Lecturer Dr. Anca Avram-narrative CV

Committed to educating the next generation of environmental scientists, fostering a passion for sustainable and scientific inquiry in environmental and geological processes

Anca Avram's dedication to the environment has been a driving force in her academic and research journey. She obtained her Bachelor's degree in Environmental Engineering from the Faculty of Environmental Sciences and Engineering and continued her education with a Master's degree at the same institution. Her passion for sustainable practices and environmental research led her to pursue a Ph.D. in Environmental Science, with a specialization in Luminescence dating and Climate change, which she successfully completed in 2021.

During her Ph.D., Anca had the opportunity to explore the academic world further by taking on the role of a teaching assistant. She delivered seminars on Environmental Radioactivity at the undergraduate level, which ignited her passion for teaching. As a result, she currently holds the position of Lecturer at the Faculty of Environmental Science and Engineering at Babes-Bolyai University in Cluj-Napoca. In this role, she imparts knowledge through lectures and seminars on Environmental Radioactivity and Physics.

Anca's research journey began during her master's studies when she joined the Environmental Radioactivity and Nuclear Dating Center, under the guidance of Professor Dr. Alida Timar-Gabor, who also supervised her master's and Ph.D. theses. Her research has primarily focused on assessing the applicability of Optically Stimulated Luminescence dating on various dosimeters extracted from sedimentary deposits worldwide. Her work started with luminescence samples from a sedimentary deposit near Kisiljevo village in Serbia, which formed the basis of her dissertation thesis. Anca also co-authored a research paper titled "Initial quartz OSL and dust mass accumulation rate investigation of the Kisiljevo loess sequence in north-eastern Serbia" (2022, Quaternary International) based on these results.

During her Ph.D., Anca extended her research to include luminescence samples from a loess deposit near Batajnica village in Serbia, resulting in the publication of "Testing polymineral post-IR IRSL and quartz SAR-OSL protocols on Middle to Late Pleistocene loess at Batajnica, Serbia" in 2020 in the Boreas journal.

Anca's research endeavors took her to the South Island of New Zealand, where she worked on samples from three different loess profiles. Her contributions resulted in three publications in ISI journals, including "Groundwater erosion of coastal gullies along the Canterbury coast (New Zealand): a rapid and episodic process controlled by rainfall intensity and substrate variability" (2021, Earth Surface Dynamics), "Investigations on the Luminescence Properties of Quartz and Feldspars extracted from

loess in the Canterbury Plains, New Zealand, South Island" (2021, Geochronometria), and "Testing the potential of using fine quartz for dating loess in South Island, New Zealand" (2022, Radiation Measurements). Her work addressed the unique challenges posed by the luminescence properties of quartz from South Island, contributing valuable insights to luminescence dating research.

Anca's dedication to luminescence dating also led her to publish her third scientific paper as a first author, titled "Optically stimulated luminescence dating of loess in South-Eastern China using quartz and polymineral fine grains" (2022, Quaternary Geochronology), which included the first numerical chronology for a loess-paleosol profile from Huai River valley in China.

In 2021, Anca collaborated with her team to collect luminescence data from loess deposits on three continents, resulting in the article "OSL-dating of the Pleistocene-Holocene climatic transition in loess from China, Europe, and North America, and evidence for accretionary pedogenesis" (2021, Earth Science Reviews).

Throughout her doctoral studies, Anca took on the role of supervising and mentoring undergraduate students, guiding them through their bachelor's theses and fostering their academic growth and research capabilities.

Anca Avram's research accomplishments were made possible with the support and funding from research projects such as PN-III-P3-3.6-H2020-2016-0015 and EEA-RO-NO-2018-0126, which played a crucial role in the successful completion of her research endeavors. Her extensive academic and research background has provided her with a deep understanding of luminescence dating's applicability and limitations, as well as its significance in predicting future climatic changes.

Possessing a robust academic and research background, Anca Avram has developed a deep understanding on the applicability and limitation of luminescence dating as well as on geological chronologies that can help us predicting the future climatic changes.

Annex- Career timeline and listed achievements

Personal Information

Family name, First name: Avram (born Giurgea) Anca

Date of birth: 11 February 1992

Researcher unique identifier(s) ORCID 0000-0002-6631-311X, Scopus ID 57216885239,

Google Scholar: https://scholar.google.com/citations?user=dRPPYzoAAAAJ&hl=ro

H=4 (since 2019)

Education:

2021: PhD in Environmental Science, Babes-Bolyai University, Cluj-Napoca, supervised by Prof. Dr. Timar-Gabor Alida, PhD thesis: *„Multi-method luminescence dating studies using quartz and feldspars extracted from loess deposits in Europe, Asia and Oceania"*

2015-2017: Master „Environmental quality and energetic sources", Faculty of Environmental Science and Engineering, Babeş-Bolyai University, Cluj-Napoca, Romania. Master thesis: *„Optically stimulated luminescence dating of an massive loess deposition along the Danube (SE Serbia) using different grain sizes of quartz"*

2011-2015 Bachelor's degree in Environmental Engineer, Babes-Bolyai University.

Current positions:

2022-present: Lecturer, Department of Environmental Analysis and Engineering, Faculty of Environmental Science and Engineering, Babeş-Bolyai University, Cluj-Napoca, Romania.

Teaching activities

2017–present: Faculty of Environmental Science and Engineering, Babeş-Bolyai University, Cluj-Napoca, Romania. Courses and practical exercises in: Environmental Radioactivity, Environmental Physics.

Reviewing activities

Review board of the following journals: Quaternary Geochronology

Attended conference

Luminescence and Electron Spin Resonance Dating Conference (LED) 2021, Online. Poster: Investigation on the luminescence properties of quartz and feldspars extracted from loess in the Canterbury Plains, New Zealand.

UK Luminescence meering, 2019, Roskilde, Denmark. Poster: Testing polymineral post-IR IRSL and quartz SAR-OSL protocols on Middle to Late Pleistocene loess at Batajnica, Serbia.

Eurasian Environmental dynamics and humans: Interactions over different time scales, 2019, Belgrade, Serbia. Poster: "Testing polymineral post-IR IRSL and quartz SAR-OSL protocols on Middle to Late Pleistocene at Batajnica, Serbia"

INTAV International Field Conference on Tephrochronology "Tephra hunt in Transylvania", 2018, Romania. Poster "Multi-method luminescence dating of the Batajnica loess section in south of the Carpathian Basin"

Member of projects
2016-2020: PN-III-P3-3.6-H2020-2016-0015
2020-2022: EEA-RO-NO-2018-0126
2022-present: PN-III-P1-1.1-TE-2021-0213

List of Publications
Articles in indexed journals

1. **Avram, A**., Constantin, D., Veres, D., Kelemen, S., Obreht, I., Hambach, U., Marković, S.B., Timar-Gabor, A., 2020. Testing polymineral post-IR IRSL and quartz SAR-OSL protocols on Middle to Late Pleistocene loess at Batajnica, Serbia. Boreas, 49, 615-633. https://doi.org/10.1111/bor.12442

2. Brezenu, D., **Avram, A.**, Micaleff, A, Cinta Panzaru, S., Timar-Gabor A., 2021. Investigations on the luminescence properties of quartz and feldspars extracted from loess in the Canterbury Plains, New Zealand South Island. Geochronometria, 48, 46-60. http://dx.doi.org/10.2478/geochr-2021-0005

3. Micallef, A., Marchis, R., Saadatkhah, N., Clavera-Gispert, R., Pondthai, P., Everett, M. E., **Avram, A**., Timar-Gabor, A., Cohen, D., Preca Trapani, R., and Weymer, B. A., 2021. Box canyon erosion along the Canterbury coast (New Zealand): A rapid and episodic process controlled by rainfall intensity and substrate variability, Earth Surface Dynamics, 9 (1), 1-18. http://dx.doi.org/10.5194/esurf-9-1-2021

4. Constantin, D., Mason, J.A., Veres, D., Hambach, U., Panaiotu, C., Zeeden, C., Zhou, L., Marković, S.B., Gerasimenko, N., Avram, A., Groza-Sacaciu, S.M., del Valle Villalonga, L., Begy, R., Timar-Gabor, A., 2021. OSL-dating of the Pleistocene-Holocene climatic transition in loess from China, Europe and North America, and evidence for accretionary pedogenesis. Earth-Science Reviews 221, 103769.

   http://dx.doi.org/10.1016/j.earscirev.2021.103769

5. Peric, Z., Marković, S., **Avram, A**., Timar-Gabor, A., Zeeden, C., Nett, J., Fischer, P., Fitzsimmons, K., Gavrilor, M.B., 2022. Initial quartz OSL and dust mass accumulation rate investigation of the Kisiljevo loess sequence in north-eastern Serbia. Quaternary International, 620, 13-23.

   https://doi.org/10.1016/j.quaint.2020.10.040

6. Avram, A., Constantin, D., Hao, Q., Timar-Gabor, A., 2022. Optically stimulated luminescence dating of loess in South-Eastern China using qurtz and polymineral fine grains. Quaternary Geochronology 67, 101226.

   http://dx.doi.org/10.1016/j.quageo.2021.101226

7. Avram, A., Kabacińska, Z., Micallef, A., Timar-Gabor, A., 2022. Testing the potential of using fine quartz for dating loess in South Island, New Zealand. Radiation Measurements 155, 106788.

   http://dx.doi.org/10.1016/j.radmeas.2022.106788

8. Avram, A., Mandroc, M., Constantin, D., Marković, S.B., Timar-Gabor, A., 2021. Optically stimulated luminescence dating of the upper horizon of a Serbian loess-paleosoil sequence using quartz. Studia Universitatis Babes-Bolyai, seria AMBIENTUM 1-2, 5-18.

   https://www.doi.org/10.24193/subbambientum.2021.01