


# Curriculum Vitae

## PERSONAL INFORMATION

Name and surname	<b>Marijana Erk</b>	
Academic title	Dr.sc.	
Year and institution of PhD obtained	2000. Faculty of Science University of Zagreb, Croatia	
Address	Ruđer Bošković Institute, Division for Marine and Environmental Research, Laboratory for biological effects of metals, Bijenička cesta 54, P.O.Box 180, HR-10002 Zagreb, Croatia	
Phone	+ 385 1 46800216	
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E-mail	erk@irb.hr	
Citizenship	Croatian	
Date and place of birth	January 01, 1968	

## WORK EXPERIENCE

Date (from – until)	October 01, 2009 –
Institution	Ruđer Bošković Institute, Division for Marine and Environmental Research, Zagreb, Croatia
Position	senior research associate
Work field	head of the Laboratory for biological effects of metals since May 19, 2010 <i>- Scientific research (cellular energy allocation as a physiological biomarker in estuarine bivalves, chromatographic distribution of cytosolic proteins and metal profiles related to cytosolic proteins in chromatographically separated fractions;</i> <i>- Collaborator in the Laboratory for Biological Effects of Metals on the projects of Ministry of Science, Education and Sports (MSES) of the Republic of Croatia No. 098-0982934-2721 "Metal-induced cellular changes in the aquatic organisms" and National Monitoring Programme "Project Adriatic";</i> <i>- Principal investigator for the Croatian partner for bilateral Croatian-German project "Metal exposure and associated effects in mussels: an integrated approach – hyphenated analytical techniques and biomarkers"(January 01, 2011 – December 31, 2011)</i>
Date (from – until)	July 17, 2002 – September 30, 2009
Institution	Ruđer Bošković Institute, Division for Marine and Environmental Research, Zagreb, Croatia
Position	research associate
Work field	<i>- Scientific research (Detection and monitoring of the effects of metals on marine, estuarine and freshwater organisms);</i> <i>- Collaborator in the Laboratory for Biological Effects of Metals on the project of Ministry of Science and Technology of the Republic of Croatia No. 0098130 "Metals and cellular biomarkers", on the project of Ministry of Science, Education and Sports of the Republic of Croatia No. 098-0982934-2721 "Metal-induced cellular changes in the aquatic organisms", on the National Monitoring Programme "Project Adriatic", and on Croatian-Norwegian Project No. 154063 "An Integrated Environmental Monitoring System for Croatian Freshwater, Estuarine and Coastal Marine Areas (CROWAT)" (untill 2004), and on EU FP6 Project "SARIB" (2004 - 2007).</i>
Date (from – until)	April 18, 2000 – July 16, 2002
Institution	Ruđer Bošković Institute, Division for Marine and Environmental Research, Zagreb, Croatia
Position	Senior Research Assistant
Work field	<i>- Scientific research (Determination and application of biomarker of metal exposure – metallothionein - in the marine, estuarine and freshwater organisms);</i> <i>- Collaborator in the Laboratory for Biological Effects of Metals on the project of Ministry of Science and Technology of the Republic of Croatia No. 00981511 "Study of metal effects on organisms using biomarkers", National Monitoring Programme "Project Adriatic", and on Croatian-Norwegian Project</i>

No. 154063 "An Integrated Environmental Monitoring System for Croatian Freshwater, Estuarine and Coastal Marine Areas (CROWAT)"

Date (from – until)	March 1995 – April 18, 2000
Institution	Ruđer Bošković Institute, Division for Marine and Environmental Research, Zagreb, Croatia
Position	Research Assistant
Work field	- <i>Scientific research (Study on chemical reactivity of metallothioneins by electrochemical techniques; Biological effects of metals in Mediterranean mussels);</i> - <i>Collaborator in the Group for electrophoresis, and in the Laboratory for Biological Effects of Metals from 1996, research leading to PhD thesis</i>
Date (from – until)	16.03.1992. – veljača 1995.
Institution	Ruđer Bošković Institute, Division for Marine and Environmental Research, Zagreb, Croatia
Position	Junior Research Assistant
Work field	- <i>Scientific research (Interactions of manganese with aminopolycarboxylic, humic and fulvic acids in aquatic systems - natural and model systems);</i> - <i>Collaborator in the Group for electrophoresis, research leading to Master thesis</i>

**EDUCATION**

Date	1995. - 2000. (March 08, 2000)
Place	Zagreb, Croatia
Institution	Faculty of Science, University of Zagreb
Title of qualification awarded	PhD in Chemistry
Date	1992. - 1995. (February 10, 1995)
Place	Zagreb, Croatia
Institution	Faculty of Science, University of Zagreb
Title of qualification awarded	M.Sc. in Oceanography
Date	1986. – 1991. (01.07.1991.)
Place	Osijek, Croatia
Institution	Faculty of Education, University J.J. Strossmayer in Osijek
Title of qualification awarded	Bachelor degree – Teacher of Biology and Chemistry
Date	1982. – 1986.
Place	Osijek, Croatia
Institution	Highschool education, Center for highschool education "Braća Ribar"
Title of qualification awarded	Collaborator in cultural – scientific institutions

**TRAINING**

Year	January 09, 2006 – November 03, 2006
Place	Ghent, Belgium
Institution	Ghent University, Laboratory of Environmental Toxicology and Aquatic Ecology
Subject and skills covered	Post-doctoral research: Effects of metal exposure on the energy metabolism and induction of metal-binding protein in the estuarine mysid shrimp ( <i>Neomysis integer</i> )
Year	Sept. 01, 2002 – Dec. 14, 2002 and from Jan. 19, 2003 – June 20, 2003
Place	Oslo and Bergen, Norway
Institution	Norwegian Institute for Water Research (NIVA), Oslo University of Bergen, Dept. of Molecular Biology, Laboratory of Environmental Toxicology and Ecotoxicology, Bergen
Subject and skills covered	Post-doctoral research: Cadmium accumulation and Cd-binding proteins in marine invertebrates - a radiotracer study Two-dimensional electrophoresis as a tool for biomarker studies (changes in protein patterns)

Year *October 15 – 28, 2000*  
 Place *Siena (Certosa di Pontignano), Italy*  
 Institution *University in Siena*  
 Subject and skills covered *International Summer School on the Environment and Health: "Xenobiotics – Environment – Human Health"*

Year *August 29 – September 10, 1993*  
 Place *Plymouth, United Kingdom*  
 Institution *University of Plymouth and Plymouth Marine Laboratory (PML), Course organized by European Institute for Advanced Studies in Oceanography*  
 Subject and skills covered *Advanced Study and Practical Course in Biogeochemical Processes in Estuarine and Shelf Seas*

#### LANGUAGES

**MOTHER TONGUE** **Croatian**  
**ENGLISH LANGUAGE**  
 Speaking **good**  
 Writing **good**  
 Reading **good**

#### OTHER FOREIGN LANGUAGES

Language **German**  
 Speaking  
 Writing good  
 Reading good

Language **Italian**  
 Speaking  
 Writing  
 Reading good

#### RESEARCH AND OTHER PROJECTS

##### Collaborator on the projects:

- International:
  - 2004 – 2007 EU FP6 SARIB "Sava river basin: sustainable use, management and protection of resources", funding source: EU
  - 2001 – 2004 Croatian-Norwegian project "An integrated environmental monitoring system for Croatian freshwater, estuarine and marine areas", funding source: Research Council of Norway
  - 2001 – 2002 International project "Biological Effects of Contaminants in Pelagic Systems", funding source: International Council for the Exploration of the Sea, Research Council of Norway, Norwegian oil industry
- National:
  - 2007 - Ministry of Science, Education and Sports (MSES) No. 098-0982934-2721: Metal-induced cellular changes in the aquatic organisms, funding source: MSES
  - 2002 – 2006 Ministry of Science and Technology (MST) No. 0098130: Metals and cellular biomarkers, funding source: MST
  - 1996 – 2002 Ministry of Science and Technology (MST) No. 00981511 Biomarkers and the biological effects of metals on organisms, funding source: MST
  - 1998 - 2010 National Monitoring Programme "Project Adriatic", funding source: MSES/MST

##### Project leader:

- bilateral Croatian-German project (DAAD project) "Metal exposure and associated effects in mussels: an integrated approach – hyphenated analytical techniques and biomarkers"(January 01, 2011 – December 31, 2011), funding source: MSES

#### TEACHING

- In October 2006, during my post-doc (January 09 - November 03, 2006) in the Laboratory of Environmental Toxicology and Aquatic Ecology at the University of Ghent (Belgium), I participated in realization of two practical lectures and exercises (Practicum no. 2: Toxicity tests and Practicum no. 3 & 4: Bioavailability) within the Course "Environmental Toxicology and Risk Assessment" (course leader: prof. Colin R. Janssen) in the programme of the master study (Master of Environmental Sanitation) at the University of Ghent, Belgium.

## MENTORSHIP OF DEFENDED DOCTORAL AND MASTER DISSERTATIONS AND TRAINING OF YOUNG RESEARCHERS AND SCIENTISTS

Training of young researchers:

- In my previous work I was teaching the application of electrochemical methods in the study of metallothioneins to younger colleagues from the Laboratory for biological effects of metals.
- During my post-doctoral study (January 09 - November 03, 2006) in the Laboratory of Environmental Toxicology and Aquatic Ecology at the University of Ghent (Belgium), I introduced the electrochemical method for determination of metallothionein in the laboratory. During that time, I was training and teaching this method to Silvana Denisse Fajardo Perez, a student of specialist MSc Ecological Marine Management (two-year postgraduate studies organized by Free University Brussels, Faculty of Science), who was using it in the practical part of her specialist thesis.

## ORGANIZATIONAL SKILLS AND COMPETENCES

- a) Organization of the meeting and field-work during the visit of German Scientists within the scope of bilateral project (2011)
- b) Participation in representing scientific activities of the Laboratory for biological effects of metals and Ruđer Bošković Institute to the general public during the *RBI Open-door days* (2010, 2005 and 2004)
- c) Participation in organizing of field research in marine and freshwater ecosystems in the scope of national and international projects (SARIB 2004 – 2007, CROWAT 2001 – 2004, "Project Adriatic" 1998 - 2010)
- d) Participation in representing scientific activities of the Laboratory for biological effects of metals to the post-graduate students of Nature and Environment Protection of the J.J. Strossmayer University of Osijek (2004)

## MEMBERSHIP IN SCIENCE ORGANIZATIONS AND BODIES

- member of International Water Association (1996 – 2002)
- member of Society of Environmental Toxicology and Chemistry (SETAC) (since 2004)
- member of Croatian Society of Chemical Engineers

## COMMISSIONS, COMMITTEES, BOARDS AND WORK GROUPS

- 1997 – 2004 member of Technical committee TC 147 (Water quality), Subcommittee SC 02 (Physico-chemical methods) at the Croatian Standards Institute
- 2008 - member of Technical committee TC 147 (Water quality), Subcommittee SC 07 (Microbiological and biological methods) at the Croatian Standards Institute

## PAPERS

List of scientific papers can be accessed at the official Croatian Scientific Bibliography (CROSBI) web site: <http://bib.irb.hr/lista-radova?autor=199663&chset=ASCII&lang=EN>

## OTHER RESEARCH ACTIVITIES

Reviewer of international scientific journals:

Water Research, Analytica Chimica Acta, Aquatic Toxicology, Ecotoxicology and Environmental Safety

## COMPUTER SKILLS

- use of Windows (and Windows compatible) software packages
- use of statistical software packages (SigmaStat, Statistica)
- use of graphic software packages (AdobePhotoShop)
- create Laboratory's web-site (within the Ariadne web-system)

## OTHER IMPORTANT SKILLS AND COMPETENCES

Experience in electrochemical techniques (voltammetry) for determination of metallothioneins in biological samples (tissues and organs of aquatic vertebrates and invertebrates), and for research studies of their chemical reactivity; experience in laboratory work in sample preparation and performance of biochemical analysis (spectrophotometry), field-work experience in sampling of aquatic organisms

## ADDITIONAL INFORMATION AND NOTES

driving licence (B category)  
diving licence (OWD open water diver - Scuba School International)