

# Curriculum Vitae

## **PERSONAL DATA AND CONTACT INFORMATION**

Name: Ivan Senta

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## **EDUCATION**

2004 – 2009: PhD in Analytical Chemistry, Faculty of Science, University of Zagreb, Croatia

1998 – 2003: MSc in Chemistry, Faculty of Science, University of Zagreb, Croatia

## **CURRENT POSITION**

10/2021 – present: Senior Research Associate, Laboratory for Analytical Chemistry and Biogeochemistry of Organic Compounds, Division for Marine and Environmental Research, Rudjer Boskovic Institute, Zagreb, Croatia

## **PREVIOUS POSITIONS**

10/2019 – 09/2021: Researcher, Catalan Institute for Water Research, Girona, Spain

02/2019 – 09/2019: Senior Research Associate, Rudjer Boskovic Institute, Zagreb, Croatia

09/2013 – 01/2019: Research Associate, Rudjer Boskovic Institute, Zagreb, Croatia

03/2013 – 09/2013: Senior Research Assistant, Rudjer Boskovic Institute, Zagreb, Croatia

03/2012 – 03/2013: Postdoctoral Researcher, Mario Negri Institute for Pharmacological Research, Milan, Italy

03/2009 – 03/2012: Senior Research Assistant (Postdoctoral Researcher), Rudjer Boskovic Institute, Zagreb, Croatia

05/2004 – 03/2009: Research Assistant (Predoctoral Researcher), Rudjer Boskovic Institute, Zagreb, Croatia

## **PARTICIPATION IN SELECTED RESEARCH PROJECTS**

2023 – 2027: *Sewage chemical information mining to assess lifestyle and dietary habits in Croatian regions*; Croatian Science Foundation (principal investigator)

2020 – 2024: *Investigation of Pharmaceutical Exposome in Freshwater Organisms – Risk Assessment and Prioritization*; Croatian Science Foundation (associate)

2019 – 2021: *Sewage chemical information mining – development of a novel concept for the assessment of human exposure to pollutants through wastewater analysis*; EU Horizon 2020 Marie Skłodowska-Curie Individual Fellowship (principal investigator)

2015 – 2019: *Comprehensive assessment of the environmental behaviour and fate of pharmaceutically active contaminants: macrolide antibiotics and opioid analgesics*; Croatian Science Foundation (associate)

2007 – 2010: *Assessment of hazardous chemical contamination in the Sava River basin*; NATO Science for Peace Programme (associate)

2007 – 2013: *Organic compounds as a molecular tracers of anthropogenic influence in the environment*; Croatian Ministry of Science (associate)

2004 – 2007: *Reduction of environmental risks, posed by emerging contaminants, through advanced treatment of municipal and industrial wastewaters*; EU FP6 STREP (associate)

### **SELECTED SHORT RESEARCH STAYS**

- Short-term scientific mission within the framework of the COST action ES1307, Institute of Food Analysis and Research, University of Santiago de Compostela, Spain, 25 January – 23 February 2017

### **SUPERVISING AND MENTORING ACTIVITIES**

- Supervisor of two PhD students, University of Zagreb, Faculty of Science (in progress)
- Supervisor of one master student, University of Zagreb, Faculty of Science (thesis defended)
- Co-supervisor of one master student, University of Zagreb, Faculty of Food Technology and Biotechnology (thesis defended)

### **RESEARCH FIELDS**

- Development of highly selective analytical methods for the determination of emerging contaminants and other organic compounds in the environment
- Investigation of the occurrence and fate of organic contaminants in environmental samples
- Wastewater-based epidemiology

### **PUBLICATIONS**

37 papers in peer-reviewed scientific journals, 3,194 citations (Scopus; 15/06/2026), *h*-index 29

#### **Selected publications**

1. K. Jambrosic, T. Zupanovic, I. Krizman-Matasic, S. Terzic, M. Ahel, I. Senta, Advancing analytical methodologies for the determination of lifestyle and dietary biomarkers in municipal wastewater, *Anal. Bioanal. Chem.* (in press, DOI: 10.1007/s00216-026-06495-1)

2. I. Senta, I. Krizman-Matasic, P. Kostanjevecki, I. Gonzalez-Mariño, R. Rodil, J. B. Quintana, I. Mikac, S. Terzic, M. Ahel, Assessing the impact of a major electronic music festival on the consumption patterns of illicit and licit psychoactive substances in a Mediterranean city using wastewater analysis, *Sci. Total. Environ.* 892 (2023) 164547.
3. I. Senta, S. Rodríguez-Mozaz, L. Corominas, A. Covaci, M. Petrovic, Applicability of an on-line solid-phase extraction liquid chromatography – tandem mass spectrometry for the wastewater-based assessment of human exposure to chemicals from personal care and household products, *Sci. Total Environ.* 845 (2022) 157309.
4. I. Senta, S. Terzic, M. Ahel, Analysis and occurrence of macrolide residues in stream sediments and underlying alluvial aquifer downstream from a pharmaceutical plant, *Environ. Pollut.* 273 (2021) 116433.
5. I. Senta, S. Rodríguez-Mozaz, L. Corominas, M. Petrovic, Wastewater-based epidemiology to assess human exposure to personal care and household products – A review of biomarkers, analytical methods, and applications, *Trends Environ. Anal. Chem.* 28 (2020) e00103.
6. I. Senta, P. Kostanjevecki, I. Krizman-Matasić, S. Terzic, M. Ahel, Occurrence and behavior of macrolide antibiotics in municipal wastewater treatment: Possible importance of metabolites, synthesis byproducts, and transformation products, *Environ. Sci. Technol.* 53 (2019) 7463-7472.
7. I. Senta, I. Krizman-Matasic, S. Terzic, M. Ahel, Comprehensive determination of macrolide antibiotics, their synthesis intermediates and transformation products in wastewater effluents and ambient waters by liquid chromatography–tandem mass spectrometry, *J. Chromatogr. A* 1509 (2017) 60-68.
8. I. Senta, I. Krizman, M. Ahel, S. Terzic, Multiresidual analysis of emerging amphetamine-like psychoactive substances in wastewater and river water. *J. Chromatogr. A* 1425 (2015) 204-212.
9. I. Senta, E. Gracia-Lor, A. Borsotti, E. Zuccato, S. Castiglioni, Wastewater analysis to monitor use of caffeine and nicotine and evaluation of their metabolites as biomarkers for population size assessment, *Water Res.* 74 (2015) 23-33.
10. I. Senta, I. Krizman, M. Ahel, S. Terzic, Assessment of stability of drug biomarkers in municipal wastewater as a factor influencing the estimation of drug consumption using sewage epidemiology, *Sci. Total Environ.* 487 (2014) 659-665.
11. I. Senta, I. Krizman, M. Ahel, S. Terzic, Integrated procedure for multiresidue analysis of dissolved and particulate drugs in municipal wastewater by liquid chromatography–tandem mass spectrometry, *Anal. Bioanal. Chem.* 405 (2013) 3255-3268.
12. I. Senta, S. Terzic, M. Ahel, Occurrence and fate of dissolved and particulate antimicrobials in municipal wastewater treatment, *Water Res.* 47 (2013) 705-714.
13. I. Senta, M. Matošić, H. Korajlija Jakopović, S. Terzic, J. Čurko, I. Mijatović, M. Ahel, Removal of antimicrobials using advanced wastewater treatment, *J. Hazard. Mater.* 192 (2011) 319-328.
14. S. Terzic, I. Senta, M. Ahel, Illicit drugs in wastewaters of the city of Zagreb (Croatia) – Estimation of drug abuse in a transition country, *Environ. Pollut.* 158 (2010) 2686-2693.

15. S. Terzic, I. Senta, M. Ahel, M. Gros, M. Petrovic, D. Barcelo, J. Müller, T. Knepper, I. Marti, F. Ventura, P. Jovancic, D. Jabucar, Occurrence and fate of emerging wastewater contaminants in Western Balkan region, *Sci. Total Env.* 399 (2008) 66-77.

## **HONOURS**

### **Selected Prizes and Research Awards**

- 2019: Marie Skłodowska-Curie Individual Fellowship in the framework of EU Programme Horizon 2020
- 2016: American Chemical Society grant for participation at Pittcon 2016
- 2013, 2017, 2018, 2019, 2020, 2021, 2022, 2024: Rudjer Boskovic Institute's annual award for the paper published in high-quality journal

### **Memberships/committees**

- Member of the Scientific Committee of the Xenowac II conference (Limassol, Cyprus, 10-12 October 2018)
- Member of the Local Programme Committee of the 10th Eastern European Young Water Professionals Conference (Zagreb, Croatia, 7-12 May 2018)
- 2014 – 2018: Management Committee member from Croatia to COST Action ES1403
- 2014 – 2018: Management Committee substitute from Croatia to COST Action ES1307

### **Reviews/evaluations**

- Reviewer for 25 scientific journals in the fields of Environmental Science, Analytical Chemistry and related fields, including *Science of the Total Environment*, *Analytical Chemistry*, *Environment International*, *Water Research*, *Journal of Hazardous Materials*, *Environmental Pollution* etc. (>80 reviews)
- Evaluator for Marie Skłodowska-Curie Postdoctoral Fellowships
- Member of the panel for the evaluation of proposals for research projects funded by the Croatian Science Foundation
- Reviewer of one national and two international doctoral theses

### **Selected science popularisation activities**

- *Too precious to waste? Challenges & opportunities for reuse*, Joint workshop of the IWA Young Water Professionals & Blue Circle Society of the COST Action ES1403, Zagreb, Croatia, 9 May 2018 (speaker)
- *Wastewater-based epidemiology*, Joint workshop of the Knowledge in Action Foundation and Rudjer Boskovic Institute in the framework of *Stem. Grow. Explore.* programme, Zagreb, Croatia, 12 May 2017 (speaker)
- *Wastewater as sources of epidemiological information*, Joint workshop of the Knowledge in Action Foundation and Rudjer Boskovic Institute in the framework of *Stem. Grow. Explore.* programme, Zagreb, Croatia, 13 May 2016 (speaker)