



Kincső Orbán-Bakk

Date of birth: 01/09/1994 | **Nationality:** Hungarian, Romanian | **Phone number:** (+40) 753677245 (Mobile) | **Email address:** orbankincso94@gmail.com | **Facebook:** <https://www.facebook.com/kincso.orbanbakk> |

Address: Street Șoimului, Nr. 24A, 400486, Cluj-Napoca, Romania (Home)

ABOUT ME

I know that my mission in life is teaching and research. Since I was 14 years old, I have known that I wanted to study and teach biology. I have always been interested in observation, lab work, and sharing my findings with students, colleagues, helping them better understand biological concepts and processes.

I consider myself sensitive, kind, and dedicated. I have a positive attitude, and when I start something, I always find a way to finish it—I never give up. Family is at the center of my life. In my free time, I enjoy traveling, reading, baking, and crafting, and one of my newest hobbies is pottery.

WORK EXPERIENCE

TEACHING ASSISTANT – BABES-BOLYAI UNIVERSITY, FACULTY OF BIOLOGY AND GEOLOGY – 01/10/2023 – Current – CLUJ-NAPOCA, ROMANIA

- Leading didactics courses and seminars for second-year students
- Lead cytology, cell biology, biochemistry I, and biophysics laboratory sessions, for first, second, and third-year biologist and ecologist students.

BIOLOGY TEACHER – ROYAL SCHOOL IN TRANSYLVANIA – 18/08/2023 – 02/08/2025 – CLUJ-NAPOCA, ROMANIA

- Teaching IGCSE, Co-ordinated Science, AS and A-level Biology CIE (Cambridge curriculum).
- Teaching Science for lower secondary students.
- Leading Biology after-school clubs.
- Preparing students for IGCSE and AS-Level Practical Exams.
- Award Leader in The Duke of Edinburgh's International Award.

TEACHING ASSISTANT – BABEȘ-BOLYAI UNIVERSITY, FACULTY OF PHYSICAL EDUCATION AND SPORT-HUNGARIAN LINE – 01/10/2021 – 15/02/2025 – CLUJ-NAPOCA, ROMANIA

- Lead anatomy laboratory sessions, for first-year students.
- Proctor tests and final exams. Evaluate student work.
- Be approachable, helpful, and familiar with the course content and assignments.
- Develop teaching materials, such as PowerPoint presentation, visual aids, answer keys.

STUDENT SUPERVISOR – BABEȘ-BOLYAI UNIVERSITY, FACULTY OF BIOLOGY AND GEOLOGY, BIOLOGY - HUNGARIAN LINE – 30/09/2018 – Current – CLUJ-NAPOCA, ROMANIA

- Balaji Arabella, Faculty of Biology and Geology, Medical biology (Hungarian line), 2019, Master's dissertation: **Efectul infecției cu o ciupercă epicuticulară și a vârstei asupra reacției de încapsulare la specia de furnică *Myrmica scabrinodis*.**
- Angi Evelyn, Faculty of Biology and Geology, Medical biology (Hungarian line), 2019, Master's dissertation: **Analiza filogenetică a proteinelor implicate în calea de semnalizare imunologică Toll.**
- Csiki Zsuzsanna, Faculty of Biology and Geology, Ecology (Hungarian line), 2019, Bachelor's dissertation: **Efectul modului de viață asupra imunității furnicilor: studiul reacției de încapsulare la specia social-parazită *Polyergus rufescens*.**

- Marczin Jessika, Faculty of Biology and Geology, Ecology (Hungarian line), 2021, Bachelor's dissertation: **Măsurarea intensității reacției imunitare și supraviețuire diferențiată postraumatică în funcție de vârstă și stare de sănătate la furnica *Myrmica scabrinodis*.**
- Puskás Krisztina, Faculty of Biology and Geology, Biology (Hungarian line), 2022, Bachelor's dissertation: **Eficiența de descoperire a sursei de infecție la specia de furnică *Myrmica scabrinodis* în cazul infecției cu ciuperca epicuticular *Rickia wasmannii*.**
- Rapolti-Szalenko Andrea, Faculty of Biology and Geology, Medical biology (Hungarian line), 2021, Master's dissertation: **Diagnosticul molecular a boilor autoimune.**
- Pál Mónika, Faculty of Biology and Geology, Biology(Hungarian line), 2022/2023, Bachelor's dissertation
- Butyka Hunor, Faculty of Biology and Geology, Biology(Hungarian line), 2022/2023, Bachelor's dissertation

TEACHING ASSISTANT – BABEȘ-BOLYAI UNIVERSITY, FACULTY OF BIOLOGY AND GEOLOGY, BIOLOGY-HUNGARIAN LINE – 30/09/2018 – 30/07/2023 – CLUJ-NAPOCA, ROMANIA

- Lead cytology, cell biology, biochemistry I, biochemistry II, human physiology I, human physiology II, ecophysiology laboratory sessions, for first, second, and third-year biologist and ecologist students.
- Proctor tests and final exams. Evaluate student work.
- Be approachable, helpful, and familiar with the course content and assignments.
- Demonstrate use of laboratory equipment and enforce laboratory rules. Supervise student activities. Teach others to use technology or equipment.
- Develop teaching materials, such as syllabus, visual aids, answer keys, supplementary notes.
- Assist faculty members or staff with laboratory or field research. Assist faculty members or staff with student conferences.

BIOLOGY TEACHER – JÁNOS ZSIGMOND UNITARIAN HIGH SCHOOL – 24/04/2023 – 16/06/2023 – CLUJ-NAPOCA, ROMANIA

1. Prepare and deliver engaging biology lessons to students from ages 11 to 18 years (13 hours/week)
2. Develop curricula including lab experiments
3. Present lessons and evaluate student performance
4. Engages students at a high level
5. Preparing students for Competitions

VOLUNTEER AT EUROPEAN RESEARCHERS' NIGHT – 30/09/2022 – CLUJ-NAPOCA, ROMANIA

- Assign and explain biological processes.
- Presenting amazing life of ants.
- Edit Quiz tests for different age groups.
- Explaining what myrmecologist do. Showing the must-have accessories that he uses at the field.

TUTOR- VIITORUL PLANETEI PĂMÂNT 2 – BABEȘ-BOLYAI UNIVERSITY, ACORD DE GRANT NR. 310/SGU/PV/III DIN 18.06.2020. – 19/07/2022 – 30/07/2022 – CLUJ-NAPOCA, ROMANIA

- Mentor of students from high school.
- Leading different Fitness activities like Flamingo test, speed test etc.
- Organizing group activities.
- Assign and explain biological processes in human body.

SEXUAL PEDAGOGY ACCREDITATION – PAAMON BT. – 17/06/2022 – 19/06/2022 – BUDAPEST, HUNGARY

Am I lovable? – communication and emotion-focused sexual education training with the methods of experiential learning.

TUTOR- VIITORUL PLANETEI PĂMÂNT 2 – BABEȘ-BOLYAI UNIVERSITY, ACORD DE GRANT NR. 310/SGU/PV/III DIN 18.06.2020. – 18/07/2021 – 31/07/2021 – CLUJ-NAPOCA, ROMANIA

- Mentor of students from high school.
- Leading different activities like Quiz, False or truth exercises, world puzzle.
- Organizing group activities.
- Assign and explain biological processes.

Function: Molecular and Cell Biology and Plant Physiology departments secretary.

VOLUNTEER AT 35. NATIONAL SCIENTIFIC STUDENT CONFERENCE – BABEȘ-BOLYAI UNIVERSITY – 02/05/2021 – 05/05/2021 – CLUJ-NAPOCA, ROMANIA

- Professional secretary at two sections: Molecular and cell biology 1, and Plant physiology.
- Led the sections, introducing students to present their works, measuring the time.
- Communication with the judges, and filling out the report book.

EXCHANGE STUDENT – UNIVERSITY OF REGENSBURG – 27/09/2020 – 14/01/2021 – REGENSBURG, GERMANY

- Responsibility: speaking fluent English minimum B2 level.
- Participation in English scientific seminars.
- Educational, personal, academic, cultural, linguistic, and professional development.
- Work experience in an international environment. Working in a scientific lab and making molecular biology, genetics experiments (RNA extraction, fat content measurement).
- Developing communicational skills across cultural boundaries.
- Social activities (excursions, tasting different cultures food, game nights).

VOLUNTEER/MENTOR – "NYÁRÁDY ERAZMUS GYULA" TALENT DEVELOPMENT PROGRAM. APÁTHY ISTVÁN ASSOCIATION. – 2017 – 2019 – CLUJ-NAPOCA, ROMANIA

- Coordinator of biological experiments.
- Mentor of some students from high school. Supervise the students' activities.
- Supporting students across the program.
- Helping to develop skills in writing and communication in scientific language.
- Organizing group activities.
- Monitoring students' progress.
- Oversee the students who came from different places, leading them into the Mensa, and to the Hostel.
- Leadership role.

PRACTICE IN MEDICAL LABORATORY (VOLUNTEER) – 30/06/2018 – 17/07/2018 – ODORHEIU SECUIESC, ROMANIA

- Working at the Microbiology section of the Hospital
- Preparing microbiological medium
- Learning microbiology spreading techniques
- Analyzing and preparing antibiograms
- Urine culture and coproculture results analyzing

VOLUNTEER – CONFERENCE: "METODOLOGIA ACTIVITĂȚILOR ACTIV-EXPLORATIVE ÎN ÎNVĂȚĂMÂNTUL PREȘCOLAR" – 11/12/2017 – 14/12/2017 – ORADEA, ROMANIA

- Making presentations, posters, cards, board games, memory cards, writing biological poems.
- Presenting the usefulness of these games for kindergarten teachers.
- Interpreting the action-oriented, and exploratory learning in the case of the initiated activities.
- Adapting the different educational materials into teaching.

SUBSTITUTE BIOLOGY TEACHER – LICEUL TEORETIC REFORMAT BACZKAMADARASI KIS GERGELY – 09/10/2017 – 15/10/2017 – ODORHEIU SECUIESC, ROMANIA

- Adhere to the curriculum and lesson plans assigned by the regular teacher.
- Assign and explain the homework.
- Compile a report for the teacher for when he/she returns.
- Follow procedures and achieve lesson goals.
- Oversee the normal classroom rhythms and activities.
- Ensure classroom and work are kept clean and orderly.
- Organizing group activities.
- Developing illustrative materials, crossword, experiments.

- Popularizing science with educational activities.
- Preparing and presenting all kinds of educational materials in different schools.
- Coordinating group activities.
- Education for sustainable development.
- Drawing the attention of young people to natural values.

● **EDUCATION AND TRAINING**

30/09/2018 – 10/09/2024 Cluj-Napoca, Romania

PHD Babeş-Bolyai University, Faculty of Biology and Geology, Doctoral School of Integrative Biology

The main aim of my research topic is to identify the features of individual and social defense mechanisms in *M. scabrinodis* ants against an ectoparasitic fungus *Rickia wasmannii* (order Laboulbeniales). In the frame of my research, I intend to investigate the effect of age and infection status on immune competence: young and old workers, queens, and larvae also will be studied. Cellular immune responses like encapsulation, humoral immune responses like gene expression analyses, immune proteins phylogeny, and behavioural experiments will be tested.

Address Str. Republicii, Nr. 44, 400015, Cluj-Napoca, Romania | **Website** <http://bioge.ubbcluj.ro/pages/bi> |

Final grade Summa Cum Laude |

Thesis Immune defense responses elicited by a non-lethal fungal parasite in *Myrmica scabrinodis* (Hymenoptera: Formicidae)

30/09/2016 – 29/09/2018 Cluj-Napoca, Romania

MEDICAL BIOLOGY. MASTER'S DEGREE. Babeş-Bolyai University, Faculty of Biology and Geology, Medical Biology-Hungarian line

Address Str. Republicii, Nr. 44, 400015, Cluj-Napoca, Romania | **Website** <https://biogeo.ubbcluj.ro/> |

Field of study Bioinformatics | **Thesis** Analiza filogenetică a proteinelor implicate în biogeneza peroxisomelor.

30/09/2013 – 29/09/2016 Cluj-Napoca, Romania

BIOLOGY. BACHELOR'S DEGREE. Babeş-Bolyai University, Faculty of Biology and Geology, Biology-Hungarian line

Address Str. Republicii, Nr. 44, 400015, Cluj-Napoca, Romania | **Website** <https://biogeo.ubbcluj.ro/> |

Field of study Bioinformatics |

Thesis Analiza filogenetică a proteinelor din sistemul endomembranar responsabile de secreția veziculară

2008 – 2013 Odorheiu Secuiesc, Romania

NATURAL SCIENCES PROFILE Liceul Teoretic „Tamási Áron”

Address Str. Baróti Szabó Dávid, Nr. 32, 535600, Odorheiu Secuiesc, Romania | **Website** <http://www.gimi.ro/>

30/09/2013 – 29/09/2016 Cluj-Napoca, Romania

PSYCHO-PEDAGOGICAL MODULE I Babeş-Bolyai University, Faculty of Psychology and Educational Sciences, Hungarian line

Address Calea Moșilor, Nr. 11, 400001, Cluj-Napoca, Romania | **Website** <http://dppd.ubbcluj.ro/>

30/09/2016 – 29/09/2018 Cluj-Napoca, Romania

PSYCHO-PEDAGOGICAL MODULE II Babeş-Bolyai University, Faculty of Psychology and Educational Sciences, Hungarian line

Address Calea Moșilor, 400001, Cluj-Napoca, Romania | **Website** <http://dppd.ubbcluj.ro/>

● **LANGUAGE SKILLS**

Mother tongue(s): **HUNGARIAN**

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
ROMANIAN	C1	C1	C1	C1	C1
GERMAN	B1	B1	B1	B1	B1
ENGLISH	B2	C1	C1	C1	C1

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

● SKILLS

Digital Skills

Microsoft Office | Microsoft Word | ECDL Certificate | Microsoft Excel | Zoom | Outlook | Google Docs | Skype | Google Drive | Microsoft Powerpoint | Gmail

Personal Skills

Organizational and planning skills | Highly Dedicated | Good listener and communicator | Motivated | Decision-making | Conflict resolution | Responsibility | Reliability | Creativity | Flexibility | Good time management | Presenting | Written and Verbal skills | Excellent interpersonal skills upgraded by my studies abroad and multicultural working environment | Adaptability | positive thinking | leadership | Ability to Work Under Pressure | Research | Detail-Oriented | Problem-solving

Computer skills and programs

T-Coffee | MEGA | NCBI Blast | PhyML | NCBI tools | SMART | Experience in Phylogenetic analysis | Statistical Programming Language R | RasTop (Molecular Visualization Software) | RasMol | Clustal Omega

Laboratory Equipment

Microscope Keyence | Vortex | Magnetic stirrer | Sartorius SC2 ultra microbalance | Spectrofluorometer | UV-VIS spettrofotometry | Optical Microscope | Electron microscope | Ultracentrifugation

Driving skills

Driving license: B

● SCHOLARSHIPS

2018 – 2021

Collegium Talentum Scholarship

The task of the Collegium Talentum talent development program is to support the education and supply of Hungarian intellectuals abroad. The competition aims to help the professional work of Hungarian young people abroad and their progress in the intellectual career. It strives for this on several levels: successful candidates receive scholarships, reimbursement of their conference and language exam costs, and participation in training, professional and national identity events thanks to the program.

Link <http://www.sha.hu/>

30/06/2020 – 30/06/2021

Entrepreneurship for innovation through doctoral and postdoctoral research, POCU/380/6/13/123886

Entrepreneurship for innovation through doctoral and postdoctoral research, POCU/380/6/13/123886 co-financed by the European Social Fund, through the Operational Program for Human Capital 2014-2020.

Link <http://starubb.institute.ubbcluj.ro/proiect-pocu-380-6-13-123886-prelungire-perioada-depunere-dosare-competitie-pentru-grupul-tinta-studenti-doctoranzi/>

2018 – 2019

Study support for doctoral students by Eötvös Loránd University

Eötvös Loránd University's main aim is to support higher education studies in the homeland for Hungarian citizens of Romanian nationality participating in higher education doctoral studies abroad.

Link <http://kmei.ro/>

● CONFERENCES AND SEMINARS

15/04/2021 – 16/04/2021 Romania, Cluj-Napoca

21. Biologist Days in Cluj

- The two-day scientific event was interspersed with a wide range of biology and ecology presentations. In addition to university lecturers, researchers, doctoral students, recent or current university students from both Transylvanian and Hungarian universities also presented themselves as lecturers.
- Presentation: "Phylogenetic analyses of the proteins involved in encapsulation signalling pathways in ants"

Link <http://bioge.ubbcluj.ro/kutatas/konferenciak/kolozsvari-biologus-napok/21-kbn/>

26/09/2019 – 29/09/2019 Germany, Regensburg

Central European Workshop of Myrmecology

- Every two years, the CEWM (Central European Workshop of Myrmecology) unifies researchers with an interest in the ecology, life history, or evolution in ants.
- Poster: "Phylogenetic analyses of the proteins involved in encapsulation signalling pathways in ants"

Link https://www.uni-regensburg.de/Fakultaeten/nat_Fak_III/Cewm2019/

31/07/2019 – 03/08/2019 Senetea, Romania

Social Evolution Summer University

- Participation to scientific presentations about social insects, as ants. Develop english language skills.
- Learning the key morphological structures in identifying ants.
- Field work (collecting ants)

08/04/2022 – 09/04/2022 Cluj-Napoca

22. Biologist Days in Cluj

- The two-day scientific event was interspersed with a wide range of biology and ecology presentations. In addition to university lecturers, researchers, doctoral students, recent or current university students from both Transylvanian and Hungarian universities also presented themselves as lecturers.
- Presentation: "Under pressure: the effect of long-term fungal infection on the encapsulation response in ants"

19/09/2022 – 21/09/2022 Poland

PEC (Polish Evolutionary Conference)

- Poster Title: Age, fungal infection and immune investment in foragers and intra-nidal workers of *Myrmica* ants.
- Authors: Kochanowski, M., Orbán-Bakk, K., Csata, E., Siedlecki, I., Witek, M., Dubiec, A.

21/10/2022 – 23/10/2022 Cluj-Napoca, Romania

RSCB (International conference and XXXIX Scientific Session of the Romanian Society for Cell Biology)

- Presentation: Age-dependent investment in immunity in the ant *Myrmica scabrinodis*.
- Authors: Orbán-Bakk, K., Witek, M., Dubiec, A., Heinze, J., Markó, B., Csata, E.

18/11/2022 Cluj-Napoca, Romania

Hungarian Science Day in Transylvania

- Presentation: Individual and social immunity in social system
- Author: Orbán-Bakk, K.

● PUBLICATIONS

2021

Rovarok immunrendszerének működése (Insects immunity-review)

Orbán-Bakk, K. (2021). Rovarok immunrendszerének működése. Múzeumi Füzetek – Acta Scientiarum Transylvanica, seria Biologia, 25-27/1.

2022

Under pressure: the effect of long-term fungal infection on the encapsulation response in ants.

Orbán-Bakk K, Marczin MJ, Gál L, Heinze J, Csata E, Markó B. 2022, Under pressure: the effect of long-term fungal infection on the encapsulation response in ants. *Insectes Sociaux* **69**(4):361–367. <https://doi.org/10.1007/s00040-022-00879-z>

Link <https://doi.org/10.1007/s00040-022-00879-z>

2023

Phylogenetic analyses of the proteins involved in encapsulation signaling pathways in ants.

Orbán-Bakk K, Csata E, Markó B, Kósa F. 2023, Phylogenetic analyses of the proteins involved in encapsulation signaling pathways in ants. *Studia Universitatis Babeş-Bolyai Biologia* **68**(1):67–101.

2024

Infection with a non-lethal fungal parasite is associated with increased immune investment in the ant *Myrmica scabrinodis*

Orbán-Bakk K, Witek M, Dubiec A, Heinze J, Markó B, Csata E. 2024, Infection with a non-lethal fungal parasite is associated with increased immune investment in the ant *Myrmica scabrinodis*. *Journal of Invertebrate Pathology* 202:p. 108027. <https://doi.org/10.1016/j.jip.2023.108027>.

Link <https://doi.org/10.1016/j.jip.2023.108027>

2025

Immune response varies among members of a fungus-infected ant society

Orbán-Bakk, K., Schultner, E., Heinze, J., Markó, B., & Csata, E. (2025). Immune response varies among members of a fungus-infected ant society. *Journal of Invertebrate Pathology*, 108432.

Link <https://doi.org/10.1016/j.jip.2025.108432>

● **PRIZE**

2022

Excellentia Awards 2022

The Excellentia Awards, which aims to express gratitude and appreciation towards those university students and teaching staff who, through their work and results, demonstrate excellence in the academic field of activity.

Link https://csubb.stud.ubbcluj.ro/premiile-excellentia/?fbclid=IwAR2MKwh_gjtlaO_IYnTSyraQVlPhAurwXNfj8lWmvZMRnF1iE-_8_m_cnLI