

## **Personal information**

Tomislav Ivankovic, born March 9<sup>th</sup> 1981., Zagreb, Croatia.

E-mail: [tomislav.ivankovic@biol.pmf.hr](mailto:tomislav.ivankovic@biol.pmf.hr)

Web: <https://www.pmf.unizg.hr/biol/en/tomislav.ivankovic>

Croatian Scientific Bibliography ID: 297392 <https://bib.irb.hr/lista-radova?autor=297392>

Google Scholar: <https://scholar.google.com/citations?user=A9xNH8IAAAAJ&hl=en&oi=ao>

## **Scientific interests**

Bacterial biofilms, antibiotic resistance, wastewater treatment, bioremediation

## **Education**

2012. PhD, Department of Biology, University of Zagreb, Biology/Microbiology. Mentored by prof. Jasna Hrenovic, thesis title: "Aluminosilicate materials as carriers of phosphate-accumulating bacteria in wastewater treatment".

2006. MSc Molecular biology, Faculty of Science, University of Zagreb.

## **Appointments**

2016. – present time: Assistant Professor, Department of Biology, University of Zagreb.

2007. – 2016.: Assistant/Junior researcher, Department of Biology, University of Zagreb.

## **Postdoc appointments**

2014. - 2015. – Laboratoire 3SR, Université de Grenoble-Alpes, Grenoble, France. Supervised by prof. Sabine Rolland du Roscoat, project title: "Experimental investigation of biomass distribution in porous media by using X-Ray tomography".

## **Awards**

2019 – "Brdo Award" given by Biology students for best assistant at Biology department

2018 – "Brdo Award" given by Biology students for best teacher at Biology department

2018 – "Srećko Jelenić Award" given by Biology students for best teacher at Biology department

2013 – "FEMS young researcher Grant"

## **Project appointments**

2019 - 2020. Leader of French-Croatian bilateral project funded by „Cogito“ – Hubert Curien partnership; „Biofilm visualization by neutron and X-Ray Microtomography“ in collaboration with Laboratoire 3SR, Université de Grenoble-Alpes.

2015 – 2019. Research project funded by Croatian Science Foundation; IP-2014-09-5656 "Natural habitat of clinically important *Acinetobacter baumannii*".

2017-2021. Research project funded by Croatian Science Foundation; IP-2016-06-5278 "Textiles and footwear comfort and antimicrobial properties".

2016. Research project "3D visualization and quantification of biofilm in porous media by using X-ray microtomography" in collaboration with Laboratoire 3SR, Université de Grenoble-Alpes.

2016. Collaboration with geoinformatics company GIS Cloud, Zagreb, on a worldwide research project MetaSUB. Zagreb participated as one of the cities in world sampling day (<http://metasub.org/interactive-map/>).
2014. and 2016. Student project (Biology student association – BIUS) entitled „Prevalence of Beta-hemolytic streptococci in general population“, leader.
- 2014-2015. Post-doc position at 3SR Lab, Tec 21, Universite Joseph Fourier, Grenoble, project “Experimental investigation of biomass distribution in porous media using X-Ray Tomography”
- 2010-2012. Croatian-Serbian bilateral collaboration project „Dual function of the natural clinoptilolite in wastewater treatment: antibacterial activity and the support for biosorption”
- 2007-2013. Research project “Interaction between mineral carriers and phosphate accumulating bacteria in wastewaters”

### ***Mentoring experience, at Biology department, Faculty of Science, Zagreb.***

2017. – present day: Mentor in 5 graduation thesis, three thesis are on biofilm topic; “*Bacterial biofilm growth model in stationary conditions*” Katarina Rotim, 2018; “*Development of two-species bacterial biofilm at air – liquid interface*” Daniela Oršolić, 2018; “*Development of bacterial biofilm of Bacillus cereus at air-liquid interface*” Josipa Čevič, 2017.
- 2012 – 2016. - Co-mentor in 6 graduation thesis.
- 2019 – present: Mentor of “Astrobiology section” in Biology Student Association-BIUS
- 2012 – present: Mentor of “Microbiology section” in Biology Student Association-BIUS,
- 2007 – present: Mentor in various student projects and events (Biology night, Science Festival etc.).

### ***Teaching activities, at Biology department, Faculty of Science, Zagreb.***

- 2016 – present: Lecturer at “Microbiology” and “General Microbiology” courses for undergraduate students
- 2016 – present: Lecturer at “Bioremediation” and “Technology of wastewater treatment” courses for graduate students
- 2007 – present: Leader of practical course at “Microbiology”, “General Microbiology”, “Introduction to microbiology”, “Bioremediation”, “Technology of wastewater treatment” courses for undergraduate and graduate students.

### ***Managing activities at Biology department, Faculty of Science, Zagreb.***

- 2019 - Procurator of Microbiology division Head.
- 2018 - present: Student consultant for Biology students
- 2016 – present: Member of Faculty reviewing panel for graduation thesis
- 2016 – present: Jury member for graduation defenses

### ***Publications*** (databases accessed at June 2022)

In total 35 published articles, 31 listed in the Scopus database (738 citations, *h*-index = 13) or 26 listed in the Web of Science data base (516 citations, *h*-index = 11). Totally 31 attendances to International scientific meetings.

### **List of publications**

1. Ressler A, **Ivankovic T**, Polak B, Ivanišević I, Kovacic M, Urlic I, Hussainova I, Ivankovic H. A multifunctional strontium/silver-co-substituted hydroxyapatite derived from biogenic source as antibacterial biomaterial. *Ceramics International* (2022) In Press.
2. **Ivankovic T**, Rajic A, Ercegovic Razic S, Rolland du Roscoat S, Skenderi Z. Antibacterial Properties of Non-Modified Wool, Determined and Discussed in Relation to ISO 20645: 2004 Standard. *Molecules* 27 (2022) 1876.
3. Rolland du Roscoat S, **Ivankovic T**, Lenoir N, Dekic S, Martins JMF, Geindreau C. First visualisation of bacterial biofilms in 3D porous media with neutron microtomography without contrast agent. *Journal of Microscopy* 285 (2022) 20-28.
4. Malev O, Lovric M, Stipanicev D, Repec S, Martinovic-Weigelt D, Zanella D, **Ivankovic T**, Sindicic Duretec V, Barisic J, Li M, Klobucar G. Toxicity prediction and effect characterization of 90 pharmaceuticals and illicit drugs measured in plasma of fish from a major European river (Sava, Croatia). *Environmental Pollution* 266 (2020) 115162.
5. **Ivankovic T**, Haddad U, Kushmaro A, Dekic S, Cevid J, Percela M, Hrenovic J. Capillary bacterial migration on non-nutritive solid surfaces. *Archives of Industrial Hygiene and Toxicology* 71 (2020) 251-260. (IF 1.436, Q4 / Q3)
6. Peran J, Ercegovic Razic S, Sutlovic A, **Ivankovic T**, Glogar MI. Oxygen plasma pretreatment improves dyeing and antimicrobial properties of wool fabric dyed with natural extract from pomegranate peel. *Coloration Technol.* 00 (2020) 1–11.
7. **Ivankovic T**, Dikic J, Rolland du Roscoat S, Dekic S, Hrenovic J, Ganjto M. Removal of emerging pathogenic bacteria using metal exchanged natural zeolite bead filter. *Water Science and Technology* 80.6 (2019) 1085-1097.
8. Ercegovic Razic S, Glogar MI, Peran J, **Ivankovic T**, Chaussat C. Plasma pre-treatment and digital ink jet technology: A tool for improvement of antimicrobial properties and colour performance of cellulose knitwear. *Materials Today:Proceedings* 31 (2020) S247-S257.
9. Dekic S, Hrenovic J, Herlyn H, Spoljar M, **Ivankovic T**. Impact of biotic interactions on the survival of emerging pathogen *Acinetobacter baumannii* in aquatic media. *Water Science and Technology* 79 (2019) 1597-1604.
10. Hrenovic J, **Ivankovic T (corresponding author)**, Durn G, Dekic S, Kazazic S, Kisic I. Presence of carbapenem-resistant bacteria in soils affected by illegal waste dumps. *IJEHR* 29 (2019) 154–163.
11. Dekic S, Hrenovic J, **Ivankovic T**, van Wilpe E. Survival of ESKAPE pathogen *Acinetobacter baumannii* in water of different temperatures and pH. *Water Science and Technology*. 78 (2018) 1370-1376.
12. Dekic S, Klobucar G, **Ivankovic T**, Zanella D, Vucic M, Bourdineaud JP, Hrenovic J. Emerging human pathogen *Acinetobacter baumannii* in the natural aquatic environment: a public health risk? *IJEHR* (2018)
13. Hrenovic J, **Ivankovic T (corresponding author)**, Ivekovic D, Repec S, Stipanicev D, Ganjto M. The fate of carbapenem-resistant bacteria in a wastewater treatment plant. *Wat. Res.* 126 (2017) 232-239.
14. Seruga Music M, Hrenovic J, Goic-Barisic I, Hunjak B, Skoric D, **Ivankovic T**. Emission of extensively-drug-resistant *Acinetobacter baumannii* from hospital settings to the natural environment. *J. Hosp. Inf.* 96 (2017) 323-327.

15. **Ivankovic T**, Goic-Barisic I, Hrenovic J. Reduced susceptibility to disinfectants of *Acinetobacter baumannii* biofilms on glass and ceramic. *Arh. Hig. Rada Toksikol.* 68 (2017) 99-108.
16. Svjetlana D, Hrenovic J, Hunjak B, Kazacic S, Tibljas D, **Ivankovic T**. Virulence factors of *Acinetobacter baumannii* environmental isolates and their inhibition by natural zeolite. *Int. J. Curr. Microbiol. App. Sci* 6 (2017) 1697-1709.
17. **Ivankovic T**, Rolland du Roscoat S, Geindreau C, Sechet P, Huang Z, Martins J.M.F. Development and evaluation of an experimental protocol for 3-D visualization and characterization of the structure of bacterial biofilms in porous media using laboratory X-ray tomography. *Biofouling* 32 (2016) 1235-1244.
18. **Ivankovic T**, Mejdandzic M, Postic S, Malesevic N, Hrenovic J. Practical bioremediation course – laboratory exercises on biodegradation of cationic surfactant. *JMBE* 16 (2015), 69-71.
19. **Ivankovic T**, Hrenovic J. Surfactants in the environment. *Arh. Hig. Rada Toksikol.* 61 (2010) 95-110.
20. **Ivankovic T**, Hrenovic J, Matonickin-Kepcija R. Resistance of bioparticles formed of phosphate-accumulating bacteria and zeolite to harsh environmental conditions. *Biofouling* 29 (2013) 641-649.
21. Hrenović J, Milenkovic J, **Ivankovic T**, Rajic N. Antibacterial activity of heavy-metal loaded natural zeolite. *J. Haz. Mat.* 201 (2012) 260-264.
22. Mejdandžić M, **Ivanković T**, Pfannkuchen M, Godrijan J, Marić – Pfannkuchen D, Hrenović J, Ljubešić Z. Colonization of diatoms and bacteria on artificial substrates in the northeastern coastal Adriatic Sea. *Acta Bot. Croat.* 74 (2015) 1-16.
23. **Ivankovic T**, Hrenovic J, Itskos G, Koukouzas N, Kovacevic D, Milenkovic J. Alkaline disinfection of urban wastewater and landfill leachate by wood fly ash. *Arh. Hig. Rada Toksikol.* 65 (2014), 365-375. DOI: 10.2478/10004-1254-65-2014-2546.
24. **Ivankovic T**, Hrenovic J. Negativan utjecaj povišenih koncentracija željeza na fosfat-akumulirajuću bakteriju *Acinetobacter junii* u obradi otpadnih voda. *Hrvatske vode* 20 (2012) 23-28.
25. Hrenović J, Kovacevic D. **Ivankovic T (corresponding author)**, Tibljas D. Selective immobilization of *Acinetobacter junii* on the natural zeolitized tuff in municipal wastewater, *Colloids Surf. B.* 88 (2011) 208-214.
26. **Ivankovic T**, Hrenovic J, Sekovanic L. Influence of the degree of perlite expansion on immobilization of *Acinetobacter junii*. *Biochem. Eng. J.* 51 (2010) 117-123.
27. Hrenovic J, **Ivankovic T**, Rozic M. Requirement of *Acinetobacter junii* for magnesium, calcium and potassium ions. *J. Biosci. Bioeng.* 110 (2010) 180-186.
28. Hrenovic J, Tibljas D, **Ivankovic T**, Kovacevic D, Sekovanic L. Sepiolite as carrier of the phosphate-accumulating bacteria *Acinetobacter junii*. *Appl. Clay Sci.* 50 (2010) 582-587.
29. Hrenovic J, **Ivankovic T**, Tibljas D. The effect of mineral carrier composition on phosphate-accumulating bacteria immobilization. *J. Haz. Mat.* 166 (2009) 1377-1382.
30. **Ivankovic T**, Hrenovic J, Gudelj I. Toxicity of commercial surfactants to phosphate-accumulating bacterium. *Acta Chim. Slov.* 56 (2009) 1003-1009.
31. Hrenovic J, Rozic M, **Ivankovic T**, Farkas AM. Biosorption of phosphate from synthetic wastewater by biosolids. *Cent. Eur. J. Biol.* 4(3) (2009) 397-403. (promijenjeno ime u Open Life Sciences, de Gruyter)

32. Hrenovic J, **Ivankovic T**, Sekovanic L, Rozic M. Toxicity of dodecylpyridinium and cetylpyridinium chlorides against phosphate-accumulating bacterium. Cent. Eur. J. Biol. 3 (2008) 143-148. (promijenjeno ime u Open Life Sciences, de Gruyter)
33. Hrenovic J, **Ivankovic T**. Toxicity of anionic and cationic surfactant to *Acinetobacter junii* in pure culture. Cent. Eur. J. Biol. 2 (2007) 405-414. (promijenjeno ime u Open Life Sciences, de Gruyter)
34. Hrenović J, Kovač V, **Ivanković T**. Microbial colonization of high density polyethylene garbage bags. Croatian Journal of Food Technology Biotechnology and Nutrition 6 (2011) 52-57.
35. Hrenovic Jasna, Ivankovic Tomislav. Survival of *Escherichia coli* and *Acinetobacter junii* at various concentrations of sodium chloride. Eurasia. J. Biosci. 3 (2009) 144-151.