

University of Bucharest

Faculty of Biology

MICROGEN Research Center

Post title: Postdoctoral Researcher, Vacant, position in the list of functions no. 11

The MICROGEN Research Center is hiring a Postdoctoral Researcher within the project COFUND-AQUATIC POLLUTANTS-BIOCIDE contract ERANET 243/2021, entitled "The aquatic circuit of antibacterial biocides - integrated approach for the assessment and management of risks associated with antibiotic resistance" during the implementation period of the project: 01/ 09/2021 - 31/08/2024.

Topics:

1. Biocidal substances: classification, mechanisms of antibacterial action
2. Genetic platforms involved in co-resistance and cross-resistance to antibiotics-biocides
3. Mechanisms of resistance to biocides
4. Methods for analysing data generated by WGS and 3rd generation sequencing
5. Bioinformatics approaches used for the detection and analysis of biocides resistance genes

Bibliography:

*Chifiriuc M.C., Mihăescu G., Lazăr V., 2015. "Microbiologie și virologie medicală", 2nd ed., University of Bucharest publ. house. 415 pag.

*Gheorghe-Ioan Mihailaș Anca Tudor, Sorin Paralescu. "Bioinformatica". Victor Babeș publ. house, 2011. ISBN 978-606-8054-33-9

*Gheorghe I., Czobor Barbu I., Surleac M., Sârbu I., Popa L.I., Paraschiv S, Feng Y., Lazăr V., Chifiriuc M.C.C., Oțelea D., Zhiyong Z. 2021. Subtypes, resistance and virulence platforms in extended-drug resistant *Acinetobacter baumannii* Romanian isolates. *Scientific reports* 11 (1), 1-12.

*Gheorghe-Barbu, I., Barbu, I.C., Popa, L.I. et al. 2022. Temporo-spatial variations in resistance determinants and clonality of *Acinetobacter baumannii* and *Pseudomonas aeruginosa* strains from Romanian hospitals and wastewaters. *Antimicrobial Resistance and Infection Control* 11, 115.

*Russell, Hugo & Ayliffe's Principles and Practice of Disinfection, Preservation & Sterilization, Fourth Edition. Editor(s): Adam P Fraise MB BS FRCPath,, Peter A Lambert BSc PhD DSc,, Jean-Yves Maillard BSc PhD. Online ISBN:9780470755884. 2004 Blackwell Publishing Ltd. Chapter 5 Mechanisms of Action of Biocides Peter A Lambert.

*<http://bacmet.biomedicine.gu.se/index.html>.

The requirements for the scientific research assistant vacancy are:

- PhD in the field of Biology
- analysis and interpretation of 2nd and 3rd generation sequencing data;
- metagenomic analysis for the identification of antibiotic and biocide resistance genes, virulence markers and carrier plasmids;
- the implementation and use of bioinformatics algorithms and heuristics for data analysis and interpretation

The competition will have a written test and an interview.

Committee:

President: Professor Mariana Carmen Chifiriuc, PhD

Member: Lecturer Barbu Ilda, PhD

Member: Associate Prof. Gheorghe-Barbu Irina, PhD

Secretary: SR. Gradisteanu Gratiela, PhD

Contestation Committee:

President: Professor Mariana Carmen Chifiriuc, PhD

Member: Associate Prof. Marutescu Luminita, PhD

Member: SR. Popa Marcela, PhD

Secretary: RA. Grigore Georgiana Alexandra, MSc

The intention to participate will be sent to carmen_balotescu@yahoo.com, with an updated CV.