



WORK EXPERIENCE

 **BABES-BOLYAI UNIVERSITY (PROJECT PNRR-III-C9-2023-I8-CF76)** – CLUJ-NAPOCA, ROMANIA

DOCTORAL RESEARCH ASSISTANT – 04/2024 – CURRENT

- protein overexpression and purification (cytochrome P450)
- CW-EPR spectroscopy and spin-trapping
- molecular docking and data analysis

 **KLARE GROUP, FACHBEREICH PHYSIK, UNIVERSITAET OSNABRUECK** – OSNABRUECK, GERMANY

ERASMUS TRAINEE – 08/2024 – 09/2024

- protein overexpression and purification
- low-temperature CW-EPR spectroscopy
- low-temperature pulse EPR spectroscopy (ESEEM and inversion recovery experiments)

 **GREEN GROUP, DEPARTMENT OF MOLECULAR BIOLOGY AND BIOCHEMISTRY, UC IRVINE** – IRVINE, UNITED STATES

FULBRIGHT VISITING STUDENT RESEARCHER – 09/2023 – 06/2024

- trapping of reactive intermediates with freeze-quench
- Moessbauer spectroscopy (sample preparation and analysis)
- basic mutagenesis protocols
- protein overexpression and purification (cytochrome P450 with heme reconstitution)
- stopped-flow kinetics of reactive intermediates (Compound I and II)

 **KLARE GROUP, FACHBEREICH PHYSIK, UNIVERSITAET OSNABRUECK** – OSNABRUECK, GERMANY

ERASMUS TRAINEE – 03/2023 – 07/2023

- protein overexpression and purification
- basic primer design and mutagenesis
- low-temperature EPR spectroscopy on heme proteins
- spin labeling of soluble proteins
- low-temperature pulse EPR spectroscopy (DEER)

 **LGED DEPARTMENT, ELI-NP, HORIA HULUBEI NATIONAL INSTITUTE OF PHYSICS AND NUCLEAR ENGINEERING** – MAGURELE, ROMANIA

DOCTORAL RESEARCH ASSISTANT – 11/2021 – 06/2023

- glioblastoma cell cultures
- basic extraction of metabolites from irradiated cells
- basic NMR spectroscopy for the analysis of metabolites
- involvement in the procurement and acquisition of lab supplies

 **BABES-BOLYAI UNIVERSITY (PROJECT TE-2019-1396)** – CLUJ-NAPOCA, ROMANIA

RESEARCH ASSISTANT – 10/2020 – 09/2021

- CW-EPR spectroscopy measurements
- plant cultures (under controlled selenium stress)
- extraction of plant metabolites and basic analysis

 **SCHOOL FOR EUROPE (S4E) FOUNDATION** – CLUJ-NAPOCA, ROMANIA

CHEMISTRY TEACHER – 08/2018 – 07/2019

- teaching basic chemistry to KS3 students within the Cambridge curriculum
- planning of and involvement in the procurement of lab supplies
- planning of and involvement in science experiments at school events

EDUCATION AND TRAINING

09/2020 – CURRENT Cluj-Napoca, Romania

PHD DIPLOMA Babes-Bolyai University

VOLUNTEERING

07/2025 – CURRENT Cluj-Napoca

Volunteer at The Center for Research Management at Babes-Bolyai University

Processing of scientometric data using AI tools.

LANGUAGE SKILLSMother tongue(s): **ROMANIAN**

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
ENGLISH	C1	C1	C1	C1	C1

*Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user***SKILLS**

Microsoft Office | PyMOL | Origin | Matlab | Spartan | Gaussian | Easyspin | ChimeraX

HARD SKILLS**Skills developed during research activities**

purification of native proteins (from blood, from fungi); overexpression and purification of recombinant proteins; enzymatic assays; basic genetic engineering; UV-vis spectrophotometry; fluorescence spectroscopy; EPR spectroscopy (CW and pulse); Moessbauer spectroscopy; NMR spectroscopy; stopped-flow and rapid freeze quench; molecular docking; DFT.

PUBLICATIONS

2025

Oxygen-carrying proteins employed in blood substitute candidates: differences in interactions with a model antioxidant molecule

M Lehene, J Simon, C Zagrean-Tuza, A Aghion, B Vasile, A Sonica, S Iancu, R Silaghi-Dumitrescu
 Biochimica et Biophysica Acta (BBA) - Proteins and Proteomics 1873 (5), 141086

2025

The chlorite adduct of aquacobalamin: contrast with chlorite dismutase

M Lehene, C Zagrean-Tuza, SD Iancu, SR Cosma, AMV Branzanic, R Silaghi-Dumitrescu, B Stoean
 JBIC Journal of Biological Inorganic Chemistry 30 (1) 25-34

2024

Globin ferryl species: what is the nature of the protonation event at pH< 5?

C Zagrean-Tuza, L Padurean, M Lehene, A MV Branzanic, R Silaghi-Dumitrescu
 JBIC Journal of Biological Inorganic Chemistry 30, 61–70.

2024

Unravelling the bridge of polyphenol composition and mineralomics in Se biofortified edible Allium species

A Gandea*, C Zagrean-Tuza*, E Covaci, T Frentiu, O Marincas, E Gal, AC Mot
 Journal of Food Composition and Analysis 135, 106648

2024

A biomimetic assay for antioxidant reactivity, based on liposomes and myoglobin

C Zăgrean-Tuza, A Matei, R Silaghi-Dumitrescu
Journal of Inorganic Biochemistry 258, 112613

2024

A study of the molecular interactions of hemoglobin with diverse classes of therapeutic agents

C Zagrean-Tuza, I Igescu, A Lupan, R Silaghi-Dumitrescu
Inorganica Chimica Acta 567, 122053

2024

Transient radical species and oxygen colorimetric indicators grounded on phenothiazinium dyes

B Stoean, M Lehen, C Zagrean-Tuza, R Silaghi-Dumitrescu, C Cristea, L Gaina
Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy, 124602

2024

Redox Reactivity of Nonsymbiotic Phytoglobins towards Nitrite

C Zagrean-Tuza, G Pato, G Damian, R Silaghi-Dumitrescu, AC Mot
Molecules 29 (6), 1200

2023

FUZZY DISCRIMINANT ANALYSIS OF MEDICINAL PLANT EXTRACTS ACCORDING TO THEIR TOTAL CONTENT OF PHYTOCHEMICALS AND THE ANTIOXIDANT CAPACITY

AC Moț, C Zăgrean-Tuza, C Sârbu
Studia Universitatis Babes-Bolyai, Chemia 68 (3)

2023

Versatility of thiourea dioxide as redox agent in globins: Case study with myoglobin

O Rudenco, M Lehen, A Lupan, C Zagrean-Tuza, B Stoean, A Gaina-Gardiuta, AM Ulici, R Silaghi-Dumitrescu
Inorganica Chimica Acta 551, 121474

2023

A complex of cobalamin with an organic peroxide

M Lehen, C Zăgrean-Tuza, N Hădade, A Aghion, R Șeptelean, SD Iancu, AMV Brânzan, R Silaghi-Dumitrescu
New Journal of Chemistry 47, 18178-18185

2021

The Phytochemical Analysis of Vinca L. Species Leaf Extracts Is Correlated with the Antioxidant, Antibacterial, and Antitumor Effects

A Ciorîță, C Zăgrean-Tuza, AC Moț, R Carpa, M Pârvu
Molecules 26 (10), 3040

2021

Shedding light on the dark ages: Sketching potential trade relationships in early Medieval Romania through mitochondrial DNA analysis of sheep remains

A Acatrinei, I Rusu, C Mircea, C Zagrean-Tuza, E Gál, D Păceșilă, ..., B Kelemen
Diversity 13 (5), 208

2020

Comprehensive evaluation of radical scavenging, reducing power and chelating capacity of free proteinogenic amino acids using spectroscopic assays and multivariate exploratory techniques

A Guidea, C Zăgrean-Tuza, AC Moț, C Sârbu
Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy 233, 118158

AD Farcaș, C Zăgrean-Tuza, L Vlase, A Gheldiu, M Parvu, AC Moț
Studia Universitatis Babes-Bolyai, Chemia 65 (2)

C Zagrean-Tuza, AC Mot, T Chmiel, A Bende, I Turcu
Food & function 11 (6), 5293-5307

C Zagrean-Tuza, S Dorneanu, AC Mot
Free Radical Biology and Medicine 146, 189-197

AD Farcas, AC Mot, C Zagrean-Tuza, M Ticolea, B Sevastre, M Kulak, R Silaghi-Dumitrescu, A Parvu
BMC complementary and alternative medicine 19 (1), 1-13

AD Farcas, AC Mot, C Zagrean-Tuza, V Toma, C Cimpoiu, A Hosu, M Parvu, I Roman, R Silaghi-Dumitrescu
PloS one 13 (7), e0200022

● **CONFERENCES AND SEMINARS**

Măgurele, Romania
IRTG days 2025

Invited speaker

Münster, Germany
EuroBIC17 2024

Poster presentation

2024 – 2024 Ventura, CA, USA
Gordon Research Seminar - Bioinorganic Chemistry

Oral and poster presentation

Geneva, Switzerland
Summer School EFEP9 2023

Poster presentation

Călimănești-Căciulata, România
Conferința Națională de Chimie 2022

Oral presentation

Grenoble, France
EuroBIC16 2022

Poster presentation

Online
2022 BioExcel School on Biomolecular simulations

Poster presentation

Online
EUROMAR 2021

Poster presentation

Online
Young Researchers' International Conference on Chemistry and Chemical Engineering 2021

Oral presentation

● **PROJECTS**

09/2024 – 11/2024

Uncovering the factors that govern the relaxation of low spin ferric hemoproteins

Doctorat Advanced Fellowship within Babeş-Bolyai University (CNFIS-FDI-2024-F-0456)

11/2019 – 06/2020

The study of interaction between hydroxylamine and hemoglobins from *Arabidopsis thaliana*: in vitro and in vivo perspectives

Project financed by College for Advanced Performance Studies from Babes-Bolyai University.

10/2018 – 09/2019

Briggs-Rauscher reaction use in determination of antioxidant activity of some polyphenols

Project financed by a student grant as a "Special scholarship for scientific performance" from Babes-Bolyai University.

● **HONOURS AND AWARDS**

2023

Travel grant – The European Federation of EPR

Awarded within the EPR Summer School 2023

2022

Travel grant – Society of Biological Inorganic Chemistry

Awarded to support participation in EuroBIC16 (Grenoble)

2016

Second place and public prize at the national Famelab competition (Romania)

Awarded for science communication

Updated to 18.07.2025