

# Curriculum vitae

## Personal information

Last name / First name **CALMA, Crenguța Livia**

E-mail [crenguta.calma@umft.ro](mailto:crenguta.calma@umft.ro)

Nationality Romanian

## Professional experience

**Period** *2015 - present*

Function or position held Senior Consultant in Laboratory Medicine

Main activities and responsibilities Diagnostic and research activities - Mitochondrial pathways and respiratory control and HLA Department

Name and address of employer SCJUPBT – OncoGen Center, Timișoara

**Period** *2013 - present*

Function or position held Assistant Professor of Physiology

Main activities and responsibilities Teaching and research activities

Name and address of employer "Victor Babeș" University of Medicine and Pharmacy Timișoara, Romania

**Period** *2009 – 2013*

Function or position held Assistant Professor (Adjunct / Hourly Appointment)

Main activities and responsibilities Teaching and research activities

Name and address of employer "Victor Babeș" University of Medicine and Pharmacy Timișoara, Romania

**Period** *1998 - 2004*

Function or position held Head of Laboratory, Senior Consultant

Main activities and responsibilities Clinical laboratory medicine: biochemistry, hematology, microbiology, parasitology, virology

Name and address of employer BIOCLINICA S.A., Timișoara

**Period** *2001 - 2003*

Function or position held Assistant Professor, Department of Parasitology



Main activities and responsibilities	Teaching and research activities
Name and address of employer	Department of Parasitology, "Victor Babeş" University of Medicine and Pharmacy Timișoara, Romania
<b>Period</b>	<b>1998 - 2001</b>
Function or position held	Assistant Professor, Department of Microbiology
Main activities and responsibilities	Teaching and research activities
Name and address of employer	Microbiology Department, "Victor Babeş" University of Medicine and Pharmacy Timișoara, Romania
<b>Period</b>	<b>1995 - 1998</b>
Function or position held	Junior Lecturer/Teaching Assistant, Department of Microbiology
Main activities and responsibilities	Teaching and research activities
Name and address of employer	Microbiology Department, "Victor Babeş" University of Medicine and Pharmacy Timișoara, Romania

## Education and Training

- 2025 Westlake- *Science* Joint Online Symposium - **Genome Instability in Aging and Cancer**, December 16
- 2025 - Westlake- *Science* Joint Online Symposium Mitochondrial Biology in Health and Disease March 19, 2025 (CET), Westlake Laboratory/Westlake University
- 2024 Webex Clarivate: Intelligent Research with Web of Science Research Assistant, September 10, 2024
- 2023 - CHALLENGES AND SOLUTIONS IN FIGHTING SEASONAL FLU – November 16 Sanofi Romania
- 2023 - Innovations in immunofluorescence: What's new and what's essential – October 25 Science / AAAS
- 2023 - "Clinical Challenges in Daily Practice" November 22 - Pfizer Romania
- 2022 - "Electronic access to scientific literature to support and promote the research and education system in Romania"
- 2022 - "The Journey to AI-enriched Teaching and Learning"
- 2022 – Respiratory recovery in the context of Covid-19: multidisciplinary aspects
- 2021 - Timișoara and the vision of fighting cancer in Western Romania
- 2021 - Personalized medicine: building smarter patient healthcare
- 2021 - Dengue: Diagnostic and Treatment Updates
- 2021 – IMED - 8th International Meeting on Emerging Diseases and Surveillance
- 2021 - Flow cytometry as a microbiology tool in the development of next generation diagnostics
- 2021 - #online Extra-Conference Day! - The Power of Starting Over in Education and Research
- 2021 - #online Extra-Conference Day! - From Failure to Excellence in Research. A Personal Experience
- 2021 - #online Extra-Conference Day! - Coping with Manuscript Rejection: Reflections of a Doctoral Coordinator
- 2021 - #online Extra-Conference Day! - From Failure to Excellence in Research. A Personal Experience
- 2021 - #online Extra-Conference Day! - Success in Research and Education, in the Context of Failure.
- 2021 - #online Extra-Conference Day! - Meaningful Failures: Deciphering the Valuable Equation of Failure
- 2021 - #online Extra-Conference Day! - Philosophy and Antifragility
- 2021 - Infection Prevention & Control in the Wake of COVID-19
- 2021 - Defeating Meningitis by 2030: The Need for Global Invasive Meningococcal Disease Surveillance & Prevention
- 2021 - Seasonal Influenza Updates: Global Burden, Prevention, & the Impact of COVID-19 on Surveillance & Transmission
- 2021 - "How to improve article acceptance rate and publish faster: a guide to getting published".
- 2021 -- Stress Control

2021 - Building your personal brand in medicine

2021 - "How to Build a Vaccine - Before and After Covid"

2021 - 'How to Communicate Data in a Pandemic'

2021 - 'Future Pandemic Preparedness: No Time Wait on AMR'

2021 - School of Internal Medicine Updates in cardiac pathology - Heart failure; The complex cardiac patient

2021 - Divergent Horizons in the Medical Field: Three Successful American Careers

2021 - 3rd International Conference on Contagious Diseases

2021 - Following in the footsteps of GIANTS

2020 - Emerging Infectious Diseases Preparedness – Looking Through a One Health Lens

2020 - 4th Conference of the Romanian Association of Immuno-Dermatology and 49th Conference of the Romanian Society of Immunology

2020 - National Congress of the Romanian Society of Physiology – Physiology, from cell to patient...and back to the cell

2020 - International Course on Guidelines and Protocols in ICU and Emergency Medicine

2020 - DataCamp training in Data Science and Biostatistics

2019 - TIMMED Conference

2019 – National Physiology Conference 2019 - Organizer

2016 - International Conference Beliefs and Behaviors in Education and Culture (BBEC)

2015 – Advance research workshop – Translational research in the mitochondria disease from molecule to man

2014 - Interregional conference for knowledge transfer in the field of telemedicine and home care - CASA project, 1150R4

2013-CNCSIS Awards  
-Premiere of research results – articles: Cystic Echinococcosis in Arad County, Romania (VECTOR-BORNE ZOONOT); ISSN 1530-3667; Lista 2-May 2012

2012-CNCSIS Awards  
-Presentation of research results – articles: Epizootiology of trichinellosis in pigs and wild boars in Western Romania, 1998-2011; ISSN 1530-3667; List 6-September 2012

2012 Member of the project POSDRU/63/3.2/S/20596 "Education and prevention for a healthy life" - co-financed by the European Social Fund through the Sectoral Operational Program Human Resources Development 2007-2013

2012 CNCSIS Awards  
-Premiere of research results – articles: New foci of trichinellosis in Western Romania, 2011(ACTA TROPICA); ISSN 0001-706X; List 1-April 2012

2012 CNCSIS Awards  
-Premiere of the research results – articles: Human cystic echinococcosis in two south-western and central-western Romanian counties: A 7-year epidemiological and clinical overview (ACTA TROPICA); ISSN 0001-706X; List 1-April 2012

2012 11th Congress of the Romanian Society of Physiology – Timisoara

2012 Workshop "Advanced cellular therapies: from culture in GMP conditions to in vivo imaging" within the XIth Congress of the Romanian Society of Physiology - Timisoara

2011 CNCSIS Awards

- Awarding of research results – articles: Knowledge and interests of Romanian medical students in parasitology, tropical and travel medicine (ACTA TROPICA); ISSN 0001-706X; List 6-October 2011

- Award for research results – articles: Cystic echinococcosis in the human population of a western Romanian county, 2004-2010 (CLINICAL MICROBIOLOGY AND INFECTION); ISSN 1198-743X; List 7-November 2011

### **PhD, Medicine**

Victor Babeş University of Medicine and Pharmacy, Timișoara

**2011**

Dissertation: Human and Animal Hydatidosis in Western and South-Western Romania: Seroepidemiological, Genetic, Medico-Social, Epizootological and Economic Aspects

Advisor: Brigitha Vlaicu, MD, PhD.

2011 Infectious and parasitic diseases of animals-4th International Scientific Conference – Kosice

2011 PCR training course at the "Parasitological Institute of the Slovak Academy of Sciences", Kosice, Slovak Republic

2011 "Current events and perspectives in infectious diseases", April 26-27, Bucharest

2011 The 5th Ditan International Conference on Infectious Diseases (DICID)

2011 National Conference on Infectious Diseases, May 12-14, Bucharest

2010 XIXth Anniversary National Conference of Parasitology, Bucharest

2009 Internal auditor certificate in quality management of medical analysis laboratories according to ISO 15189:2007

2009 Postgraduate course "New concepts in clinical laboratory investigations", Timișoara

2009 Solutions for a high-performance health system. Challenges and opportunities in times of crisis. 4th Edition, Bucharest (E-Health Congress 2009)

2008 Postgraduate course "Laboratory investigations in support of the family doctor", Timișoara

2007 Postgraduate course "Precancer and cancer of the cervix", Timișoara

2007 Training course "Memory and attention disorders in the elderly. How do we approach them? How do we treat them?", Timișoara

2007 Postgraduate course "Current events in the diagnosis and treatment of toxoplasmosis", Timișoara

2007 Internal auditor certificate for quality management systems ISO 9000:2000, SR EN ISO19011:2003

2007 Internal auditor certificate in quality management of medical analysis laboratories according to SR EN ISO/CE 17025:2005 and ISO 15189:2003

2006 Postgraduate course "Modern investigations of clinical biochemistry and molecular biology in the clinical laboratory", Timișoara

2006 Workshop "New possibilities for diagnostic and therapeutic orientation using modern clinical investigation methods", Timișoara

### **Senior Consultant in Laboratory Medicine (Board Certified)**

Romanian Ministry of Health

Medical Certification (2003) with average 10

2004 "Preparation and training course in the field of design and implementation of the quality system in laboratories according to SR EN ISO/CE 17025:2001", Bucharest

2004 Graduation Certificate "Quality Manual in Laboratory Medicine, Model in Accordance with the Essential Criteria EC4:2003", Timișoara

2003 Annual Microbiology Meeting "Laboratory diagnostics in emerging and re-emerging infectious diseases", Timișoara

2002 XIIth National Symposium on Parasitology with international participation "Parasites and parasitosis in humans, animals, plants and the environment", Galati

2002 National Parasitology Conference "Current diagnostic and treatment possibilities in parasitic diseases", Bucharest

2002 Postgraduate course "Surveillance of communicable diseases. Applications in the field of parasitic diseases", Bucharest

2002 Postgraduate course "Management of parasitic diseases", Bucharest

2002 Graduation Certificate "Techniques for preparing financing projects", Timișoara

2002 Graduation certificate "Eosinophilia in parasitic diseases", Bucharest

2001 Graduation Certificate "Current Events in Antibiotic Therapy", Timișoara

2001 Graduation certificate "Clinical Cytology", Timișoara

2001 11th National Symposium on Parasitology with international participation, Târgu-Mureș

#### **Senior Consultant in Laboratory Medicine**

Romanian Ministry of Health

Medical Certification (1999) GPA 9.96

1999 Certificate of completion of the theoretical and practical training course for teaching staff – qualification to function as a teacher

1998 Graduation certificate "New requirements in the microbiological investigation of food poisoning", Microbiology Discipline, Carol Davila University of Medicine, Bucharest

1997 Graduation certificate "International Course in Immunobiology. Immunomodulation", Timișoara

#### **MD (Doctor of Medicine)**

"Victor Babeș" University of Medicine and Pharmacy, Timișoara, Faculty of General Medicine 1994

Thesis: Diagnostic Approaches to Genital Chlamydial Infections

Bachelor's Degree GPA 9.66

1979–1983

Constantin Diaconovici Loga High School (Mathematics and Physics Track), Timișoara, Romania  
High School Diploma (Baccalaureate), GPA: 8.87/10

1971-1979 General School No. 16, Timișoara

#### **Member of professional associations**

2011-present Romanian Society of Physiology

2011-present Romanian Society of Hygiene and Public Health

2011-present Romanian Society of Cell Biology

2005-present European Society of Clinical Microbiology and Infectious Diseases (ESCMID)

2005-present International Society for Infectious Diseases (ISID)

1994-present Association of Romanian Parasitologists (APR) affiliated with the World Federation of Parasitologists and the European Federation of Parasitologists

1994-present Romanian Society of Microbiology

**Personal skills and competencies**

Native language

**Romanian**

Foreign languages known

*European level (\*)***English language****French language**

Understanding				Speaking				Writing	
Listening		Reading		Spoken Interaction		Spoken Production		Writing	
B2	Independent user	B2	Independent user	B2	Independent user	B2	Independent user	B2	Independent user
B2	Independent user	B2	Independent user	B2	Independent user	B2	Independent user	B2	Independent user

(\*) [\*Common European Framework of Reference for Languages Level\*](#)**RESEARCH EXPERTISE****Mitochondrial Physiology and Bioenergetics**

- High-Resolution Respirometry (Oroboros Oxygraph-2k)
- SUIT protocols (Substrate–Uncoupler–Inhibitor Titration)
- Mitochondrial respiratory control analysis
- DatLab data processing and bioenergetic flux analysis

**Molecular Diagnostics & Immunogenetics**

- High-resolution HLA genotyping (PCR-SSP)
- Automated nucleic acid extraction
- Flow cytometry-based immunophenotyping
- Donor–recipient compatibility analysis for stem cell and organ transplantation
- Database utilization: GenBank, EMBL, IMGT/HLA

**Clinical Laboratory Medicine**

- Clinical biochemistry
- Hematology
- Microbiology
- Parasitology
- Virology

## Social skills and abilities

### Professional Profile

Demonstrated professionalism with extensive experience in clinical and research laboratory settings. Strong ability to rapidly integrate theoretical knowledge into practical applications. Proven collaborative skills developed through early and sustained involvement in academic and research teams.

### Early Research Training

#### Chlamydial Infections Research (Undergraduate Research Training)

Beginning in the second year of medical school, I conducted research on *Chlamydial infections as a public health concern and their role in general pathology*, under the supervision of Prof. Roxana Moldovan, MD, PhD.

#### Hydatid Disease Research

During the fifth year of medical training, I participated in research on hydatid disease within the Department of Microbiology and Parasitology, under the supervision of Prof. Ioan Iacobiciu, MD, PhD.

### HLA Genotyping and Immunogenetics

Performed high-resolution HLA genotyping for:

- Romanian National Registry of Voluntary Hematopoietic Stem Cell Donors (RNDVCSH)
- National Organ, Tissue and Cell Transplant Program

Human Leukocyte Antigens (HLA) are tissue identity markers encoded within the Major Histocompatibility Complex (MHC) on chromosome 6. Successful transplantation requires optimal donor–recipient HLA matching.

#### Techniques utilized:

- Automated nucleic acid extraction from peripheral blood samples
- PCR-SSP (sequence-specific primer) high-resolution genotyping
- Gel-based allele interpretation using Unimach software
- Flow cytometry-based immunophenotyping

Currently, over 4,400 HLA class I and II alleles are characterized, with nucleotide sequences archived in international databases including GenBank, EMBL, and IMGT/HLA.

HLA markers are also relevant in the differential diagnosis of genetically predisposed disorders, representing a major focus of ongoing research.

### Mitochondrial Bioenergetics and High-Resolution Respirometry

Mitochondrial respiratory function is assessed using the Oxygraph-2k system (Oroboros Instruments, Austria) with DatLab software, enabling high-resolution respirometry (HRR).

#### Experimental workflow:

- Homogenization and centrifugation of harvested rat organs
- Isolation of cellular and mitochondrial fractions
- Incubation in MIR05 respiration medium supplemented with catalase
- Application of the SUIT protocol (Substrate–Uncoupler–Inhibitor Titration)
- Sequential addition of metabolic substrates, uncouplers, and respiratory chain inhibitors

Respiratory flux data are acquired via DatLab and statistically processed using Microsoft Excel (Office 365).

This approach enables quantitative assessment of mitochondrial respiratory control and identification of functional alterations in bioenergetic pathways.

<b>Bachelor's thesis supervisor</b>	<p>2002 "Observations on microbial isolates in sexually transmitted infections"</p> <p>2002 "Observations on microbial isolates from coprocultures from a private outpatient service"</p> <p>2000 "Observations on the isolation of germs from blood cultures in pediatric patients"</p> <p>1999 "Evaluation of antibiotic sensitivity of microbial isolates from outpatient urine cultures"</p> <p>1998 "Observations on antibiotic resistance of some strains of <i>Staphylococcus aureus</i> isolated from outpatient clinics"</p> <p>1996 "Study on the sensitivity to chemotherapy of some strains of <i>Staphylococcus aureus</i> from the hospital environment"</p>
<b>Organizational skills and abilities</b>	<p>2002 Lecturer at the postgraduate course in Parasitology "Diagnostic and therapeutic current events in sexually transmitted diseases" at the Department of Parasitology, UMF Timișoara</p> <p>2002 Lecturer at the postgraduate course in Parasitology "Clinical-therapeutic aspects in digestive parasitosis" at the Discipline of Parasitology, UMF Timișoara</p> <p>2002 Member of the organizing committee of the visit of Prof. Dr. Florence Delmas from the Parasitology Department of the Faculty of Pharmacy in Marseille, France</p>
<b>Computer skills and abilities</b>	<p>Programming languages: Word, Excel, PowerPoint, Adobe, FoxPro, ABBYY FineReader and graphic applications: Corel Draw, Photoshop, Corel-advanced level</p> <p>Advanced Internet Navigation</p>
<b>Driving license</b>	<p>Category B</p>
<b>Additional Information</b>	<p><b>Annex 1. Complete list of works</b> - References can be provided upon request</p> <p><b>PEER-REVIEWED PUBLICATIONS (Selected)</b></p> <p>Ivan A, Pricop MA, Lukinich-Gruia AT, Cristea IM, Negrea A, Pascu IB, <b>Calma CL</b>, Paunescu A, Paunescu V, Tatu CA. <b>Cellular Metabolic Responses to Copper Nanoparticles: Comparison Between Normal and Breast Cancer Cells.</b> <i>International Journal of Molecular Sciences</i>. 2025;26(21):10716.</p> <p>Ivan A, Lukinich-Gruia AT, Cristea IM, Pricop MA, <b>Calma CL</b>, Paunescu A, Tatu CA, Galuscan A, Paunescu V. <b>In Vitro Antioxidant Effects of Coenzyme Q10 on Cellular Metabolism in Aged Mesenchymal Stem Cells.</b> <i>Applied Sciences</i>. 2025;15(5):2783.</p> <p>Lukinich-Gruia AT, <b>Calma CL</b>, et al. <b>Mitochondrial Dysfunction in Aristolochic Acid I-Induced Kidney Diseases: What We Know and What We Do Not Know.</b> <i>Applied Sciences</i>. 2024;14(17):7961.</p>