019.06.041</a>	1.707	7	0.243857
20	Hosu, Oana; Tertis, Mihaela; Cristea, Cecilia	2019	Magentochemistry DOI: 10.3390/magnetochemistry5040055	1.099	3	0.366333
21	Melinte, Gheorghe; Cernat, Andreea; Irimes, Maria-Bianca; Gyorfi, Szabolcs Janos; Tertis, Mihaela; Suciu, Maria; Anicai, Liana; Sandulescu, Robert; Cristea, Cecilia	2020	Sensors <a href="https://doi.org/10.3390/s20082315">https://doi.org/10.3390/s20082315</a>	1.314	9	0.146
22	Melinte, Gheorghe; Cernat, Andreea; Petica, Aurora; Lazar, Oana; Enachescu, Marius; Anicai, Liana; Cristea, Cecilia	2020	Materials DOI: 10.3390/ma13122752	1.659	7	0.237
23	Truta, Florina; Florea, Anca; Cernat, Andreea; Tertis, Mihaela; Hosu, Oana; de Wael, Karolien; Cristea, Cecilia	2020	Frontiers in chemistry DOI: 10.3389/fchem.2020.561638	2.112	7	0.301714

24	Cernat, Andreea; Petica, Aurora; Anastasoae, Veronica; Lazar, Oana; Gyorf, Szabolcs Janos; Irimes, Maria-Bianca; Stefan, Geanina; Tertis, Mihaela; Enachescu, Marius; Anicai, Liana; Cristea, Cecilia	2020	Electrochemistry communications DOI: 10.1016/j.elecom.2020.106869	1.422	11	0.129273
25	Cernat, Andreea; Stefan, Geanina; Tertis, Mihaela; Cristea, Cecilia; Simon, Ioan	2020	Bioelectrochemistry DOI: 10.1016/j.bioelechem.2020.107620	1.355	5	0.271
26	Lettieri, Mariagrazia; Hosu, Oana; Adumitrachioaie, Alina; Cristea, Cecilia; Marrazza, Giovanna	2020	Electroanalysis <a href="https://doi.org/10.1002/elan.201900318">https://doi.org/10.1002/elan.201900318</a>	0.792	5	0.1584
27	Nedu, Maria-Eliza; Tertis, Mihaela; Cristea, Cecilia; Georgescu, Alexandru Valentin	2020	Diagnostics DOI:10.3390/diagnostics10040223	1.084	4	0.271
28	Starzec, Karolina; Cristea, Cecilia; Tertis, Mihaela; Feier, Bogdan; Wieczorek, Marcin; Koscielniak, Pawel; Kochana, Jolanta	2020	Bioelectrochemistry DOI: 10.1016/j.bioelechem.2019.107405	1.355	7	0.193571
29	Blidar, Adrian; Trashin, Stanislav; Carrion, Erik N.; Gorun, Sergiu M.; Cristea, Cecilia; De Wael, Karolien	2020	ACS Sensors <a href="https://doi.org/10.1021/acssensors.0c01609">https://doi.org/10.1021/acssensors.0c01609</a>	3.727	6	0.621167
30	Tertis, Mihaela; Cernat, Andreea; Mirel, Simona; Cristea, Cecilia	2021	Analytical letters DOI: 10.1080/00032719.2020.1728292	0.515	4	0.12875
31	Dragan, A.-M., Truta, F.M., Tertis, M., Florea, A., Schram J., Cerbat, A., Feier, B., de wael, K., Cristea, C., Oprean, R.	2021	Frontiers in chemistry DOI: 10.3389/fchem.2021.6411	2.112	10	0.2112
32	Tertis, M., Hosu, O., Feier, B., Cernat, A., Florea, A., Cristea, C.	2021	Molecules DOI: 10.3390/molecules26113200	1.452	6	0.242
33	Canciu, A., Tertis, M., Hosu, O., Cernat, A., Cristea, C., Graur, F.	2021	Sustainability DOI 10.3390/su13137229	0.843	6	0.1405
34	Truță, F., Tertis, M., Cristea, C., Graur, F.	2021	Current analytical chemistry DOI:10.2174/1573411016999200518084746	0.461	4	0.11525
35	Rus, Iulia; Tertis, Mihaela; Pașcalău, Violeta; Pavel, Codruța; Melean, Bianca; Suciu, Maria; Moldovan, Cristian; Topală, Tamara; Popa, Cătălin; Săndulescu, Robert; Cristea, Cecilia	2021	Farmacia DOI 10.31925/farmacia.2021.4.6	0.129	11	0.011727
36	Rus, Iulia; Tertis, Mihaela; Cristea, Cecilia, Sandulescu, Robert	2021	Current analytical chemistry DOI: 10.2174/1573411016999200612100927	0.461	4	0.11525
37	Hosu, Oana; Barsan, Madalina M; Săndulescu, Robert; Cristea, Cecilia; Brett, Christopher M A	2021	Sensors <a href="https://doi.org/10.3390/s21041161">https://doi.org/10.3390/s21041161</a>	1.314	5	0.2628

38	Ștefan, Geanina; Hosu, Oana; De Wael, Karolien; Lobo-Castañón, María Jesús; Cristea, Cecilia	2021	Electrochimica acta <a href="https://doi.org/10.1016/j.electacta.2021.137994">https://doi.org/10.1016/j.electacta.2021.137994</a>	1.607	5	0.3214
39	Melinte, Gheorghe; Selvolini, Giulia; Cristea, Cecilia; Marrazza, Giovanna	2021	Talanta <a href="https://doi.org/10.1016/j.talanta.2021.122169">https://doi.org/10.1016/j.talanta.2021.122169</a>	1.707	4	0.42675
40	Rus, Iulia; Tertiș, Mihaela; Barbălată, Cristina; Porfire, Alina; Tomuța, Ioan; Săndulescu, Robert; Cristea Cecilia	2021	Biosensors DOI: 10.3390/bios11010015	1.747	7	0.249571
41	Rus, Iulia; Pusta, Alexandra; Tertis, Mihaela; Barbalata, Cristina; Tomuta, Ioan; Săndulescu, Robert; Cristea, Cecilia	2021	Pharmaceuticals DOI 10.3390/ph14090912	1.307	7	0.186714
42	Marc, Gabriel; Stana, Anca; Franchini, Ana Horia; Vodnar, Dan Cristian; Barta, Gabriel; Tertis, Mihaela; Santa, Iulia; Cristea, Cecilia; Pirnau, Adrian; Ciorta, Alexandra; Dume, Bogdan; Oniga, Ilioara; Oniga, Ovidiu	2021	Antioxidants DOI 10.3390/antiox10111707	2.138	13	0.164462
43	Filip, Gabriela Adriana; Achim, Marcela; Mihaile, Paula; Miclău, Maria Olimpia; Cristea, Cecilia; Melinte, Gheorghe; Gheban, Bogdan; Pana, Ovidiu; Barbu Tudoran, Lucian; Clichici, Simona; Ștefan, Razvan	2021	Journal of trace elements in medicine and biology <a href="https://doi.org/10.1016/j.jtemb.2021.126846">https://doi.org/10.1016/j.jtemb.2021.126846</a>	0.719	11	0.065364
44	Dragan, Ana-Maria; Parrilla, Marc; Feier, Bogdan; Oprean, Radu; Cristea, Cecilia; De Wael, Karolien	2021	TRAC - Trends in analytical chemistry <a href="https://doi.org/10.1016/j.trac.2021.116447">https://doi.org/10.1016/j.trac.2021.116447</a>	4.493	6	0.748833
45	Canciu, A., Cernat, A., Tertis, M., Bordea, M., Wang, J., Cristea, C.	2022	International journal of molecular science DOI 10.3390/ijms23179884	2.264	6	0.377333
46	Pusta, Alexandra; Tertis, Mihaela; Cristea, Cecilia; Mirel, Simona	2022	Biosensors DOI: 10.3390/bios12010001	1.747	4	0.43675
47	Fritea, Luminita; Tertis, Mihaela; Cristea, Cecilia; Săndulescu, Robert	2022	Electroanalysis DOI 10.1002/elan.202200014	0.792	4	0.198
48	Pusta, Alexandra; Tertis, Mihaela; Graur, Florin; Cristea, Cecilia; Al Hajjar, Nadim	2022	Current medicinal chemistry DOI 10.2174/0929867329666220222113707	1.308	5	0.2616
49	Melinte, Gheorghe; Hosu, Oana; Ștefan, Geanina; Bogdan, Diana; Cristea, Cecilia; Marrazza, Giovanna	2022	Electrochimica acta <a href="https://doi.org/10.1016/j.electacta.2021.139718">https://doi.org/10.1016/j.electacta.2021.139718</a>	1.607	6	0.267833
50	Blidar, Adrian; Hosu, Oana; Feier, Bogdan; Ștefan, Geanina; Bogdan, Diana; Cristea, Cecilia	2022	Food chemistry <a href="https://doi.org/10.1016/j.foodchem.2021.131127">https://doi.org/10.1016/j.foodchem.2021.131127</a> Get rights and	3.257	6	0.542833

			<u>content</u>			
51	Tertis, Mihaela; Sîrbu, Petra-Lia; Suciu, Maria; Bogdan, Diana; Pana, Ovidiu; Cristea, Cecilia; Simon, Ioan	2022	Chemelectrochem DOI 10.1002/celec.202101328	1.296	7	0.185143
52	Capatina, Denisa; Feier, Bogdan; Hosu, Oana; Tertis, Mihaela; Cristea, Cristea,	2022	Analytica chimica acta DOI 10.1016/j.aca.2022.339696	2.011	5	0.4022
53	Uriciuc, Willi Andrei; Boșca, Adina Bianca; Băbțan, Anida-Maria; Vermesan, Horațiu; Cristea, Cecilia; Tertis, Mihaela; Pascuta, Petru; Borodi, Gheorghe; Suciu, Maria; Barbu Tudoran, Lucian; Popa, Cătălin Ovidiu; Ilea, Aranka	2022	Materials DOI 10.3390/ma15093052	1.659	12	0.13825
54	Szabó, Sandor; Feier, Bogdan; Capatina, Denisa; Tertis, Mihaela; Cristea, Cecilia; Popa, Adina	2022	Journal of clinical medicine DOI 10.3390/jcm11113204	1.474	6	0.245667
55	Clichici, Andra; Filip, Gabriela Adriana; Achim, Marcela; Baldea, Ioana; Cristea, Cecilia; Melinte, Gheorghe; Pana, Ovidiu; Tudoran, Lucian Barbu; Dudea, Diana; Stefan, Razvan	2022	Materials <a href="https://doi.org/10.3390/ma15249060">https://doi.org/10.3390/ma15249060</a>	1.659	10	0.1659
56	Graur, Florin; Puia, Aida; Mois, Emil Ioan; Moldova, Septimiu; Cristea, Cristea; Pusta, Alexandra; Cavalu, Simona; Puia, Cosmin; Al Hajjar, Nadim	2022	Materials <a href="https://doi.org/10.3390/ma15113893">https://doi.org/10.3390/ma15113893</a>	1.659	9	0.184333
57	Capatina, Denisa; Lupoi, Teodora; Feier, Bogdan; Blidar, Adrian; Hosu, Oana; Tertis, Mihaela; Olah, Diana; Cristea, Cristea; Oprean, Radu	2022	Biosensors DOI 10.3390/bios12070440	1.747	9	0.194111
58	Capatina, Denisa; Lupoi, Teodora; Feier, Bogdan; Olah, Diana; Cristea, Cecilia; Oprean, Radu	2022	Biosensors <a href="https://doi.org/10.3390/bios12080638">https://doi.org/10.3390/bios12080638</a>	1.747	6	0.291167
59	Melinte, Gheorghe; Hosu, Oana; Cristea, Cecilia; Marrazza, Giovanna	2022	TRAC - Trends in analytical chemistry <a href="https://doi.org/10.1016/j.trac.2022.116679">https://doi.org/10.1016/j.trac.2022.116679</a>	4.493	4	1.12325
60	Cristina-Ioana Barbălată, Alina Silvia Porfire, Tibor Casian, Dana Muntean, Iulia Rus, Mihaela Tertiș, Cecilia Cristea, Anca Pop, Julien Cherfan, Felicia Loghin, Ioan Tomuță	2022	Pharmaceuticals DOI: 10.3390/ph15101211	1.307	11	0.118818
61	Melinte, Gheorghe; Hosu, Oana; Cristea, Cecilia; Marrazza, Giovanna	2023	Food chemistry <a href="https://doi.org/10.1016/j.foodchem.2022.134074">https://doi.org/10.1016/j.foodchem.2022.134074</a>	3.257	4	0.81425

62	Dragan, Ana-Maria; Parrilla, Marc; Slegers, Nick; Slosse, Amorn; Van Durme, Filip; Van Nuijs, Alexander; Oprean, Radu; Cristea, Cecilia; De Wael, Karolien	2023	Talanta <a href="https://doi.org/10.1016/j.talanta.2022.124208">https://doi.org/10.1016/j.talanta.2022.124208</a>	1.707	9	0.189667
63	Alexandra Canciu, Andreea Cernat, Mihaela Tertis, Florin Graur, Cecilia Cristea	2023	TRAC - Trends in analytical chemistry DOI: <a href="https://doi.org/10.1016/j.trac.2023.116983">10.1016/j.trac.2023.116983</a>	4.493	5	0.8986
64	Ana-Maria Tataru, Alexandra Canciu, Mihaela Tertis, Cecilia Cristea, Andreea Cernat	2023	Bioelectrochemistry <a href="https://doi.org/10.1016/j.bioelechem.2023.108492">https://doi.org/10.1016/j.bioelechem.2023.108492</a>	1.355	5	0.271
65	Irimas, Maria-Bianca; Tertis, Mihaela; Oprean, Radu; Cristea, Cecilia	2023	Medicinal Research Review DOI: <a href="https://doi.org/10.1002/med.21978">10.1002/med.21978</a>	4.267	4	1.06675
66	Almabadi, Meshal; Truta, Florina Maria; Adamu, Gyako; Cowen, Todd; Tertis, Mihaela; Alanazi, Kaseb D. M.; Stefan, Maria-Georgia; Piletska, Elena; Kiss, Bela; Cristea, Cecilia; De Wael, Karolien; Piletsky, Sergey; Cruz, Alvaro Garcia	2023	Electrochimica Acta DOI: <a href="https://doi.org/10.1016/j.electacta.2023.142009">10.1016/j.electacta.2023.142009</a>	1.607	13	0.123615
67	Macovei, Diana-Gabriela; Irimas, Maria-Bianca; Hosu, Oana; Cristea, Cecilia; Tertis, Mihaela	2023	Analytical and Bioanalytical Chemistry DOI: <a href="https://doi.org/10.1007/s00216-022-04320-z">10.1007/s00216-022-04320-z</a>	1.436	5	0.2872
68	Hosu, Oana; Melinte, Gheorghe; Stefan, Geanina; Casian, Magdolna; Cristea, Cecilia	2023	Electrochimica Acta <a href="https://doi.org/10.1016/j.electacta.2023.142556">https://doi.org/10.1016/j.electacta.2023.142556</a>	1.607	5	0.3214
69	Drăgan Ana-Maria, Feier Bogdan, Tertis Mihaela, Bodoki Ede, Truta Florina, Ștefan Maria Georgia, Kiss Bela, Van Durme Filip, De Wael Karolien, Oprean Radu, Cristea Cecilia	2023	Nanomaterials DOI: <a href="https://doi.org/10.3390/nano13172393">10.3390/nano13172393</a>	1.557	11	0.141545
70	Ana-Maria Drăgan, Marc Parrilla, Sofie Cambré, Juan Domínguez-Robles, Usanee Detamornrat, Ryan F. Donnelly, Radu Oprean, Cecilia Cristea, Karolien De Wael	2023	Microchemical Journal DOI: <a href="https://doi.org/10.1016/j.microc.2023.109257">10.1016/j.microc.2023.109257</a>	1.27	9	0.141111
71	Truta, FM, Cruz, AG ; Dragan, AM; Tertis, M; Cowen, T; Stefan, MG, Topala, T, Slosse, A, Piletska, E, Van Durme, F, Kiss, B, De Wael, K, Piletsky, SA, Cristea, C	2023	Drug Testing and analysis DOI: <a href="https://doi.org/10.1002/dta.3605">10.1002/dta.3605</a>	1.087	14	0.077643
72	F. Truta, A-G. Cruz, M. Tertis, C. Zaleski, G. Adamu, N.S. Allcock, M. Suci, M.G. Stefan, B. Kiss, E. Piletska, K. De Wael, S.A. Piletsky, C. Cristea,	2023	Microchemical Journal DOI: <a href="https://doi.org/10.1016/j.microc.2023.108821">10.1016/j.microc.2023.108821</a>	1.27	13	0.097692





## Annex 6

## List of publications of the leader and of the team members

1. Maria B. Irimes, **Mihaela Tertis**, Radu Oprean, **Cecilia Cristea**, Unrevealing the connection between real sample analysis and analytical method. The case of cytokines, *Medicinal Research Reviews*, **2023**, 44(1), 23-65; DOI: 10.1002/med.21978 (IF 13.3).
2. Florina M. Truta, Alvaro G. Cruz, Ana Maria Dragan, **Mihaela Tertis**, Tood Cowen, Maria G. Stefan MG, Tamara Topala, Amorn Slosse, Elena Piletska, Filip Van Durme, Bela Kiss, Karolien De Wael, Sergey A. Piletsky, **Cecilia Cristea**, Design of smart nanoparticles for the electrochemical detection of 3, 4-methylenedioxymethamphetamine to allow in field screening by law enforcement officers. *Drug Testing and Analysis*. 2023 Nov 22 (early access); DOI: 10.1002/dta.3605; <https://doi.org/10.1002/dta.3605>; (IF 2.9).
3. Ana Maria Dragan, **Bogdan Feier**, **Mihaela Tertis**, Ede Bodoki, Florina M. Truta, Maria G. Ștefan, Bela Kiss, Filip Van Durme, karolien De Wael, Radu Oprean, **Cecilia Cristea**. Forensic Analysis of Synthetic Cathinones on Nanomaterials-Based Platforms: Chemometric-Assisted Voltametric and UPLC-MS/MS Investigation. *Nanomaterials*. **2023**, 22, 13(17), 2393; DOI: 10.3390/nano13172393; <https://doi.org/10.3390/nano13172393>; (IF 5.3).
4. Gabriel Marc, Anca Stana, **Mihaela Tertis**, **Cecilia Cristea**, A. Ciorîță, Ș.-M. Drăgan, V.-A. Toma, Raluca Borlan, Monica Focșan, Adrian Pîrnău, Laurian Vlase, Smaranda Oniga, ovidiu Oniga, Discovery of New Hydrazone-Thiazole Polyphenolic Antioxidants through Computer-Aided Design and In Vitro Experimental Validation. *International Journal Moecular Science* **2023**, 24, 13277. <https://doi.org/10.3390/ijms241713277>; (IF 5.6).
5. AM. Drăgan, M. Parrilla, S. Cambré, J. Domínguez-Robles, U. Detamornrat, RF. Donnelly, R. Oprean, **Cecilia Cristea**, K. De Wael, Microneedle array-based electrochemical sensor functionalized with SWCNTs for the highly sensitive monitoring of MDMA in interstitial fluid. *Microchemical Journal* **2023**, 193, 109257; DOI: 10.1016/j.microc.2023.109257, <https://doi.org/10.1016/j.microc.2023.109257>; (IF 4.8).
6. G. Levanen, A. Dali, Y. Leroux, T. Lupoi, S. Betelu, K. Michel K, S. Ababou-Girard, P. Hapiot, I. Dahech I, **Cecilia Cristea**, **Bogdan Feier** Specific electrochemical sensor for cadmium detection: Comparison between monolayer and multilayer functionalization. *Electrochimica Acta* **2023**, 464, 142962; DOI: 10.1016/j.electacta.2023.142962; <https://doi.org/10.1016/j.electacta.2023.142962>; (IF 6.6).
7. **Mihaela Tertis**, Manuela Zăgrean, Alexandra Pusta, Maria Suciu, Diana Bogdan, **Cecilia Cristea**. Innovative nanostructured aptasensor for the electrochemical detection of gluten in food samples. *Microchemical Journal* **2023**, 193, 109069, DOI: 10.1016/j.microc.2023.109069; <https://doi.org/10.1016/j.microc.2023.109069>; (IF 4.8).
8. Ana-Maria Tataru, Alexandra Canciu, **Mihaela Tertis**, **Cecilia Cristea**, **Andreea Cernat**, Staphylococcus aureus – review on potential targets for sensors development, *Bioelectrochemistry*, **2023**, 153, 108492, <https://doi.org/10.1016/j.bioelechem.2023.108492>; (IF 4.9).
9. Alexandra Pusta, **Mihaela Tertis**, Izabel Crăciunescu, Rodica Turcu, Simona Mirel, **Cecilia Cristea**. Recent advances in the development of drug delivery applications of magnetic nanomaterials. *Pharmaceutics*, **2023**, 15(7), 1872; <https://doi.org/10.3390/pharmaceutics15071872>; (IF 5.4).
10. Florina M. Truta, Ana Maria Drăgan, **Mihaela Tertis**, Marc Parrilla, Amorn Slosse, Filip Van Durme, Karolien De Wael, **Cecilia Cristea**. Electrochemical Rapid Detection of Methamphetamine from Confiscated Samples Using a Graphene-Based Printed Platform. *Sensors*. **2023**, 23(13), 6193; <https://doi.org/10.3390/s23136193>; (IF 3.9).

11. **Oana Hosu**, Gheorghe Melinte, Geanina Ștefan, Magda Casian, **Cecilia Cristea**. Towards selective tetracycline recognition in wastewater based on gold nanovoids@ aptamer sensing. *Electrochimica Acta*. **2023**, 460, 142556; <https://doi.org/10.1016/j.electacta.2023.142556>; (IF 6.6).
12. F. Truta, A-G. Cruz, **Mihaela Tertis**, C. Zaleski, G. Adamu, N.S. Allcock, M. Suci, M.G. Ștefan, B. Kiss, E. Piletska, K. De Wael, S.A. Piletsky, **Cecilia Cristea**, NanoMIPs-based electrochemical sensors for selective detection of amphetamine, *Microchemical Journal*, **2023**, 191, Article Number 108821; DOI: 10.1016/j.microc.2023.108821; <https://doi.org/10.1016/j.microc.2023.108821> (IF 4.8).
13. Alexandra Canciu, **Andreea Cernat**, **Mihaela Tertis**, Florin Graur, **Cecilia Cristea**, Tackling the issue of healthcare associated infections through point-of-care devices, *TRAC-Trends in Analytical Chemistry*, **2023**, 161, Article Number: 116983; DOI: 10.1016/j.trac.2023.116983; <https://doi.org/10.1016/j.trac.2023.116983>; (IF 13.1).
14. M.H. Almadadi, F.M. Truta, G. Adamu, T. Cowen, **Mihaela Tertis**, K.D.M. Alanazi, M.G. Ștefan, E. Piletska, B. Kiss, **Cecilia Cristea**, K. De Wael, S.A. Piletsky, A.G. Cruz, Integration of smart nanomaterials for highly selective disposable sensors and their forensic applications in amphetamine determination, *Electrochimica Acta*, **2023**, 446, Article Number 142009, DOI: 10.1016/j.electacta.2023.142009; <https://doi.org/10.1016/j.talanta.2022.124208>; (IF 6.6).
15. A.M. Dragan, M. Parrilla, N. Slegers, A. Slosse, F. Van Durme, A. van Nuijs, R. Oprean, **Cecilia Cristea**, K. De Wael. Investigating the electrochemical profile of methamphetamine to enable fast on-site detection in forensic analysis. *Talanta*. **2023**, 255, 124208; <https://doi.org/10.1016/j.talanta.2022.124208>; (IF 6.6).
16. A. Clichici, G.A. Filip, M. Achim, I. Baldea, **Cecilia Cristea**, G. Melinte, O. Pana, L.B. Tudoran, D. Duda, R. Ștefan, Characterization and In Vitro Biocompatibility of Two New Bioglasses for Application in Dental Medicine—A Preliminary Study. *Materials*. **2022** 18, 15(24), 9060; <https://doi.org/10.3390/ma15249060>; (IF 6.6).
17. C.I. Barbalata, A.S. Porfire, T. Casian, D. Muntean, I. Rus, **Mihaela Tertis**, **Cecilia Cristea**, A. Pop, J. Cherfan, F. Loghin, I. Tomuta. The Use of the QbD Approach to Optimize the Co-Loading of Simvastatin and Doxorubicin in Liposomes for a Synergistic Anticancer Effect *Pharmaceuticals* **2022**, 15(10), 1211. DOI: 10.3390/ph15101211 (IF 5.863)
18. D-G. Macovei, M-B. Irimes, **Oana Hosu**, **Cecilia Cristea**, **Mihaela Tertis**, Point-of-care electrochemical testing of biomarkers involved in inflammatory and inflammatory-associated medical conditions, *Analytical and Bioanalytical Chemistry*, **2023**, 415(6); 1033-1063; DOI 10.1007/s00216-022-04320-z (IF 4.474).
19. G. Melinte, **Oana Hosu**, **Cecilia Cristea**, G. Marrazza. Ara H1 peanut allergen detection using a labelled electrochemical aptasensor based on GO-COOH@ bimetallic composite platform. *Food Chemistry*. **2023** 30, 400, 134074; <https://doi.org/10.1016/j.foodchem.2022.134074>; (IF 8.8).
20. A. Canciu, A. Cernat, **Mihaela Tertis**, M. Bordea, J. Wang, **Cecilia Cristea**, Proof of Concept for the Detection with Custom Printed Electrodes of Enterobactin as a Marker of Escherichia coli, *International Journal of Molecular Sciences*, **2022**, 23(17), Article Number 9884; DOI 10.3390/ijms23179884, (IF 5.6).
21. Denisa Capatina, Teodora Lupoi, **Bogdan Feier**, Diana Olah, **Cecilia Cristea**, Radu Oprean. Highly sensitive detection of PQS quorum sensing in Pseudomonas aeruginosa using screen-printed electrodes modified with nanomaterials. *Biosensors*, **2022**, 12(8), 638; <https://doi.org/10.3390/bios12080638>; (IF 5.743).
22. D. Capatina, T. Lupoi, B. Feier, A. Blidar, **Oana Hosu**, M. Tertis, D. Olah, **Cecilia Cristea**, R. Oprean, Label-Free Electrochemical Aptasensor for the Detection of the 3-O-C12-

- HSL Quorum-Sensing Molecule in *Pseudomonas aeruginosa*, *Biosensors*, **2022**, 12(7), Article Number440. DOI 10.3390/bios12070440, (IF 5.743).
23. Florin Graur, Aida Puia, Emil Ioan Mois, Septimiu Moldovan, Alexandra Pusta, **Cecilia Cristea**, Simona Cavalu, Cosmin Puia, Nadim Al Hajjar. Nanotechnology in the diagnostic and therapy of hepatocellular carcinoma. *Materials*, **2022**, 15(11), 3893. <https://doi.org/10.3390/ma15113893>, (IF 3.4).
24. S. Szabó, **Bogdan Feier**, D. Capatina, **Mihaela Tertis**, **Cecilia Cristea**, A. Popa, An Overview of Healthcare Associated Infections and Their Detection Methods Caused by Pathogen Bacteria in Romania and Europe, *Journal of Clinical Medicine*, **2022**, 11(11), Article Number 3204 DOI 10.3390/jcm11113204; (IF 4.964).
25. Gheorghe Melinte, **Oana Hosu**, **Cecilia Cristea**, Giovanna Marrazza. DNA sensing technology a useful food scanning tool. *TrAC Trends in Analytical Chemistry* **2022**, 154, 116679, <https://doi.org/10.1016/j.trac.2022.116679>; (IF 13.1).
26. W.A. Uriciuc, A.B. Boşca, A-M. Băbşan, H. Vermesan, **Cecilia Cristea**, **Mihaela Tertis**, P. Pascuta, G. Borodi, M. Suci, L. Barbu Tudoran, C.O. Popa, A. Ilea, Study on the Surface of Cobalt-Chromium Dental Alloys and Their Behavior in Oral Cavity as Cast Materials, *Materials*, **2022**, 15(9), Article Number 3052 DOI 10.3390/ma15093052; (IF 3.748).
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## Annex 7

### List of book chapters

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10. Robert Săndulescu, **Cecilia Cristea**, Ede Bodoki, Radu Oprean, Chapter 3: Recent Advances in the Analysis of Bioactive Compounds based on Molecular Recognition in *Frontiers in Bioactive Compounds, vol I, Natural sources, physical chemical characterization and application* (Editor Constantin Apetrei), Ed. Bentham eBooks, pp. 69-110, ISBN 978-1-68108-342-1, 2016; DOI: 10.2174/97816810834141160101; [https://www.eurekaselect.com/ebook\\_volume/1966](https://www.eurekaselect.com/ebook_volume/1966).
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12. Luminita Fritea, **Mihaela Tertis**, Robert Sandulescu, **Cecilia Cristea**, Chapter 11: Enzymes-graphene platforms for electrochemical biosensors design with biomedical applications in *Enzymes conjugated to graphene* (MIE Kumar)609, Ed. Elsevier, pp. 293-333, 419 pages, ISBN 9780128152409; 2018 <https://doi.org/10.1016/bs.mie.2018.05.010>.

13. **Mihaela Tertis**, Luminita Fritea, Robert Sandulescu, **Cecilia Cristea**, Chapter 21: Design and development of graphene based electrochemical biosensors for biomedical applications in *Handbook on Graphene and 2D Materials, Volume 6: Biosensors and Advanced Sensors* (Edited by Barbara Palys), Published by WILEY-Scrivener Publisher, USA, pp. 631-660, **July 2019**, ISBN 978-1-119-46974; <http://www.scrivenerpublishing.com/cart/title.php?id=456#toc>.
14. **Oana Hosu**, Anca Florea, **Cecilia Cristea**, Robert Sandulescu, Chapter 6: Functionalized advanced hybrid materials for biosensing applications in: *Advanced Biosensors for Health Care: Materials and Applications* (Eds. Dr. Inamuddin Raju Khan Ali Mohammad Abdullah M. Asiri) Imprint: Elsevier, pp. 171-207, ISBN 9780128157435, **June 2019**, <https://doi.org/10.1016/B978-0-12-815743-5.00006-8>.
15. Anca Florea, **Bogdan Feier**, **Cecilia Cristea**, Chapter 8. In situ analysis based on molecularly imprinted polymer electrochemical sensors, "MIP synthesis, characteristic and analytical application" in *Comprehensive analytical chemistry Series*, Vol. 86 , (Serial Volume Editors: Mariusz Marc) Ed. Elsevier, pp. 193-225, 396 pages, ISBN: 9780444642660, **August 2019**; <https://doi.org/10.1016/bs.coac.2019.05.005>.
16. **Andreea Cernat**, B. Ciui, L. Fritea, **Mihaela Tertis**, **Cecilia Cristea**, Chapter: New Materials for the Construction of Electrochemical Cell-Based Biosensors. In: *Handbook of Cell Biosensors*. (Eds. Thouand G.) Springer, Cham. [https://doi.org/10.1007/978-3-030-23217-7\\_138](https://doi.org/10.1007/978-3-030-23217-7_138), First Online 01 October 2021, DOI [https://doi.org/10.1007/978-3-030-23217-7\\_138](https://doi.org/10.1007/978-3-030-23217-7_138), Publisher Name Springer, Cham, ISBN 978-3-319-47405-2, October 2021, <https://link.springer.com/referencework/10.1007%2F978-3-319-47405-2>.
17. Alina Porfire, Marcela Achim, Cristina Barbalata, Iulia Rus, Ioan Tomuta, **Cecilia Cristea**, Chapter 5: Pharmaceutical Development of Liposomes Using the QbD Approach in *Liposomes - Advances and Perspectives*, IntechOpen, DOI: 10.5772/intechopen.85374. Available from: <https://www.intechopen.com/online-first/pharmaceutical-development-of-liposomes-using-the-qbd-approach>.
18. **Andreea Cernat**, **Oana Hosu**, Bianca Ciui, **Mihaela Tertis**, **Bogdan Feier**, Robert Săndulescu, **Cecilia Cristea**, Chapter: Noi strategii pentru diagnostic și monitorizarea terapiei. De la senzori imprimați portabili și implantabili la nanoroboți, in **Medicamentele secolului XXI și terapii moderne**, Editura Medicală Universitară "Iuliu Hațieganu" Cluj-Napoca 2019 SSFR Cluj-Napoca, pp. 59-90, ISBN 978-973-693-896-2, **June 2019**.
19. **Oana Hosu**, **Mihaela Tertis**, **Andreea Cernat**, **Bogdan Feier**, Robert Săndulescu, Chapter 1: Recent approaches for the synthesis of smart nanomaterials for nanodevices in disease diagnosis, in *Nanomaterials for nanodevices in disease diagnosis*, (Eds. Suvardhan Kanchi and Deepali Sharma) ELSEVIER, Amsterdam, ISBN 978-0-12-817923-9, pp. 1-55, **2020**, <https://doi.org/10.1016/B978-0-12-817923-9.00001-8>
20. **Oana Hosu**, **Mihaela Tertis**, **Cecilia Cristea**, Chapter: Implication of Magnetic Nanoparticles in Cancer Detection, Screening and Treatment, in *Magnetic nanoparticles*, MDPI Basel, pp. 223-255, ISBN 978-3-03928-268-5 (Pbk), ISBN 978-3-03928-269-2(PDF) 2020, doi:10.3390/magnetochemistry5040055, <https://doi.org/10.3390/books978-3-03928-269-2>.



21. **Mihaela Tertis, Oana Hosu, Anca Florea, Cecilia Cristea**, Chapter: Biosensors for Clinical Samples: Consideration and Approaches, in: *Immunodiagnostic Technologies from Laboratory to Point-Of-Care Testing* (eds Suman P., Chandra P.). Springer, Singapore. [https://doi.org/10.1007/978-981-15-5823-8\\_1](https://doi.org/10.1007/978-981-15-5823-8_1); pp. 1-32; ISBN 978-981-15-5823-8, 2020, [https://link.springer.com/chapter/10.1007/978-981-15-5823-8\\_1](https://link.springer.com/chapter/10.1007/978-981-15-5823-8_1).
22. Ede Bodoki, **Cecilia Cristea, Andreea Cernat**, Anca Florea, **Bogdan Feier, Oana Hosu**, Bogdan Iacob, Radu Oprea, **Mihaela Tertis**, Robert Săndulescu, Capitol 1: Biomarkeri tumoral- metode de detectie si sisteme avansate de transport la tinta bazate pe elemente biomimetice in *Progrese in terapia, cercetare si managementul cancerului*, (Coordonator Ovidiu Oniga), Editura Medicală Universitară "Iuliu Hațieganu" Cluj-Napoca, pp. 1-38, ISBN 978-973-693-959-4, iunie 2020.
23. **Andreea Cernat**, Anca Florea, Iulia Rus, Florina Truta, Ana-Maria Dragan, **Cecilia Cristea, Mihaela Tertis**, Applications of magnetic hybrid nanomaterials in Biomedicine, in: *Biopolymeric nanomaterials – Fundamentals and applications*, ELSEVIER Amsterdam, Oxford, Cambridge, pp. 639-674; ISBN: 978-0-12-824364-0, September 2021; <https://www.elsevier.com/books/biopolymeric-nanomaterials/kanwar/978-0-12-824364-0>.
24. Anca Florea, **Bogdan Feier, Mihaela Tertis, Oana Hosu**, Adrian Blidar, **Cecilia Cristea**, Chapter: Magnetic polymers hybrid nanomaterials, in: *Magnetic nanoparticles-based hybrid materials*, ELSEVIER, Duxford, Cambridge, Kidlington, 2021, pp. 91-120 ; ISBN: 978-0-12-823688-8 (print), ISBN: 978-0-12-823689-5 (online), 2021, <https://www.elsevier.com/books/magnetic-nanoparticle-based-hybrid-materials/ehrmann/978-0-12-823688-8>
25. **Bogdan Feier, Andreea Cernat**, Gheorghe Melinte, Geanina Stefan, **Cecilia Cristea, Oana Hosu**, Chapter 5: Magnetic hybrid nanomaterials for biosensors in Magnetic Nanoparticles Based Hybrid Materials: Fundamentals and Applications, Elsevier, pp. 81-115; ISBN 978-0-12-824554-5; 2022; <https://doi.org/10.1016/B978-0-12-824554-5.00017-3>.
26. **Mihaela Tertis**, Alexandra Pusta, Magdolna Casian, **Oana Hosu, Cecilia V. Cristea**, Chapter 16: *Microdevice-based aptamer sensors*, in : Aptamers engineered nanocarriers for cancer therapy, Kesharwani Elsevier, Paperback ISBN: 9780323858816, eBook ISBN: 9780323855761, 2022, <https://www.elsevier.com/books/aptamers-engineered-nanocarriers-for-cancer-therapy/kesharwani/978-0-323-85881-6>
27. Ioana Gug, **Mihaela Tertis**, Aranka Ilea, Ioana Andreea Chis, Anida-Maria Babant, Willi Andrei Uriciuc, Anca Ionel, Claudia Nicoleta Feurdean, Adina Bianca Bosca, **Cecilia Cristea**, Chapter: Salivary biomarkers in toxicology: an updated narrative, in *Biomarkers in toxicology. Biomarkers in disease : methods, discoveries and applications*, (Eds. Patel, V.B., Preedy, V.R., Rajendram, R.) Springer, Cham, pp. 1-27, Print ISBN 978-3-030-87225-0; Online ISBN 978-3-030-87225-0; 2022, [https://doi.org/10.1007/978-3-030-87225-0\\_70-1](https://doi.org/10.1007/978-3-030-87225-0_70-1),
28. **Cecilia Cristea, Mihaela Tertis, Oana Hosu-Stancioiu, Bogdan Feier**, Bogdan Iacob, Ioana Gug, Ede Bodoki, Radu Oprean, Robert Săndulescu, Capitolul 1: Dispozitive analitice moderne pentru diagnosticul si tratamentul afectiunilor cutanate, in: *Terapia unor afectiuni cutanate din perspectiva farmaceutice si medicale*, Ed. Medicala Universitara „Iuliu Hațieganu”, Cluj-Napoca, Romania, pp. 14-35; ISBN 978-606-075-062-8; 2022.

29. **Mihaela Tertis**, Alexandra Canciu, Ana-Maria Drăgan, **Oana Hosu**, Sandor Szabo, **Bogdan Feier**, **Cecilia Cristea**, Chapter 26: Biosensors: Receptor/Binding Protein/Peptide Sensors, in: *Encyclopedia of sensors and biosensors*, Ed. Elsevier, 2<sup>nd</sup> Edition, Volume 1, pp. 377-392, ISBN 978-0-12-822549-3, 2023, <https://doi.org/10.1016/B978-0-12-822548-6.00151-5>.



## Annex 8

## The list of submitted and accepted patents:

Nr.	Autori	Titlu	nr. OSIM
1	Robert Săndulescu, <b>Cecilia Cristea</b> , Bodoki Ede, Ioana Stoica Hopârtean, Iuliu O Marian, Ana Marian	Senzor electrochimic planar imprimat	A00424 / 5.06.2008
2	Sarbu Andrei, Sandu Teodor, Sandulescu Robert, <b>Cristea Cecilia</b> , Dima Stefan Ovidiu, Udrea Ion, Bradu Corina, Dumitru Anca Aurelia, Vulpe Silviu, Iovu Horia, Sarbu Liliana si Bodoki Ede	Procedeu de obtinere a granulelor de polipirol continand enzime imobilizate covalent	A00288 / 01.04.2011
3.	<b>Tertiș Mihaela Claudia, Cristea Victoria Cecilia</b> , Băbșan Anida-Maria, Feurdean Nicoleta Claudia, Uriciuc Willi-Andrei, Boșca Adina Bianca, Ilea Aranka	Senzor electrochimic imprimat pe suport planar integrat pe un dispozitiv intra-oral pentru detecția electrochimică directă și simultană a unor agenți de glicare avansată din salivă	A 00171 /01.04.2020
4.	L. Anicai, A. Petica, M. Enachescu, V. Anastasoae, O. Lazar, <b>Cecilia Cristea, Andreea Cernat</b> , T. Poteca	Electrochemical process for obtaining bismuth nanowires from ionic liquids based on choline chloride	A 00807 / 03.12.2020
5.	<b>Victoria-Cecilia Cristea, Mihaela-Claudia Tertiș, Andreea Cernat, Bogdan-George Feier, Oana-Alexandra Hosu-Stăncioiu</b> , Alexandra Canciu	Procedeu pentru detectarea electrochimică simultană a bacteriilor patogene <i>Escherichia coli</i> și <i>Pseudomonas aeruginosa</i> prin intermediul unor factori de virulență utilizând electrozi imprimați serigrafic pentru testarea pe teren	A 00845 / 18.12.2023

**Annex 9**

## List of the projects of the BBG

No	Type of the project	Informations related to projects	Responsable of the project	BBG members
<b>International projects</b>				
1.	International Grant	Horizon 2020 RIA H2020-SU-SEC-2018-2019-2020 Contract no. 833787/05.04.2019 <b>Title:</b> "Border detection of illicit drugs and precursors by highly accurate electrosensors – <b>BorderSens</b> " 2019-2023 <b>535.625 EUR</b>	Dr. Cristea Cecilia	Dr. Mihaela Tertiș Dr. Andreea Cernat Dr. Bogdan Feier
2.	International Grant	ERA.Net RUS Plus Call 2017 - Science & Technology; Contract no. 46/2018 <b>Title:</b> "Synergy of plasmonic structures, affinity elements, and photosensitizers for electrochemical sensors of pharmaceutical products. - <b>PlasmonElectroLight</b> " 2018-2021 <b>609.040 RON (125.000 EUR)</b>	Dr. Cristea Cecilia	Dr. Mihaela Tertiș Dr. Bogdan Feier Dr. Oana Hosu-Stăncioiu
3.	International Grant	Horizon 2020 RIA H2020-SU-SEC-2018-2019-2020 Contract no. 883484/2020 <b>Title:</b> "Pathogen Contamination Emergency Response Technologies - <b>PATHOCERT</b> " 2020-2023 <b>230.375 EUR</b>	Dr. Cristea Cecilia	Dr. Mihaela Tertiș Dr. Andreea Cernat Dr. Bogdan Feier Dr. Oana Hosu-Stăncioiu
4.	International Grant	Horizon Europe HORIZON-CL6-2021-FARM2FORK-01-10 Grant Agreement 101060712/2022 <b>Title:</b> "European integration of new technologies and social-economic solutions for increasing consumer trust and engagement in seafood products - <b>FishEuTrust</b> " 2022-2025 <b>251.326 EUR</b>	Dr. Cristea Cecilia	Dr. Mihaela Tertiș Dr. Andreea Cernat Dr. Bogdan Feier Dr. Oana Hosu-Stăncioiu

5.	International Grant	<p>COST Action CA16113 (OC-2016-1-20724)</p> <p>CliniMark: good biomarker practice to increase the number of clinically validated biomarkers</p> <p>Prof.univ.dr.Bodoki Ede</p> <p><b>Durata:</b> 2017-2021</p> <p><b>654999.75 RON (130.999,95 EUR )</b></p>		<p>Dr.Cristea Cecilia</p> <p>Dr. Mihaela Tertiş</p> <p>Dr. Bogdan Feier</p> <p>Dr. Oana Hosu-Stăncioiu</p>
<b>National projects</b>				
6.	National Grant	<p>PN-II-RU-TE-2014-4-0460/ Contract no. 78/2015</p> <p><b>Title:</b> "Development of platforms for sensors used in the detection and quantification of biomarkers involved in neurological disorders"</p> <p>2015-2017</p> <p><b>550.000 RON (110.000 EUR)</b></p>	Dr. Cristea Cecilia	<p>Dr. Mihaela Tertiş</p> <p>Dr. Andreea Cernat</p> <p>Dr. Bogdan Feier</p> <p>Dr. Oana Hosu-Stăncioiu</p>
7.	National Grant	<p>PN-III-P3-3.6-H2020-2020-0095/ Contract no. 32/2020</p> <p><b>Title:</b> "Detection of drugs and precursors at customs points using precise electro sensors"</p> <p>2020-2022</p> <p>195.721,21 RON (40.775 EURO)</p>	Dr. Cristea Cecilia	<p>Dr. Mihaela Tertiş</p> <p>Dr. Andreea Cernat</p> <p>Dr. Bogdan Feier</p>
8.	National Grant	<p>PN-III-P1-1.2-PCCDI-2017-0407 Contract nr. 39PCCDI/2018</p> <p><b>Title :</b> "Smart materials for medical applications"</p> <p><b>(INTELMAT)</b></p> <p>2018-2021</p> <p><b>178.420 RON (37.171 EUR)</b></p>		<p>Dr. Cristea Cecilia</p> <p>Dr. Mihaela Tertiş</p> <p>Dr. Andreea Cernat</p> <p>Dr. Bogdan Feier</p>
9.	National Grant	<p>PN-III-P2-2.1.-PED-TE-2014-4-0460/ Contract no. 78/2015</p> <p><b>Title:</b> "Nanobiosensor with smartphone interface for rapid and selective detection of antibiotics in water."</p> <p>2017-2018</p> <p><b>300.000 RON (65.000 EUR)</b></p>	Dr. Cristea Cecilia	<p>Dr. Mihaela Tertiş</p> <p>Dr. Bogdan Feier</p>

0.	National Grant	PN-III-P3.1.-PM-RO-FR-2016-003 PAI/ Contract no. 78/2015 <b>Title: "Optical nanobiosensors with smartphone interface for fast and selective detection of antibiotics in water - SenzAM" 2016-2018</b> <b>40.000 RON (8.500 EUR)</b>	Dr. Cristea Cecilia	Dr. Andreea Cernat
1.	National Grant	PN-IV-P8-8.1-PRE-HE-ORG-2023-076 Contract no. 29356/08.11.2023 <b>Title: "European integration of new technologies and social-economic solutions for increasing consumer trust and engagement in seafood products - FishEuTrust" 2023-2025</b> <b>125.663 RON (25.132,6 EUR)</b>	Dr. Cristea Cecilia	Dr. Mihaela Tertiş Dr. Andreea Cernat Dr. Bogdan Feier Dr. Oana Hosu-Stăncioiu
2.	National Grant	PN-III-P1-1.1-PD-2021-0156 Development of laccase-based biosensor/cell constructions to monitor catecholamine release from in situ neuronal cells under hypoxia conditions 2018-2020 <b>250.000 RON (55.000 EUR)</b>	Prof. Dr. Cristea Cecilia	-
3	National Grant	PN-III-P1-1.2-PCCDI-2017-0221 High accuracy innovative approach for the robotic assisted intraoperative treatment of hepatic tumors based on imagistic-molecular diagnosis, <b>IMPROVE</b> 2018-2021 <b>1.219.000 RON (250.000 EUR)</b>		Dr.Cristea Cecilia Dr. Andreea Cernat Dr. Bogdan Feier
4	National Grant	COFUND-ERA-HDHL ERANET-SALIVAGES Innovative Tehnological Approaches for validation of Salivary AGEs (Advanced Glycation End Products) as novel biomarkers in evaluation of risk factors in diet related diseases 2017-2020 <b>1.059.708 RON (215.000 EUR)</b>	-	Dr.Cristea Cecilia Dr. Mihaela Tertiş
5	National Grant	PN-III-P1-1.1-PD-2016-1132 Development of electrochemical sensors for monitoring the	Dr. Bogdan Feier	Dr. Cristea Cecilia

		vancomycin and gentamicin treatments 2018-2020 <b>250.000 RON (55.000 EUR)</b>		
16	National Grant	PN-II-ID-PCE-2011-3-0355 Amperometric Immunosensor for ovarian and uterine cancer biomarkers 2011-2016	-	Dr. Cristea Cecilia Dr. Mihaela Tertiş Dr. Andreea Cernat
17	National Grant	PN-III-P3-3.1-PM-RO-FR-2016-0003 Innovative electrochemical sensors for sensitive and selective detection of some biogenic amines 2016-2018 <b>40.000 RON (8.000 EUR)</b>	Dr. Cristea Cecilia	Dr. Mihaela Tertiş Dr. Bogdan Feier
18	National Grant	PN-III-P1-1.1-MC-2017-0506 2017	PL	-
19	National Grant	PN-III-P1-1.1-MCD-2016-0101 2016	PL	-
20	National Grant	<b>PN-II-RU-ABIL-2015-2-0008 2015</b> Premierea obtinerii atestatului de abilitare - Competitia 2015 2015	PL	-
22	National Grant	PN-II-CT-RO-FR-2014-2-0008 Functionalized nanomaterials with chromo and fluorophores and nanostructured platforms for biosensors applied in pharmaceutical and biomedical fields	PL	
<b>Members of the BBG</b>				
22	National Grant	PN-III-P1-1.1-PD-2016-1132 Development of electrochemical sensors for monitoring the vancomycin and gentamicin treatments 2018-2020 <b>250.000 RON (55.000 EUR)</b>	Dr. Feier Bogdan	Dr.Cecilia Cristea
23	National Grant	PN-III-P1-1.1-TE-2019-1360 Detectia electrochimică a moleculelor implicate în sensibilitatea bacteriană la cworum și a formării biofilmului 2020-2022 <b>432.000 RON (90.000 EUR)</b>	Dr. Feier Bogdan	Dr. Cecilia Cristea Dr. Mihaela Tertiş Dr. Andreea Cernat Dr. Oana Hosu-Stăncioiu

24	National Grant	PN-III-P1-1.1-TE-2021-1543 Senzori electrochimici purtabili pentru detectarea neinvaziva a mediatorilor inflamatori exprimați în sindromul post-COVID-19 2023-2024 <b>450.000 RON (90.000 RON)</b>	Lecturer Dr. Terțiș Mihaela	Dr. Andreea Cernat Dr. Bogdan Feier Dr. Oana Hosu-Stăncioiu
25	National Grant	PN-III-P1-1.1-TE-2021-0846 Nanoplatforme pentru detecția electrochimică rapidă a <i>Staphylococcus aureus</i> prin intermediul markerilor specifici- <b>Starsens</b> 2023-2024 <b>450.000 RON (90.000 RON)</b>	Dr. Cernat Andreea	Dr. Mihaela Terțiș Dr. Bogdan Feier Dr. Oana Hosu-Stăncioiu
26	National Grant	PNN-III-P1-1.1-PD-2019-0631 Aflatoxin and Ara h allergen simultaneous electrochemical detection for food safety management, DNASens4SafeFood 2020-2024 <b>246.950 RON (50.000 EUR)</b>	Dr. Oana Hosu- Stăncioiu	Dr. Cecilia Cristea



## Annex 10

### Eligibility criteria

#### Dr. Mihaela Tertiș

1. Publications as the main author or co-author, categorized as articles, published in journals indexed in Web of Science JCR, with a quartile Q1 according to AIS (considering the latest classification available at the time of application submission) – minimum of 7. In the case of humanities, the requirement is the publication of 4 books with prestigious international publishers or publishers classified by CNCS A. - **8 research articles**
  1. Capatina D, Lupoi T, Feier B, Blidar A, **Oana Hosu, Mihaela Tertiș**, Olah D, Cristea C, Oprean R. Label-Free Electrochemical Aptasensor for the Detection of the 3-O-C12-HSL Quorum-Sensing Molecule in *Pseudomonas Aeruginosa*. *Biosensors*. 2022 Jun 22;12(7):440.
  2. Marc G, Stana A, Franchini AH, Vodnar DC, Barta G, **Mihaela Tertiș**, Șanta I, Cristea C, Pîrnău A, Ciorîță A, Dume B. Phenolic thiazoles with antioxidant and antiradical activity. Synthesis, in vitro evaluation, toxicity, electrochemical behavior, quantum studies and antimicrobial screening. *Antioxidants*. 2021;10(11):1707.
  3. Rus I, **Mihaela Tertiș**, Barbălată C, Porfire A, Tomuță I, Săndulescu R, Cristea C. An electrochemical strategy for the simultaneous detection of doxorubicin and simvastatin for their potential use in the treatment of cancer. *Biosensors*. 2021;11(1):15.
  4. A. Mahmoudi, **Mihaela Tertiș**, L-M. Simon, A. Van Schepdael, S. De Francia, L-M. Junie, R. Sandulescu, Correlated quantification using microbiological and electrochemical assays for roxithromycin determination in biological and pharmaceutical samples, *Talanta*, 2020, 211,120703.
  5. **Mihaela Tertiș**, Leva PI, Bogdan D, Suciu M, Graur F, Cristea C. Impedimetric aptasensor for the label-free and selective detection of Interleukin-6 for colorectal cancer screening. *Biosensors and Bioelectronics*. 2019;137:123-32.
  6. Ciui B, **Mihaela Tertiș**, Feurdean CN, Ilea A, Sandulescu R, Wang J, Cristea C. Cavitas electrochemical sensor toward detection of N-epsilon (carboxymethyl) lysine in oral cavity. *Sensors and Actuators B: Chemical*. 2019;281:399-407.
  7. Ciui B, **Mihaela Tertiș**, Cernat A, Săndulescu R, Wang J, Cristea C. Finger-based printed sensors integrated on a glove for on-site screening of *Pseudomonas aeruginosa* virulence factors. *Analytical Chemistry*. 2018;90(12):7761-8; DOI:10.1021/acs.analchem.8b01915.
  8. A. Maghear, **Mihaela Tertiș**, L. Fritea, I.O. Marian, E. Indrea, A. Walcarius, R. Săndulescu. Tetrabutylammonium-modified clay film electrodes: Characterization and application to the detection of metal ions. *Talanta* 2014; 25: 36-44; <https://doi.org/10.1016/j.talanta.2014.02.042>.
2. Being ranked in the top 1% based on citations qualifies /Highly Cited Researcher – **no**
3. National and international research projects, competitively won, each with a minimum value of 100,000 euros, and a team comprising at least 3 members, where the individual served as the principal/investigating project leader – minimum 1 - **no**
4. Experience as a researcher/invited lecturer at prestigious foreign universities – minimum 1 - **no**;

5. Position of Editor-in-Chief for a journal indexed in the Journal Citation Reports – minimum 1 - **no**
6. Cumulative influence score A, calculated as the sum of weighted influence scores corresponding to articles published in the last 5 years (where the weighted influence score for an article is defined as the article's influence score - AIS, divided by the number of authors of the article) – A minimum of 5 - **13.7131**

Nr. Crt.	Authors	Year	Journal	AIS 2023	No. authors	AIS
1	Cernat, Andreea; Gyorfi, Szabolcs Janos; Irimes, Maria-Bianca; Tertis, Mihaela; Bodoki, Andreea; Pralea, Ioana-Ecaterina; Suciu, Maria; Cristea, Cecilia	2019	Electrochemistry communications <a href="https://doi.org/10.1016/j.elecom.2018.11.008">https://doi.org/10.1016/j.elecom.2018.11.008</a>	1.422	8	0.17775
2	Gandouzi, Islem; Tertis, Mihaela; Cernat, Andreea; Saidane-Mosbahi, Dalila; Ilea, Aranka; Cristea, Cecilia	2019	Materials DOI: 10.3390/ma12071180	1.659	6	0.2765
3	Tertis, Mihaela; Melinte, Gheorghe; Ciui, Bianca; Simon, Ioan; Stiufiuc, Rares; Sandulescu, Robert; Cristea, Cecilia	2019	Electroanalysis DOI: 10.1002/elan.201800620	0.792	7	0.113143
4	Blidar, Adrian; Feier, Bogdan; Tertis, Mihaela; Galatus, Ramona; Cristea, Cecilia,	2019	Analytical and Bioanalytical Chemistry <a href="https://doi.org/10.1007/s00216-018-1533-5">https://doi.org/10.1007/s00216-018-1533-5</a>	1.436	5	0.2872
5	Pascalau, Violeta; Pall, Emoke; Tertis, Mihaela; Suciu, Maria; Cristea, Cecilia; Borodi, Gheorghe; Bodoki, Andreea; Topala, Tamara; Stiufiuc, Rares; Moldovan, Alin; Pavel, Codruta; Marinca, Traian; Popa, Catalin	2019	International Journal of Polymeric Materials and Polymeric Biomaterials DOI: 10.1080/00914037.2018.1525724	0.938	13	0.072154
6	Ilea, Aranka; Andrei, Vlad; Feurdean, Claudia Nicoleta; Babant, Anida-Maria; Petrescu, Nausica Bianca; Campian, Radu Septimiu; Bosca, Adina Bianca; Ciui, Bianca; Tertis, Mihaela; Sandulescu, Robert; Cristea, Cecilia,	2019	Biosensors-Basel DOI: 10.3390/bios9010027	1.747	11	0.158818
7	Ciui, Bianca; Tertis, Mihaela; Feurdean, Claudia N.; Ilea, Aranka; Sandulescu, Robert; Wang, Joseph; Cristea, Cecilia	2019	Sensors and actuators B-Chemical <a href="https://doi.org/10.1016/j.snb.2018.10.096">https://doi.org/10.1016/j.snb.2018.10.096</a>	2.123	7	0.303286
8	Gug, Ioana Tiuca; Tertis, Mihaela; Hosu, Oana; Cristea, Cecilia	2019	TRAC - Trends in analytical chemistry DOI: 10.1016/j.trac.2019.02.020	4.493	4	1.12325
9	Cernat, Andreea; Canciu, Alexandra; Tertis, Mihaela; Graur,	2019	Analytical and Bioanalytical	1.436	5	0.2872

	Florin; Cristea, Cecilia		Chemistry DOI: 10.1007/s00216-019-01857-4			
10	Adumitrachioaie, Alina; Tertis, Mihaela; Suciu, Maria; Graur, Florin; Cristea, Cecilia	2019	Electrochimica acta DOI: 10.1016/j.electacta.2019.04.128	1.607	5	0.3214
11	Tertis, Mihaela; Leva, Petrica Ionut; Bogdan, Diana; Suciu, Maria; Graur, Florin; Cristea, Cecilia	2019	Biosensors & Bioelectronics DOI: 10.1016/j.bios.2019.05.012	3.522	6	0.587
12	Hosu, Oana; Tertis, Mihaela; Cristea, Cecilia	2019	Magentochemistry DOI: 10.3390/magnetochemistry5040055	1.099	3	0.366333
13	Mahmoudi, Abdelghani; Tertis, Mihaela; Simon, Laura-Mihaela; Van Schepdael, Ann; De Francia, Silvia; Junie, Lia-Monica; Sandulescu, Robert	2020	Talanta <a href="https://doi.org/10.1016/j.talanta.2019.120703">https://doi.org/10.1016/j.talanta.2019.120703</a>	1.707	7	0.243857
14	Melinte, Gheorghe; Cernat, Andreea; Irimes, Maria-Bianca; Gyorf, Szabolcs Janos; Tertis, Mihaela; Suciu, Maria; Anicai, Liana; Sandulescu, Robert; Cristea, Cecilia	2020	Sensors <a href="https://doi.org/10.3390/s20082315">https://doi.org/10.3390/s20082315</a>	1.314	9	0.146
15	Truta, Florina; Florea, Anca; Cernat, Andreea; Tertis, Mihaela; Hosu, Oana; de Wael, Karolien; Cristea, Cecilia	2020	Frontiers in chemistry DOI: 10.3389/fchem.2020.561638	2.112	7	0.301714
16	Cernat, Andreea; Petica, Aurora; Anastasoae, Veronica; Lazar, Oana; Gyorf, Szabolcs Janos; Irimes, Maria-Bianca; Stefan, Geanina; Tertis, Mihaela; Enachescu, Marius; Anicai, Liana; Cristea, Cecilia	2020	Electrochemistry communications DOI: 10.1016/j.elecom.2020.106869	1.422	11	0.129273
17	Cernat, Andreea; Stefan, Geanina; Tertis, Mihaela; Cristea, Cecilia; Simon, Ioan	2020	Bioelectrochemistry DOI: 10.1016/j.bioelechem.2020.107620	1.355	5	0.271
18	Nedu, Maria-Eliza; Tertis, Mihaela; Cristea, Cecilia; Georgescu, Alexandru Valentin	2020	Diagnostics DOI:10.3390/diagnostics10040223	1.084	4	0.271
19	Starzec, Karolina; Cristea, Cecilia; Tertis, Mihaela; Feier, Bogdan; Wiczorek, Marcin; Koscielniak, Pawel; Kochana, Jolanta	2020	Bioelectrochemistry DOI: 10.1016/j.bioelechem.2019.107405	1.355	7	0.193571
20	Tertis, Mihaela; Cernat, Andreea; Mirel, Simona; Cristea, Cecilia	2021	Analytical letters DOI: 10.1080/00032719.2020.1728292	0.515	4	0.12875
21	Dragan, A.-M., Truta, F.M., Tertis, M., Florea, A., Schram J., Cerbat, A., Feier, B., de wael, K., Cristea, C., Oprean, R.	2021	Frontiers in chemistry DOI: 10.3389/fchem.2021.641147	2.112	10	0.2112
22	Tertis, M., Hosu, O., Feier, B., Cernat, A., Florea, A., Cristea, C.	2021	Molecules DOI:	1.452	6	0.242

			10.3390/molecules26113200			
23	Canciu, A., Tertis, M., Hosu, O., Cernat, A., Cristea, C., Graur, F.	2021	Sustainability DOI 10.3390/su13137229	0.843	6	0.1405
24	Rus, I., Tertis, M., Barbălată, C., Porfire, C., Tomuta, I., Săndulescu, R., Cristea, C.	2021	Biosensors DOI: 10.3390/bios11010015	1.747	7	0.249571
25	Truță, F., Tertis, M., Cristea, C., Graur, F.	2021	Current analytical chemistry DOI:10.2174/1573411016999200518084746	0.461	4	0.11525
26	Rus, Iulia; Tertis, Mihaela; Pașcalău, Violeta; Pavel, Codruța; Melean, Bianca; Suci, Maria; Moldovan, Cristian; Topală, Tamara; Popa, Cătălin; Săndulescu, Robert; Cristea, Cecilia	2021	Farmacia DOI 10.31925/farmacia.2021.4.6	0.129	11	0.011727
27	Rus, Iulia; Tertis, Mihaela; Cristea, Cecilia, Sandulescu, Robert	2021	Current analytical chemistry DOI: 10.2174/1573411016999200612100927	0.461	4	0.11525
28	Rus, Iulia; Tertis, Mihaela; Barbălată, Cristina; Porfire, Alina; Tomuță, Ioan; Săndulescu, Robert; Cristea Cecilia	2021	Biosensors DOI: 10.3390/bios11010015	1.747	7	0.249571
29	Rus, Iulia; Pusta, Alexandra; Tertis, Mihaela; Barbalata, Cristina; Tomuta, Ioan; Săndulescu, Robert; Cristea, Cecilia;	2021	Pharmaceuticals DOI 10.3390/ph14090912	1.307	7	0.186714
30	Marc, Gabriel; Stana, Anca; Franchini, Ana Horiana; Vodnar, Dan Cristian; Barta, Gabriel; Tertis, Mihaela; Santa, Iulia; Cristea, Cecilia; Pirnau, Adrian; Ciorta, Alexandra; Dume, Bogdan; Oniga, Ilioara; Oniga, Ovidiu	2021	Antioxidants DOI 10.3390/antiox10111707	2.138	13	0.164462
31	Canciu, A., Cernat, A., Tertis, M., Bordea, M., Wang, J., Cristea, C.	2022	International journal of molecular science DOI 10.3390/ijms23179884	2.264	6	0.377333
32	Pusta, Alexandra; Tertis, Mihaela; Cristea, Cecilia; Mirel, Simona	2022	Biosensors DOI: 10.3390/bios12010001	1.747	4	0.43675
33	Fritea, Luminita; Tertis, Mihaela; Cristea, Cecilia; Săndulescu, Robert	2022	Electroanalysis DOI 10.1002/elan.202200014	0.792	4	0.198
34	Pusta, Alexandra; Tertis, Mihaela; Graur, Florin; Cristea, Cecilia; Al Hajjar, Nadim	2022	Current medicinal chemistry DOI 10.2174/092986732966622022113707	1.308	5	0.2616

35	Tertis, Mihaela; Sîrbu, Petra-Lia; Suci, Maria; Bogdan, Diana; Pana, Ovidiu; Cristea, Cecilia; Simon, Ioan	2022	Chemelectrochem DOI 10.1002/celc.202101328	1.296	7	0.185143
36	Capatina, Denisa; Feier, Bogdan; Hosu, Oana; Tertis, Mihaela; Cristea, Cristea,	2022	Analytica chimica acta DOI 10.1016/j.aca.2022.339696	2.011	5	0.4022
37	Uriciuc, Willi Andrei; Boşca, Adina Bianca; Băbţan, Anida-Maria; Vermesan, Horaţiu; Cristea, Cecilia; Tertis, Mihaela; Pascuta, Petru; Borodi, Gheorghe; Suci, Maria; Barbu Tudoran, Lucian; Popa, Cătălin Ovidiu; Ilea, Aranka	2022	Materials DOI 10.3390/ma15093052	1.659	12	0.13825
38	Szabó, Sandor; Feier, Bogdan; Capatina, Denisa; Tertis, Mihaela; Cristea, Cecilia; Popa, Adina	2022	Journal of clinical medicine DOI 10.3390/jcm11113204	1.474	6	0.245667
39	Capatina, Denisa; Lupoi, Teodora; Feier, Bogdan; Blidar, Adrian; Hosu, Oana; Tertis, Mihaela; Olah, Diana; Cristea, Cristea; Oprean, Radu	2022	Biosensors DOI 10.3390/bios12070440	1.747	9	0.194111
40	Cristina-Ioana Barbălată, Alina Silvia Porfire, Tibor Casian, Dana Muntean, Iulia Rus, Mihaela Tertiş, Cecilia Cristea, Anca Pop, Julien Cherfan, Felicia Loghin, Ioan Tomuţă	2022	Pharmaceuticals DOI: 10.3390/ph15101211	1.307	11	0.118818
41	Alexandra Canciu, Andreea Cernat, Mihaela Tertis, Florin Graur, Cecilia Cristea	2023	TRAC - Trends in analytical chemistry DOI: 10.1016/j.trac.2023.116983	4.493	5	0.8986
42	Ana-Maria Tataru, Alexandra Canciu, Mihaela Tertis, Cecilia Cristea, Andreea Cernat	2023	Bioelectrochemistry <a href="https://doi.org/10.1016/j.bioelechem.2023.108492">https://doi.org/10.1016/j.bioelechem.2023.108492</a>	1.355	5	0.271
43	Irimis, Maria-Bianca; Tertis, Mihaela; Oprean, Radu; Cristea, Cecilia	2023	Medicinal Research Review DOI: 10.1002/med.21978	4.267	4	1.06675
44	Almabadi, Meshal; Truta, Florina Maria; Adamu, Gyako; Cowen, Todd; Tertis, Mihaela; Alanazi, Kaseb D. M.; Stefan, Maria-Georgia; Piletska, Elena; Kiss, Bela; Cristea, Cecilia; De Wael, Karolien; Piletsky, Sergey; Cruz, Alvaro Garcia	2023	Electrochimica Acta DOI: 10.1016/j.electacta.2023.142009	1.607	13	0.123615
45	Macovei, Diana-Gabriela; Irimis, Maria-Bianca; Hosu, Oana; Cristea, Cecilia; Tertis, Mihaela	2023	Analytical and Bioanalytical Chemistry DOI 10.1007/s00216-022-04320-	1.436	5	0.2872





**Eligibility criteria****Dr. Andreea Cernat**

1. Publications as the main author or co-author, categorized as articles, published in journals indexed in Web of Science JCR, with a quartile Q1 according to AIS (considering the latest classification available at the time of application submission) – minimum of 7. In the case of humanities, the requirement is the publication of 4 books with prestigious international publishers or publishers classified by CNCS A - **1 research article**

B. Ciui, M. Tertis, A. Cernat, R. Sandulescu, J. Wang, C. Cristea, Finger-Based Printed Sensors Integrated on a Glove for On-Site Screening Of Pseudomonas aeruginosa Virulence Factors, Analytical Chemistry, 90(12), 7761-7768, 2018

2. Being ranked in the top 1% based on citations qualifies /Highly Cited Researcher – **no**
3. National and international research projects, competitively won, each with a minimum value of 100,000 euros, and a team comprising at least 3 members, where the individual served as the principal/investigating project leader – minimum 1 - **no**
4. Experience as a researcher/invited lecturer at prestigious foreign universities – minimum 1 - **no**;
5. Position of Editor-in-Chief for a journal indexed in the Journal Citation Reports – minimum 1 - **no**
6. Cumulative influence score A, calculated as the sum of weighted influence scores corresponding to articles published in the last 5 years (where the weighted influence score for an article is defined as the article's influence score - AIS, divided by the number of authors of the article) – A minimum of 5 - **4.0958**

Nr	Authors	Year	Journal	AIS 2023	No. authors	AIS
1	<b>Cernat, Andreea</b> ; Gyorfi, Szabolcs Janos; Irimes, Maria-Bianca; Tertis, Mihaela; Bodoki, Andreea; Pralea, Ioana-Ecaterina; Suci, Maria; Cristea, Cecilia	2019	Electrochemistry communications <a href="https://doi.org/10.1016/j.elecom.2018.11.008">https://doi.org/10.1016/j.elecom.2018.11.008</a>	1.422	8	0.17775
2	Gandouzi, Islem; Tertis, Mihaela; <b>Cernat, Andreea</b> ; Saidane-Mosbahi, Dalila; Ilea, Aranka; Cristea, Cecilia	2019	Materials <a href="https://doi.org/10.3390/ma13122752">https://doi.org/10.3390/ma13122752</a>	1.659	6	0.2765
3	<b>Cernat, Andreea</b> ; Canciu, Alexandra; Tertis, Mihaela; Graur, Florin; Cristea, Cecilia	2019	Analytical and Bioanalytical Chemistry DOI: 10.1007/s00216-019-01857-4	1.436	5	0.2872
4	Melinte, Gheorghe; <b>Cernat, Andreea</b> ; Irimes, Maria-Bianca; Gyorfi, Szabolcs Janos; Tertis, Mihaela; Suci, Maria; Anicai, Liana; Sandulescu, Robert; Cristea, Cecilia	2020	Sensors <a href="https://doi.org/10.3390/s20082315">https://doi.org/10.3390/s20082315</a>	1.314	9	0.146
5	Melinte, Gheorghe; <b>Cernat, Andreea</b> ; Petica, Aurora; Lazar, Oana; Enachescu, Marius; Anicai, Liana; Cristea, Cecilia	2020	Materials <a href="https://doi.org/10.3390/ma13122752">https://doi.org/10.3390/ma13122752</a>	1.659	7	0.237
6	Truta, Florina; Florea, Anca; <b>Cernat, Andreea</b> ; Tertis, Mihaela; Hosu, Oana; de Wael, Karolien; Cristea, Cecilia	2020	Frontiers in chemistry DOI: 10.3389/fchem.2020.561638	2.112	7	0.30171



**Eligibility criteria:****Dr. Bogdan Feier**

1. Publications as the main author or co-author, categorized as articles, published in journals indexed in Web of Science JCR, with a quartile Q1 according to AIS (considering the latest classification available at the time of application submission) – minimum of 7. In the case of humanities, the requirement is the publication of 4 books with prestigious international publishers or publishers classified by CNCS - **6 research articles**
1. Capatina D, Lupoi T, Feier B, Olah D, Cristea C, Oprean R. Highly sensitive detection of PQS quorum sensing in *Pseudomonas aeruginosa* using screen-printed electrodes modified with nanomaterials. *Biosensors*. 2022 Aug 13;12(8):638.
2. Capatina D, Lupoi T, Feier B, Blidar A, Hosu O, Tertis M, Olah D, Cristea C, Oprean R. Label-Free Electrochemical Aptasensor for the Detection of the 3-O-C12-HSL Quorum-Sensing Molecule in *Pseudomonas Aeruginosa*. *Biosensors*. 2022 Jun 22;12(7):440.
3. Blidar A, Hosu O, Feier B, Ștefan G, Bogdan D, Cristea C. Gold-based nanostructured platforms for oxytetracycline detection from milk by a “signal-on” aptasensing approach. *Food Chemistry*. 2022 Mar 1;371:131127.
4. Feier B, Blidar A, Pusta A, Carciuc P, Cristea C. Electrochemical sensor based on molecularly imprinted polymer for the detection of cefalexin. *Biosensors*. 2019 Feb 27;9(1):31.
5. Feier B, Gui A, Cristea C, Săndulescu R. Electrochemical determination of cephalosporins using a bare boron-doped diamond electrode. *Analytica chimica acta*. 2017 Jul 11;976:25-34.
6. Feier B, Floner D, Cristea C, Bodoki E, Sandulescu R, Geneste F. Flow electrochemical analyses of zinc by stripping voltammetry on graphite felt electrode. *Talanta*. 2012 Aug 30;98:152-6.
2. Being ranked in the top 1% based on citations qualifies /Highly Cited Researcher – **no**
3. National and international research projects, competitively won, each with a minimum value of 100,000 euros, and a team comprising at least 3 members, where the individual served as the principal/investigating project leader – minimum 1 - **no**
4. Experience as a researcher/invited lecturer at prestigious foreign universities – minimum 1 - **no**;
5. Position of Editor-in-Chief for a journal indexed in the Journal Citation Reports – minimum 1 - **no**
6. Cumulative influence score A, calculated as the sum of weighted influence scores corresponding to articles published in the last 5 years (where the weighted influence score for an article is defined as the article's influence score - AIS, divided by the number of authors of the article) – A minimum of 5 - **4.528**

Nr.	Authors	Year	Journal/DOI	AIS 2023	No. authors	AIS
1	Blidar, Adrian; Feier, Bogdan; Tertis, Mihaela; Galatus, Ramona; Cristea, Cecilia,	2019	Analytical and Bioanalytical Chemistry <a href="https://doi.org/10.1007/s00216-018-1533-5">https://doi.org/10.1007/s00216-018-1533-5</a>	1.436	5	0.2872
2	Feier, Bogdan; Blidar, Adrian; Pusta, Alexandra; Carciuc, Paula; Cristea, Cecilia	2019	Biosensors-Basel <a href="https://doi.org/10.3390/bios9010031">https://doi.org/10.3390/bios9010031</a>	1.747	5	0.3494
3	Feier, Bogdan; Blidar, Adrian; Vlase, Laurian; Cristea, Cecilia	2019	Electrochemistry communications <a href="https://doi.org/10.1016/j.elecom.2019.05">https://doi.org/10.1016/j.elecom.2019.05</a>	1.422	4	0.355

			<u>.023</u>			
4	Blidar, Adrian; Feier, Bogdan; Pusta, Alexandra; Dragan, Ana-Maria; Cristea, Cecilia	2019	Coatings <a href="https://doi.org/10.3390/coatings9100652">https://doi.org/10.3390/coatings9100652</a>	1	5	0.2
5	Starzec, Karolina; Cristea, Cecilia; Tertis, Mihaela; Feier, Bogdan; Wieczorek, Marcin; Koscielniak, Pawel; Kochana, Jolanta	2020	Bioelectrochemistry DOI: 10.1016/j.bioelechem.2019.107405	1.355	7	0.193571
6	Dragan, A.-M., Truta, F.M., Tertis, M., Florea, A., Schram J., Cerbat, A., Feier, B., de wael, K., Cristea, C., Oprean, R.	2021	Frontiers in chemistry DOI: 10.3389/fchem.2021.641147	2.112	10	0.2112
7	Tertis, M., Hosu, O., Feier, B., Cernat, A., Florea, A., Cristea, C	2021	Molecules DOI: 10.3390/molecules26113200	1.452	6	0.242
8	Dragan, Ana-Maria; Parrilla, Marc; Feier, Bogdan; Oprean, Radu; Cristea, Cecilia; De Wael, Karolien	2021	TRAC - Trends in analytical chemistry <a href="https://doi.org/10.1016/j.trac.2021.116447">https://doi.org/10.1016/j.trac.2021.116447</a>	4.493	6	0.748833
9	Blidar, Adrian; Hosu, Oana; Feier, Bogdan; Stefan, Geanina; Bogdan, Diana; Cristea, Cecilia	2022	Food chemistry <a href="https://doi.org/10.1016/j.foodchem.2021.131127">https://doi.org/10.1016/j.foodchem.2021.131127</a>	3.257	6	0.542833
10	Capatina, Denisa; Feier, Bogdan; Hosu, Oana; Tertis, Mihaela; Cristea, Cristea	2022	Analytica chimica acta DOI 10.1016/j.aca.2022.339696	2.011	5	0.4022
11	Szabó, Sandor; Feier, Bogdan; Capatina, Denisa; Tertis, Mihaela; Cristea, Cecilia; Popa, Adina	2022	Journal of clinical medicine DOI 10.3390/jcm11113204	1.474	6	0.245667
12	Capatina, Denisa; Lupoi, Teodora; Feier, Bogdan; Blidar, Adrian; Hosu, Oana; Tertis, Mihaela; Olah, Diana; Cristea, Cristea; Oprean, Radu	2022	Biosensors DOI 10.3390/bios12070440	1.747	9	0.194111
13	Capatina, Denisa; Lupoi, Teodora; Feier, Bogdan; Olah, Diana; Cristea, Cecilia; Oprean, Radu	2022	Biosensors <a href="https://doi.org/10.3390/bios12080638">https://doi.org/10.3390/bios12080638</a>	1.747	6	0.291167
14	Drăgan Ana-Maria, Feier Bogdan, Tertis Mihaela, Bodoki Ede, Truta Florina, Ștefan Maria Georgia, Kiss Bela, Van Durme Filip, De Wael Karolien, Oprean Radu, Cristea Cecilia	2023	Nanomaterials <a href="https://doi.org/10.3390/nano13172393">https://doi.org/10.3390/nano13172393</a>	1.557	11	0.141545



**Dr. Oana Hosu**

**Eligibility criteria:**

1. Publications as the main author or co-author, categorized as articles, published in journals indexed in Web of Science JCR, with a quartile Q1 according to AIS (considering the latest classification available at the time of application submission) – minimum of 7. In the case of humanities, the requirement is the publication of 4 books with prestigious international publishers or publishers classified by CNCS A.-4 **research articles**
  1. **O. Hosu**, M. Lettieri, N. Papara, A. Ravalli, R. Sandulescu, C. Cristea, G. Marrazza, Colorimetric multienzymatic smart sensors for hydrogen peroxide, glucose and catechol screening analysis, *Talanta*. 204 (2019) 525–532. <https://doi.org/10.1016/j.talanta.2019.06.041>.
  2. A. Blidar, **O. Hosu**, B. Feier, G. Ștefan, D. Bogdan, C. Cristea, Gold-based nanostructured platforms for oxytetracycline detection from milk by a “signal-on” aptasensing approach, *Food Chem.* 371 (2022) 131127. <https://doi.org/10.1016/j.foodchem.2021.131127>.
  3. D. Capatina, T. Lupoi, B. Feier, A. Blidar, **O. Hosu**, M. Tertis, D.D. Olah, C. Cristea, R.R. Oprean, Label-Free Electrochemical Aptasensor for the Detection of the 3-O-C12-HSL Quorum-Sensing Molecule in *Pseudomonas aeruginosa*, *Biosensors*. 12 (2022) 440. <https://doi.org/10.3390/bios12070440>.
  4. G. Melinte, **O. Hosu**, C. Cristea, G. Marrazza, Ara H1 peanut allergen detection using a labelled electrochemical aptasensor based on GO-COOH@bimetallic composite platform, *Food Chem.* 400 (2023) 134074. <https://doi.org/10.1016/j.foodchem.2022.134074>.
2. Being ranked in the top 1% based on citations qualifies /Highly Cited Researcher – **no**
  3. National and international research projects, competitively won, each with a minimum value of 100,000 euros, and a team comprising at least 3 members, where the individual served as the principal/investigating project leader – minimum 1 - **no**
  4. Experience as a researcher/invited lecturer at prestigious foreign universities – minimum 1 - **no**;
  5. Position of Editor-in-Chief for a journal indexed in the Journal Citation Reports – minimum 1 - **no**
  6. Cumulative influence score A, calculated as the sum of weighted influence scores corresponding to articles published in the last 5 years (where the weighted influence score for an article is defined as the article's influence score - AIS, divided by the number of authors of the article) – A minimum of 5 - **7.4660**

Nr	Authors	Year	Journal	AIS 2023	No. authors	AIS
1	Hosu, Oana; Mirel, Simona; Sandulescu, Robert; Cristea, Cecilia,	2019	Analytical letters <a href="https://doi.org/10.1080/00032719.2017.1391826">https://doi.org/10.1080/00032719.2017.1391826</a>	0.515	4	0.12875
2	Gug, Ioana Tiuca; Tertis, Mihaela; Hosu, Oana; Cristea, Cecilia	2019	TRAC - Trends in analytical chemistry DOI: 10.1016/j.trac.2019.02.020	4.493	4	1.12325
3	Tavakolian-Ardakani, Zahra; Hosu, Oana; Cristea, Cecilia; Mazloun-Ardakani, Mohammad; Marrazza, Giovanna	2019	Sensors <a href="https://doi.org/10.3390/s19092037">https://doi.org/10.3390/s19092037</a>	1.314	5	0.2628

4	Melinte, Gheorghe; Hosu, Oana; Lettieri, Mariagrazia; Cristea, Cecilia; Marrazza, Giovanna	2019	Sensors <a href="https://doi.org/10.3390/s19102279">https://doi.org/10.3390/s19102279</a>	1.314	5	0.2628
5	Hosu, Oana; Lettieri, Mariagrazia; Papara, Nicoleta; Ravalli, Andrea; Sandulescu, Robert; Cristea, Cecilia; Marrazza, Giovanna	2019	Talanta <a href="https://doi.org/10.1016/j.talanta.2019.06.041">https://doi.org/10.1016/j.talanta.2019.06.041</a>	1.707	7	0.2438571
6	Hosu, Oana; Tertis, Mihaela; Cristea, Cecilia	2019	Magentochemistry DOI: 10.3390/magnetoc hemistry5040055	1.099	3	0.3663333
7	Lettieri, Mariagrazia; Hosu, Oana; Adumitrachioaie, Alina; Cristea, Cecilia; Marrazza, Giovanna	2020	Electroanalysis <a href="https://doi.org/10.1002/elan.201900318">https://doi.org/10.1002/elan.201900318</a>	0.792	5	0.1584
8	Tertis, M., Hosu, O., Feier, B., Cernat, A., Florea, A., Cristea, C.	2021	Molecules DOI: 10.3390/molecules 26113200	1.452	6	0.242
9	Canciu, A., Tertis, M., Hosu, O., Cernat, A., Cristea, C., Graur, F.	2021	Sustainability DOI 10.3390/su131372 29	0.843	6	0.1405
10	Hosu, Oana; Barsan, Madalina M; Săndulescu, Robert; Cristea, Cecilia; Brett, Christopher M A	2021	Sensors <a href="https://doi.org/10.3390/s21041161">https://doi.org/10.3390/s21041161</a>	1.314	5	0.2628
11	Ștefan, Geanina; Hosu, Oana; De Wael, Karolien; Lobo-Castañón, María Jesús; Cristea, Cecilia	2021	Electrochimica acta <a href="https://doi.org/10.1016/j.electacta.2021.137994">https://doi.org/10.1016/j.electacta.2021.137994</a>	1.607	5	0.3214
12	Melinte, Gheorghe; Hosu, Oana; Ștefan, Geanina; Bogdan, Diana; Cristea, Cecilia; Marrazza, Giovanna	2022	Electrochimica acta <a href="https://doi.org/10.1016/j.talanta.2021.122169">https://doi.org/10.1016/j.talanta.2021.122169</a>	1.607	6	0.2678333
13	Blidar, Adrian; Hosu, Oana; Feier, Bogdan; Ștefan, Geanina; Bogdan, Diana; Cristea, Cecilia	2022	Food chemistry <a href="https://doi.org/10.1016/j.foodchem.2021.131127">https://doi.org/10.1016/j.foodchem.2021.131127</a>	3.257	6	0.5428333
14	Capatina, Denisa; Feier, Bogdan; Hosu, Oana; Tertis, Mihaela; Cristea, Cristea,	2022	Analytica chimica acta DOI 10.1016/j.aca.2022 .339696	2.011	5	0.4022
15	Capatina, Denisa; Lupoi, Teodora; Feier, Bogdan; Blidar, Adrian; Hosu, Oana; Tertis, Mihaela; Olah, Diana; Cristea, Cristea; Oprean, Radu	2022	Biosensors DOI 10.3390/bios12070 440	1.747	9	0.1941111
16	Melinte, Gheorghe; Hosu, Oana; Cristea, Cecilia; Marrazza, Giovanna	2022	TRAC - Trends in analytical chemistry <a href="https://doi.org/10.1016/j.trac.2022.116679">https://doi.org/10.1016/j.trac.2022.116679</a>	4.493	4	1.12325



