

Field of doctoral studies: MEDICINE

Doctoral supervisor: Prof. dr. Mihaela BADEA

## TOPICS FOR THE ADMISSION TO DOCTORAL STUDIES

**GENERAL TOPICS:** *Studies to obtain/detect/characterize the effects of biologically active compounds and the application of bioanalytical methods in life sciences*

### Contents / Main aspects to be considered

For the topic proposed for study, the elements that can be included in its development will be highlighted

- Principles and techniques of biochemistry and molecular biology – spectral methods, electrophoretic methods, chromatographic methods, PCR, genetic analyses, immunochemical techniques, immunohistochemistry, extraction techniques, etc. Microbiological tests.
- Studies using cell cultures, laboratory animals, and clinical studies used in medical research
- Statistical data analysis. The choice of statistical tests according to the type of analysed variable.
- Notions of ethics and deontology of scientific research in medicine.
- Information and medical information. Levels of evidence and their corresponding grades of recommendation.
- Principles of writing papers (articles, doctoral theses, presentations at conferences) in the medical field. Plagiarism: legislation, concept, methods of avoidance.
- Methods of attracting funds for the financing of scientific research

### Recommended bibliography:

1. Keith Wilson, John Walker (Ed.), Principles and Techniques of Biochemistry and Molecular Biology, Cambridge University Press, Seventh edition, 2010, Disponibil la: [https://www.academia.edu/39644425/Principles\\_and\\_Techniques\\_of\\_Biochemistry\\_and\\_Molecular\\_Biology\\_Seventh\\_edition](https://www.academia.edu/39644425/Principles_and_Techniques_of_Biochemistry_and_Molecular_Biology_Seventh_edition)
2. Feather A, Randall D, Waterhouse M, Kumar PJ., Kumar & Clark's, Clinical Medicine. Tenth ed. London: Elsevier; 2021.
3. Procop W.G, Church DL, Hall GS, Janda WM, Koneman EW, Schreckenberger PC, Woods GL Koneman's color atlas and textbook of diagnostic microbiology, Seventh edition., Philadelphia : Wolters Kluwer Health, 2017, disponibil la <https://www.vet-ebooks.com/konemans-color-atlas-and-textbook-of-diagnostic-microbiology-7th-edition/>
4. Buiuc D., Neguţ M. – Tratat de microbiologie clinică, Editura Medicală, Bucureşti, 2022.
5. Patrick R. Murray, Ken S. Rosenthal, Michael A. Pfaller, Medical microbiology, Elsevier, 8th edition, disponibil la <https://microb.iuims.ac.ir/files/microb/files/Murray.pdf>
6. Amar-Singh HSS, Azman Abu Bakar and Sondi Sararaks. The Medical Research Handbook Planning a Research Project© 2008, Kuala Lumpur, disponibil la [https://www.crc.gov.my/wp-content/uploads/2016/07/01\\_the\\_medical\\_research\\_handbook.pdf](https://www.crc.gov.my/wp-content/uploads/2016/07/01_the_medical_research_handbook.pdf)
7. National Minority AIDS Council, Grant Writing, 2015, disponibil la <http://www.nmac.org/wp-content/uploads/2015/04/Grant-Writing.pdf>
8. Mahmoud F. Fathalla, Mohamed M.F. Fathalla, A practical guide for health researchers (WHO Regional Publications, WHO Regional Office for the Eastern Mediterranean, Cairo 2004, ISBN 92-9021-363-91.; disponibil la <http://www.innsz.mx/descargas/investigacion/Practicalguideforhealthresearchers.pdf>
9. David Machin, Michael J Campbell, Stephen J Walters, Medical Statistics Fourth Edition. A Textbook for the Health Sciences, 2007 John Wiley & Sons Ltd, UK, disponibil la [http://sdh.sbmu.ac.ir/uploads/384\\_1447\\_1419344705470\\_medical\\_statistics\\_4th.pdf](http://sdh.sbmu.ac.ir/uploads/384_1447_1419344705470_medical_statistics_4th.pdf)
10. John R. William, Medical Ethics Manual, 3rd edition 2015, World Medical Association, ISBN 978-92-990079-0-7, Disponibil la: [https://www.wma.net/wp-content/uploads/2016/11/Ethics\\_manual\\_3rd\\_Nov2015\\_en.pdf](https://www.wma.net/wp-content/uploads/2016/11/Ethics_manual_3rd_Nov2015_en.pdf)

Prerequisites / Remarks:
<ul style="list-style-type: none"><li>• previous experiences in research using principles and techniques of biochemistry / molecular and cellular biology / toxicology will be considered an advantage for candidate selection</li><li>• English - advanced level</li><li>• ability to work in a team and high motivational energy</li></ul>
<input checked="" type="checkbox"/> Scientific Doctorate
<input type="checkbox"/> Professional Doctorate – in the fields of Music and Science of sport and physical education (full-time or part-time)
<input checked="" type="checkbox"/> without tuition fee (state budget funded)
<input checked="" type="checkbox"/> with tuition fee or with funding from other sources than the state budget

Doctoral supervisor,  
Prof. Dr. Mihaela BADEA

Signature

Coordinator of the field of doctoral studies,  
Prof. Dr. Petru IFTENI

Signature