ALIONA ROSCA

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WORK EXPERIENCE

Ghent University (Belgium) – postdoctoral researcher

2021 – now

Projects: Study of biofilms associated with bacterial vaginosis/Exploration of novel treatment strategies against bacterial vaginosis.

- Confocal microscopy
- Molecular biology (PCR, qPCR)
- Data analysis & results interpretation
- Students supervision
- Teaching practical sessions of Microbiology (3rd year bachelor students) and Research Internship of the Major Immunity and Infection (1st year master students)
- Manuscript writing

National Institute of Research and Development for Biological Sciences (Romania) - junior research assistant

2016 (7 months)

Project: FP7 AMIGA - assessing and monitoring the impacts of genetically modified plants on agro-ecosystems

Three international training courses

EDUCATION

University of Minho (Portugal) - PhD researcher - FCT (Foundation for Science and Technology)

2016 – 2021

PhD thesis: Multi-species biofilms in bacterial vaginosis: ecological interactions and susceptibility to novel antimicrobial agents.

- Bacterial culture (aerobic & anaerobic species)
- Development of in vitro models of single- and multi-species bacterial biofilms
- Fluorescence In Situ Hybridization method & Epifluorescence microscopy
- Antimicrobial susceptibility testing
- Cell viability assays
- Data analysis & results interpretation
- Manuscript writing

Erasmus exchange program in 2017-2018 (1 semester) at Ghent University, Belgium

Alexandru Ioan Cuza University of Iasi (Romania) – Master´s degree in Microbial and Cellular Biotechnology

2012 – 2014

Master´s thesis: Influence of temperature and substrate on biofilm formation by *Escherichia coli*

Erasmus exchange program in 2014 (3 months) at Polytech Lille, University Lille 1, France

Alexandru Ioan Cuza University of Iasi (Romania) – Bachelor´s degree in Environmental Science

2009 – 2012

SKILLS

Hard skills

- Languages

LANGUAGE	LEVEL
Romanian	Native proficiency
English	Full professional proficiency
Dutch	Elementary proficiency
French	Elementary proficiency
Portuguese	Advanced proficiency
Russian	Advanced proficiency

- Computer skills (Microsoft Word, Excel, PowerPoint, GraphPad, ImageJ)
- Laboratory/research skills
- Experimental design

Soft skills

- Critical thinking
- Adaptability, flexibility
- Fast learner
- Problem-solving skills
- Teamwork and collaboration
- Time management and organization

PERSONALITY

Self-reliance (-> Erasmus exchange programs, PhD research)

Leadership (-> supervision of bachelor and master students)

Open-mindedness (-> intercultural character education)

PUBLICATIONS

Rosca AS, Castro J, Sousa LGV, França A, Vaneechoutte M, Cerca N. (2022). *In vitro* interactions within a biofilm containing three species found in bacterial vaginosis (BV) support the higher antimicrobial tolerance associated with BV recurrence. *J Antimicrob Chemother*. 77: 2183–90. doi: 10.1093/jac/dkac155

Rosca AS, Castro J, Sousa LGV, *et al*. (2022). Six bacterial vaginosis-associated species can form an *in vitro* and *ex vivo* polymicrobial biofilm that is susceptible to *Thymbra capitata* essential oil. *Front Cell Infect Microbiol.* 12, 824860. doi: 10.3389/fcimb.2022.824860

Castro J, Lima Â, Sousa LGV, Rosca AS, *et al*. (2022). Crystal violet staining alone is not adequate to assess multi-species biofilms of bacteria synergism or antagonism in associated with bacterial vaginosis. *Front Cell Infect Microbiol*. 11, 795797. doi: 10.3389/fcimb.2021.795797

Rosca AS, Castro J, França Â, Vaneechoutte M, Cerca N. (2021). *Gardnerella vaginalis* dominates multi-species biofilms in both pre-conditioned and competitive *in vitro* biofilm formation models. *Microb Ecol*. doi:10.1038/s41598-019-50094-3.

Castro J, Rosca AS, Muzny CA, Cerca N. (2021). *Atopobium vaginae* and *Prevotella bivia* are able to incorporate and influence gene expression in a pre-formed *Gardnerella vaginalis* biofilm. *Pathogens*. 10:247. doi: 10.3390/pathogens10020247

Rosca AS, Castro J, Cerca N. (2020). Evaluation of different culture media to support *in vitro* growth and biofilm formation of bacterial vaginosis-associated anaerobes. *PeerJ*. 8:e9917. doi: 10.7717/peerj.9917.

Castro J*, Rosca AS*, Cools P, Vaneechoutte M, Cerca N. (2020). *Gardnerella vaginalis* enhances *Atopobium vaginae* viability in an *in vitro* model. *Front Cell Infect Microbiol*. 10, 83. doi: 10.3389/fcimb.2020.00083. *Both authors contributed equally

Rosca AS*, Castro J*, Sousa LGV, Cerca N. (2020). *Gardnerella* and vaginal health: the truth is out there. *FEMS Microbiol Rev*. 44, 1, 73-105. doi: 10.1093/femsre/fuz027. *Both authors contributed equally

Rosca AS and Cerca N. (2018). Bacterial vaginosis. *Diagnostics to Pathogenomics of Sexually Transmitted Infections*, ed. Sunit K. Singh PhD. Chapter 13, pp. 257–275. doi: 10.1002/9781119380924.ch13. Book chapter

CONFERENCES

Oral presentations

Rosca AS, Castro J, Cools P, Vaneechoutte M, Cerca N. Characterization of bacterial vaginosis-associated multi-species communities by multiplex PNA FISH. 4th of May 2021. DelNAM's Summer School 2: "FISHingBacteria", Faculty of Engineering of the University of Porto, Porto, Portugal. Online presentation.

Rosca AS, Castro J, Cools P, Vaneechoutte M, Cerca N. *Gardnerella vaginalis* enhances *Atopobium vaginae* viability in an *in vitro* model. 23rd of June 2020. DP_AEM PhD program workshop, Braga, Portugal. Online presentation.

Rosca AS, Vaneechoutte M, Cerca N. Ecological characterization of mixed-species biofilms associated with bacterial vaginosis. 11th of June 2018. Third Joint BIOTECnico and AEM PhD programs workshop, Instituto Superior Técnico, Campus Alameda, Lisbon, Portugal.

Poster presentations

Rosca AS, Woolston J, Greber K, Cools P. Antimicrobial peptides: potential therapeutic agents for bacterial vaginosis. 7th of November 2023. Symposium "Microbiome: from Benchtop to Bedside", Ghent, Belgium.

Rosca AS, Vaneechoutte M, Cerca N. *Gardnerella* spp. pre-conditioned vs competitive multi-species biofilm growth and the impact on the tridimensional biofilm structure. 5 – 7 of December 2019. MICROBIOTEC'19, Coimbra, Portugal.

Rosca AS, Castro J, Cerca N. The effect of culture media on *in vitro* growth and biofilm formation of Bacterial vaginosis (BV)-associated pathogens. 5 – 7 of December 2019. MICROBIOTEC'19, Coimbra, Portugal.

Rosca AS, Cerca N, Vaneechoutte M. Interactions between *Gardnerella vaginalis* and other Bacterial Vaginosis (BV)-related species in an *in vitro* biofilm model. 19th of April 2018. Research Day & Student Research Symposium, Ghent, Belgium.

Rosca AS, Martins AP, Castro J, Cerca N. Development of an *in vitro* vaginal exudate adhesion model for Bacterial Vaginosis. 7 – 9 of December 2017. MICROBIOTEC'17, Porto, Portugal.

HOBBY

Working out/exercising
Hiking/walking in nature
Traveling