

PERSONAL INFORMATION



Zakhar Maletskyi

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APPOINTMENTS

- 01/09/2020 Associate Professor, Water & Environmental Engineering
- 01/09/2019–31/08/2020 Researcher
- 01/09/2015–31/08/2019 Postdoctoral Fellow, Membrane Processes for Water and Wastewater Treatment
Norwegian University of Life Sciences (NMBU), Faculty of Science and Technology (REALTEK) Ås (Norway) www.nmbu.no
- Co-instructor in four water-related graduate courses
 - Supervision of MSc/PhD students, exchange students and visiting researchers
 - Development of research projects with focus on contaminants of emerging concern, water in the circular economy, membrane & electrochemical technologies for water and wastewater treatment
 - Development of educational and capacity building projects
- 01/12/2012–31/08/2015 **Manager of Research & Development department**
Ecosoft BWT, Kiev (Ukraine) www.ecosoft.com
- Ecosoft is a water treatment solution developer and manufacturer active in 60 countries with operational offices in Germany, Belgium and manufacturing facilities in Ukraine. I was a leader of the R&D responsible for 5 employees and contributed to:
- Establishing of R&D under supervision of consultants from the European Bank of Reconstruction and Development (EBRD)
 - Products development for industrial and household water treatment markets: 6 new products and application development for 3 new technologies
 - Professional technical education programs for employees and partners: educated more than 300 specialists through 30 seminars during 3 semesters
 - Products' compliance and certification according to EU regulations, national regulations (Germany, France) and North America standards (NSF/ANSI)
 - Management of GIS-based Water Quality Monitoring project "What do you drink?"
- Business or sector** Water treatment solutions
- 01/12/2009–30/11/2012 **Industrial PhD fellow**
National Technical University of Ukraine "KPI" / Ecosoft BWT, Kiev (Ukraine)
<https://kpi.ua/en>
- Industrial research project "Hybrid adsorbents selective to Iron and Arsenic"
- Responsible for the course "Modern methods of water treatment: Membrane & Sorption"

Processes”

- In 2011 managed Fulbright Senior Specialist project between University of Wisconsin-Madison (USA) and National Technical University of Ukraine
- Co-supervised 1 BSc and 2 MSc students

01/08/2008–30/11/2009

Research Engineer

Ecosoft BWT, Kiev (Ukraine) www.ecosoft.com

- Laboratory research on POE/POU water treatment solutions

Business or sector Water treatment solutions

12/04/2008-22/05/2008

11/04/2009-24/05/2009

Visiting Researcher

Karlsruhe Institute of Technology (KIT), Forschungszentrum Karlsruhe, Institute of Technical Chemistry, (Germany)

- Researcher in a joint project “Development of new polyfunctional sorption materials based on waste ion exchange resins” (2008-2009)

21/06/2005–31/07/2008

Junior Engineer

Informproject, Kiev (Ukraine)

Digitalization of business processes in intellectual property protection

Business or sector ICT

ACADEMIC QUALIFICATIONS

- 2013 **PhD in Engineering - Water treatment technology** (*NOKUT godkjent*)
National Technical University of Ukraine "KPI", Kiev (Ukraine)
- 2009 **Master in Chemical Technology and Engineering - Water treatment technology** (*NOKUT godkjent*)
National Technical University of Ukraine "KPI", Kiev (Ukraine)

CERTIFICATIONS

- 2015 **Project Management Professional (PMP)**
Certified by the Project Management Institute (PMI), Pennsylvania (United States)
Cert. #1839847, 04.08.2015 <https://certification.pmi.org/registry.aspx>

PROFESSIONAL EXTENSIONS

- 2020 **Camo Analytics**
Course on Introduction to Process Analytical Technology (19-20/05/2020, Oslo, Norway, Online)
- 2019 **Camo Analytics**
Course on Multivariate Analysis of Spectroscopic Data (11-13/11/2019, Utrecht, The Netherlands)
Course on Multivariate Data Analysis (16-18/10/2019, Lisbon, Portugal)
- Water Joint Partnership Initiative**
Workshop on Scientific Outputs, Knowledge Transfer and Legacy (24/10/2019, Dublin,

Academic Curriculum Vitae with Track Record

Ireland)

Norwegian Agency for Development Cooperation (Norad)

Seminar on Institutional Cooperation (9-10/9/2019, Oslo, Norway)

University Industry Innovation Network

Workshop on Entrepreneurial Universities (16-17/04/2019, Amsterdam, The Netherlands)

edX / The University of Queensland, Australia / Microsoft in Education

Deep Learning through Transformative Pedagogy (ongoing enrolment, MOOC)

2018 **Research Council of Norway / Europa Media Group**

Horizon 2020 Proposal Writing Training Course. Focus: Impact (29-30/05/2018, Oslo, Norway)

2017 **Waterlution, Water Innovation Lab Europe**

Soft skills and entrepreneurial development: Facilitation Skills-building and Cross-sector Dialogue; Innovation Methodologies; Complexity, Leadership & the Future (23-28/04/2017, Wijk aan Zee, Netherlands)

Research Council of Norway / Sintef

Course on Writing Successful H2020 Proposals (6/04/2017, Oslo, Norway)

2016 **PERA Technology Solutions**

Research Concept Development and proposal writing seminar (19-20/09/2016, Ås, Norway)

Spider Management Technologies

Course in Project management "PMP Exam Prep" (Kiev, Ukraine)

2013 **Dow Water & Process Solutions**

Reverse Osmosis / Ultrafiltration / Ion Exchange Technical Seminar (06/2013, Tarragona, Spain)

PERSONAL SKILLS

Mother tongue(s)	Russian, Ukrainian			
Foreign language(s)	Listening	Reading	Speaking	Writing
English	C2	C2	C2	C2
Norwegian (Bokmål)	B2	B1	B2	B1

Kompetanse Norge Prøvebevis 31.03.2020

ICT experience

Advanced user of water treatment design software: WAVE (RO, UF, IEX), STOAT, WatPro

Advanced user of statistical software: Design Expert, Origin 2018, Orange Canvas, Unscrambler X, SPSS

Computational chemistry: ChemDraw, Chem3D

Project management software and techniques: MS Project, Asana, Ayoa

Group creativity software and techniques: GroupMap, Mentimeter, MindMap, MS Visio

Analytical techniques experience

Laboratory techniques and instruments for water quality analysis: UV-VIS spectrophotometry, automated photometric analysis, catalytic oxidation and combustion techniques for TOC/COD measurement, particle size analysis, electrokinetic potential analysis

Advanced techniques: methods development for ICP-MS; advanced user of ESEM/EDX, FTIR, Raman microscopy; user of GC-MS, HPLC

Broad experience with AAS – established 2 analytical laboratories as a consultant to the PerkinElmer Instruments

OTHER RECORDS

Memberships	International Water Association (IWA)
	Water Europe – Technological Platform of the European Commission (WssTP)
	Forum for Technology and Development Cooperation of the Norwegian Society of Graduate Technical and Scientific Professionals (Tekna FTU)
	The Norwegian Association of Researchers (Forskerforbundet)
	European Membrane Society (EMS)
	International Society of Automation (ISA)
	American Chemical Society (ACS)
	Project Management Institute - Norway Chapter (PMI)
	WaterNet professional NGO
	European Desalination Society (EDS)
Norwegian Trekking Association (DNT)	
Fellowships	NMBU fellowship for research stays abroad (2017): visiting researcher to the Michigan State University (US) and Kyungpook National University (South Korea)
	Research fellowship for young scientists from the German Research Foundation (DFG) (2008): research stay at the Forschungszentrum Karlsruhe (Karlsruhe Institute of Technology) in 2008-2009

EDUCATIONAL ACTIVITIES

Instruction	<u>Co-instructor at the Norwegian University of Life Sciences</u>		
	THT 272 15 ECTS	Treatment of water and wastewater: Basic course <i>Lectures:</i> "Water supply. Unit processes: Membrane filtration, adsorption, ion exchange", "Wastewater treatment. Unit processes: Membrane filtration", "Industrial wastewater treatment", "Water-smart circular economy"	2016-2020
	THT 310 15 ECTS	Applied Water and Wastewater Treatment <i>Lectures:</i> "Contaminants of emerging concern", "Membranes as the future of water and wastewater treatment", "Resources recovery, recycle and reuse", "Process combinations: factors to consider", "Climate Change impacts on water and wastewater treatment", "Technological trends in water and wastewater treatment" <i>Supervision of project work</i>	2016-2019
	THT 311 10 ECTS	Water Resources Management and Treatment Technologies <i>Lectures:</i> "Wastewater as a resource", "Membrane processes for water treatment: reverse osmosis", "Membrane processes for wastewater treatment: membrane biological reactors", "Project planning", "Mechanical treatment" <i>Supervision of project work</i>	2016-2020
	THT 312 5 ECTS	Water Management in Cold Climate <i>Lectures on membrane technologies with cold climate aspects (2017). Supervision of project work (2018)</i>	2017, 2018
	IMRT 100	Presentation on water industry introduction	2019

Visiting/invited lectures

South Kazakhstan State University (Kazakhstan, June 2020 and 2016): online lectures "Membrane processes and technologies for water treatment", "Reverse Osmosis"

Academic Curriculum Vitae with Track Record

Qingdao University of Technology (China, 29-29 August 2018): “Water Circularity”, “Climate Change and water sector”, “Ion exchange and adsorption”, “Water supply: membrane technologies”, “Wastewater treatment: membrane technologies”, summer school of the Water Harmony ERASMUS+ project

Qingdao University of Technology (China, December 2017): “Advances in Membrane Technologies for Water Treatment”, Water Harmony ERASMUS+ open lecture

Continuing education and training

Water Harmony online training for academic staff (May-July 2020): lectures “Learning Management Systems and digital tools in higher education”, “Peer-learning and Problem-based Learning”, “Review of analytical methods”

United Nations Economic Commission for Europe (UNECE), “Water resource management and modern water treatment technologies” professional extension course in the context of Protocol on Water and Health supporting National Dialogue on Water Policy under Integrated Water Resources Management in Kyrgyzstan and Kazakhstan

24-25 September 2018 in Bishkek, Kyrgyzstan

26-27 September 2018 in Shymkent, Kazakhstan

22-23 October 2018 in Osh, Kyrgyzstan

Lectures: “Integrated Water Resource Management”, “Membranes for wastewater treatment”, “Biological process of wastewater treatment”, “Water-smart circular economy”, “Membranes, adsorption and ion exchange”

PhD co-supervision	Flux Enhancers in Biofilm Membrane Bioreactors: Insight into Fouling Control	Olga Kulesha	2016-2019
MSc supervision (12)	<u>Main supervisor (9)</u>		
	1 A review of selected natural coagulants in water and wastewater treatment	Sebastian Slinning Aarø	2020
	2 Nanofiltration of surface water with high organic content, focusing on reserve water supply in Halden municipality	Gorm Walter Høili Pettersen	2019
	3 Advanced coagulation and membrane filtration treatment of effluent from high-rate MBBR	Lars Rumohr Blingsmo and Leon Dokland	2019
	4		
	5 Effects of electrochemical treatment of mixed liquor in submerged ceramic membrane bioreactor	Roman Kuzhel and Anastasiia Nehrii	2019
	6		
	7 Comparison of treatment and fouling mitigation efficiency of organic and inorganic coagulants in biofilm membrane bioreactor	Vladyslav Shostak	2019
	8 Operational Optimization of Biofilm Membrane BioReactor (BMBR) for decentralized wastewater treatment	Anura Kumara Arembage	2018
	9 Testing Aluminium based chemicals for fouling reduction in membrane bioreactor	Dawit Kahsay Zigta	2017
	<u>Co-supervisor (3)</u>		
	10 Electrocoagulation in wastewater treatment: a review	Thea Caroline Granhus	2020
	11 Prediction of THM Formation Potential in disinfection of drinking water	Evelina Koltsova	2019
	12 Chronic Kidney Disease (CKD) in Sri Lanka – Evaluation of Status, Practices and Potential Pollutants	Mathias Espeland	2016
Supervision of visiting researchers and exchange students (9)	1 Mitacs Globalink Functionalized nano-adsorbent for simultaneous removal of heavy metals and ciprofloxacin from wastewater (PhD student from Institut national de la	Agnieszka Cuprys, Canada	2019

		recherche scientifique – Québec, Canada – 3 months)		
2	ERASMUS+	Comparative study of activated carbon and modified biochar for removal of heavy metals (10 ECTS)	Mihaela Bectoras, Romania	2019
3	ERASMUS+	Removal of ciprofloxacin with electrocoagulation (10 ECTS)	Ilieva Natalia, Romania	2019
4	ERASMUS+	Understanding mechanism and development of approaches to control membrane fouling in membrane bioreactor (MBR) (30 ECTS)	Yuliia Dzihora, Ukraine	2017
5	ERASMUS+	Handling of reject water and improvement of sludge dewatering in sewage treatment (30 ECTS)	Ivan Borysov, Ukraine	2017
6	ERASMUS+	Hybrid sorption-membrane water treatment technology for removal of organic pollutants of natural and synthetic origin (30 ECTS)	Svitlana Kyrii, Ukraine	2017
7	ERASMUS+	Iron-based fine particle adsorbents for water treatment (30 ECTS)	Marta Litynska, Ukraine	2017
8	ERASMUS+	Membrane fouling reducers for submerged MBR – experimental proof of concept on laboratory scale (30 ECTS)	Stella Saliu, Ukraine	2017
9	NORAD-NORHED	Removal of Arsenic from drinking water with reverse osmosis (30 ECTS)	Kim Lengthong, Cambodia	2017

Educational projects (11)

ERASMUS+ Knowledge Alliances	DIGIWATER – Digitalisation of water industry by innovative graduate water education University-industry cooperation for innovation and modernisation of higher education. A partnership of six universities and six enterprises from Norway, Germany, Turkey, Belgium, Cyprus and Romania. Coordinated from NMBU <i>Role/contribution:</i> proposal development, WP leadership, coordination	1 mil EUR	2021-2023
ERASMUS+ Capacity Building	CCWater – Graduates for Climate Change adapted water management Educational cooperation with ten universities from Sri Lanka, Mongolia, China, Germany and Poland. Coordinated from NMBU <i>Role/contribution:</i> proposal development, WP leadership, coordination	1 mil EUR	2021-2023
Diku North America	NANOWATER – Managing nanoparticles and use of nanotechnology in water Educational and research partnership with the State University of New York and two American and Norwegian enterprises <i>Role:</i> researcher	0,3 mill NOK	2020-2021
ERASMUS+ Capacity Building	SWARM – Strengthening of MSc curricula in Water Resource Management for the Western Balkans HEIs and stakeholders www.swarm.ni.ac.rs Partnership between universities from Serbia, Croatia, Bosnia and Herzegovina, Bulgaria, Austria, Greece, Norway, Portugal, Montenegro. Coordinated from Serbia <i>Role:</i> coordinator for NMBU	0,9 mill EUR	2018-2021

Academic Curriculum Vitae with Track Record

Diku Eurasia	<p>TENOR – Towards the circular EcoNomy in Organic faRming www.tenorproject.eu</p> <p>Establishing research-based education through Living Lab approach, curricula development on "Household Water Reclamation & Reuse"</p> <p>4 partner universities from Norway, Germany, Belarus and Ukraine together with industries. Coordinated from NMBU</p> <p><i>Role:</i> initiator, project manager</p>	0,3 mill NOK	2018-2019
Diku North America	<p>AECO – Advancing Electrocoagulation for Water Safety and Circularity www.aeco-project.org</p> <p>Establishing research-based education through Living Lab approach, curricula development on "Industrial Water Reclamation & Reuse"</p> <p>The project continued into joint INTPART application</p> <p>3 partner universities from Norway, US and Canada together with industries. Coordinated from NMBU</p> <p><i>Role:</i> initiator, project manager</p>	0,3 mill NOK	2018-2019
RCN-Diku INTPART	<p>MEMPREX – International partnership on membrane processes in water treatment for research and educational excellence www.memprex.org</p> <p>Curricula development and initiation of research-based actions on membrane subjects</p> <p>7 partner universities from Norway, USA, Canada, Japan and China</p> <p><i>Role:</i> coordinating secretary</p>	12,3 mill NOK	2017-2023
Diku High North	<p>WaterMagic – Water Management in Cold Climate</p> <p>Curricula development and initiation of research-based actions on water resource management and treatment in High North</p> <p>7 partner universities from Norway, USA, Canada, Japan, China and South Korea</p> <p><i>Role:</i> contributing member</p>	0,2 mill USD	2017-2019
Norad NORHEDI	<p>WaSo – Water, Society and Climate Change www.wasoproject.org</p> <p>Curricula development on climate change related subjects, development of teaching tools, e-learning</p> <p>11 partner universities from Uganda, Kenya, Ethiopia, South Sudan, Sri Lanka, Bangladesh, Cambodia and Norway</p> <p><i>Role:</i> coordinator for digital tools in education and development of e-learning</p>	6 mill USD	2016-2020
ERASMUS+ Capacity Building	<p>Water Harmony – Harmonising water related graduate education</p> <p>Curricula development on 6 water-related subjects with emphasise on soft skills. 10 partner universities from Poland, Germany, Ukraine, Sri Lanka and China</p> <p><i>Role:</i> coordinating secretary</p>	1,4 mill USD	2015-2018
Diku Eurasia	<p>Water Harmony – Integration of Education, Research, Innovation and Entrepreneurship. Curricula development and improvement of teaching tools www.waterh.net</p> <p>10 partner universities from Belarus, Kazakhstan, Kyrgyzstan, Moldova, Tajikistan, Ukraine and Norway</p> <p><i>Role:</i> coordinating secretary</p>	1,7 mill USD	2012-2020

SCHOLARLY ACTIVITIES

Research projects (5)	RCN INTPART	AECO – Advancing Electrochemical processes for water safety and circularity Research partnership with US and Canadian universities and enterprises – coordinated by NMBU <i>Role:</i> project manager, principal investigator	5,8 mill NOK	2020- 2023
	ERA-NET Water JPI	Water Harmony JPI – Closing the Water Cycle Gap with Harmonised Actions for Sustainable Management of Water Resources Research partnership from Sweden, The Netherlands, Poland, Romania, Spain, Israel, US, Australia, China and Singapore – coordinated by NMBU <i>Role:</i> scientific secretary, researcher	2,2 mill USD	2019- 2021
	RFF	HumusTek – New technology for purification of NOM-containing water for reserve water supply <i>Role:</i> research scientist, NMBU as research partner	-	2016- 2018
	Industrial partner	CE-MBR – Development of Chemically Enhanced Membrane Biological Reactor <i>Role:</i> initiator, project manager and principal investigator	-	2015- 2018
	EEA Grants POL-NOR	IMPREC – Improving wastewater treatment with better phosphorus recovery <i>Role:</i> researcher, experimental work on sludge dewatering	0,5 mill USD	2015- 2017

Peer-reviewed journal publications
(17)

Published (12)

- Maletskyi, Z.**; Zigta, D.K.; Kulesha, O.; Ratnaweera, H. Chemical Enhancement for Retrofitting Moving Bed Biofilm and Integrated Fixed Film Activated Sludge Systems into Membrane Bioreactors. *Membranes-Basel* 2019, 9, doi:10.3390/membranes9100135.
- Kulesha, O.; **Maletskyi, Z.**; Kvaal, K.; Ratnaweera, H. Strategy for Flux Enhancement in Biofilm Ceramic Membrane Bioreactor Applying Prepolymerized and Non-Prepolymerized Inorganic Coagulants. *Water-Sui* 2019, 11, doi:10.3390/w11030446.
- Maletskyi, Z.** Water Critical Infrastructure Preparedness in Emerging Economies. In *Physical and Cyber Safety in Critical Water Infrastructure*, Ratnaweera, H., Pivovarov, O., Eds. IOS Press BV: Amsterdam, 2019; pp. 91-99.
- Kulesha, O.; **Maletskyi, Z.**; Ratnaweera, H. State-of-the-art of membrane flux enhancement in membrane bioreactor. *Cogent Eng* 2018, 5, doi:10.1080/23311916.2018.1489700.
- Kulesha, O.; **Maletskyi, Z.**; Ratnaweera, H. Multivariate Chemometric Analysis of Membrane Fouling Patterns in Biofilm Ceramic Membrane Bioreactor. *Water-Sui* 2018, 10, doi:10.3390/w10080982.
- Maletskyi, Z.**; Mitchenko, T.; Makarova, N.; Shevchuk, E.; Kolomiets, Y. Comparative assessment of sorption properties of commercially available and experimental hybrid materials aimed to impurities of As(III) and As(V) in water. *Water & Water purification technologies. Scientific & Technical News* 2012, 1(7), 21-30.
- Orestov, Y.; **Maletskyi, Z.**; Mitchenko, T. Peculiarities of physical-chemical transformation of iron compounds in groundwater. *Water & purification technologies. Scientific & Technical News* 2011, 1(3), 4-11.
- Maletskyi, Z.**; Mitchenko, T.; Makarova, N.; Hoell, W.H. Properties of anion exchange resins exhausted by humic compounds. *Desalin Water Treat* 2011, 25, 78-83, doi:10.5004/dwt.2011.1524.
- Maletskyi, Z.**; Mitchenko, T. About the mechanism of properties transformation of anion exchange resins impregnated with humic substances. *Scientific notes of National Kiev Mohyla Academy. Chemical technologies and science* 2011, 118, 21-30.
- Fendri, F.; Mitchenko, T.; **Maletskyi, Z.** Optimization of the reverse osmosis seawater demineralization technologies for a power producing industry. *Desalin Water Treat* 2011, 25, 84-90, doi:DOI 10.5004/dwt.2011.1832.

11. Shobotov, S.; Kvitka, A.; **Maletskyi, Z.** Structural optimization of double-stage membrane system for seawater demineralization. *Water & Purification Technologies. Scientific & Technical News* 2010, 2(2), 59-72.
12. **Maletskyi, Z.**; Mitchenko, T.; Makarova, N.; Hoell, W. Formation and properties of hybrid sorbents based on anion exchange resins and humic substances. *Scientific notes of National Kiev Mohyla Academy. Chemical technologies and science* 2009, 92, 69-75.

Manuscripts under review (1)

13. Cuprys, A.; **Maletskyi, Z.**; Rouissi, T.; Ratnaweera, H; Knystautas, É; Drogui, P. Simultaneous removal of heavy metals and ciprofloxacin from municipal wastewater using functionalized biochar beads. *Science of the Total Environment*.

Manuscripts under preparation (4)

14. **Maletskyi, Z.**; Litynska M.; Ratnaweera H. Heated Iron Oxide Particles for water treatment: relationship between synthesis conditions and properties. Preparing for: *Water MDPI*. Submission in December 2019
15. **Maletskyi, Z.**; Koltsova E.; Ratnaweera H. UV-VIS spectroscopy for prediction of Trihalomethanes Formation Potential in disinfection of drinking water. Preparing for: *Water MDPI*. Submission in January 2020
16. **Maletskyi Z.**; Shostak V.; Ratnaweera H.; Tarabara V. Natural and synthetic coagulants for water and wastewater treatment: A review. Submission in February 2020
17. Kyrii S.; Kosogina I.; Astrelin I.; Klimenko N.; **Maletskyi Z.**; Ratnaweera H. Towards cradle-to-cradle in alumina refinery: Perspective of bauxite tailings as natural organics adsorbents for water treatment. Submission in February 2020

Book chapters (5)

1. **Maletskyi, Z.** Advances in Membrane Materials and Processes for Water and Wastewater Treatment. In *Multidisciplinary Advances in Efficient Separation Processes*, American Chemical Society: 2020; Vol. 1348, pp. 3-35.
2. **Maletskyi, Z.** Water for boilers. Chemical water treatment. In *Current water issues. Modern water treatment world*, Mitchenko, T., Ed. *WaterNet: Kiev, Ukraine, 2019*; pp. 56-62. ISBN 978-966-97940-1-7
3. **Maletskyi, Z.**; Mitchenko, T. Ion exchange. In *Physico-chemical methods of water treatment. Water resources management*, Astrelin, I., Ratnaweera, H., Eds. *Water Harmony: 2015*. ISBN 978-82-999978-0-5
4. **Maletskyi, Z.** New developments in water and wastewater treatment technologies. In *Physico-chemical methods of water treatment. Water resources management*, Astrelin, I., Ratnaweera, H., Eds. *Water Harmony: 2015*. ISBN 978-82-999978-0-5
5. Orestov, Y.; Mitchenko, T.; **Maletskyi, Z.** Membrane processes. In *Physico-chemical methods of water treatment. Water resources management*, Astrelin, I., Ratnaweera, H., Eds. *Water Harmony: 2015*. ISBN 978-82-999978-0-5

Conferences (17)

1. **Maletskyi, Z.**; Zigta, D. Membrane fouling control in centralized and decentralized Bf-MBR wastewater treatment plants. In *Proceedings of IWA Water and Development Congress and Exhibition, Colombo, Sri Lanka, 1-5 December 2019*.
2. **Maletskyi, Z.**; Ratnaweera, H.; Kulesha, O. Membrane fouling reduction in biofilm MBR applying polymeric and monomeric inorganic coagulants. In *Proceedings of The 9th IWA Membrane Technology Conference and Exhibition for Water and Wastewater Treatment and Reuse, Toulouse, France, 23-27 June 2019*; pp. 67-68.
3. **Maletskyi, Z.**; Kulesha, O. Comparison of Al- and Fe-based Membrane Fouling Reducers for Biofilm Membrane Bioreactor. *Euromembrane, Valencia, Spain, 9-13 July 2018*.
4. **Maletskyi, Z.**; Kulesha, O. Fouling behavior of chemically modified mixed liquor from submerged ceramic biofilm-membrane bioreactor. *Abstr Pap Am Chem S 2018*, 256.
5. **Maletskyi, Z.** Multiple water sources and water-smart society for emerging markets. In *Proceedings of 9th International Conference on Sustainable Built Environment (ICSBE)*, Kandy, Sri Lanka, 13-15 December 2018.
6. **Maletskyi, Z.** Towards water-smart circular economy. Building a case in organic farming. In *Proceedings of 5th International Water Forum "Water Resources and Climate"*, Minsk, Belarus,

5-6 October 2017.

7. Kulesha, O.; **Maletskyi, Z.**; Todt, D.; Ratnaweera, H. Development and validation of performance evaluation protocol for small wastewater treatment MBR systems In Proceedings of S2SMALL International IWA Conference on Sustainable Solutions for Small Water and Wastewater Treatment Systems, Nantes, France, 22-26 October 2017.
8. **Maletskyi, Z.**; Mitchenko, T. Human Right to Water in Countries with Transition Economy: Water Quality Monitoring Issues. In Proceedings of IWA World Water Congress, Lisbon, Portugal, 21-26 September 2014.
9. **Maletskyi, Z.**; Mitchenko, T.; Shevchuk, E.; Stender, P.; Kolomiets, Y. Comparative assessment of filter media for arsenic removal from drinking water: Commercially available and perspective hybrid sorbents. In Proceedings of 11th World Filtration Congress, Graz, Austria, 16-20 April 2012.
10. **Maletskyi, Z.**; Mitchenko, T.; Makarova, N. Obtaining and properties investigation of Hybrid Sorbents based on nanoparticles of Humic Substances. In Proceedings of IWA Specialist Conference "Applications of Nanotechnology in the Water Sector", Monte Verità, Ascona, Switzerland, 15 May 2011; p. 83.
11. **Maletskyi, Z.**; Mitchenko, T.; Shevchuk, E.; Orestov, Y. Hybrid sorbents for iron removal process in RO technologies. In Proceedings of International Congress on Membranes and Membrane Processes, Amsterdam, The Netherlands, 23-29 July 2011.
12. **Maletskyi, Z.**; Mitchenko, T.; Shevchuk, E.; Orestov, Y. Prevention of Iron fouling by feed water pretreatment with hybrid sorbent. In Proceedings of 6th IWA Specialist Conference on Membrane Technology for Water & Wastewater Treatment, Aachen, Germany, 4-7 October 2011.
13. Fendri, F.; Mitchenko, T.; **Maletskyi, Z.** Cost-effective seawater desalination technology based on reuse of municipal water. In Proceedings of International Conference EuroMed, Tel Aviv, Israel, 3-7 October 2010; p. 87.
14. **Maletskyi, Z.**; Mitchenko, T.; Makarova, N.; Shevchuk, E. Eliminating Arsenic from RO concentrates by the reuse of anion exchange resins. In Proceedings of International Conference EuroMed, Tel Aviv, Israel, 3-7 October 2010; pp. 85-87.
15. Fendri, F.; Mitchenko, T.; **Maletskyi, Z.** Varying seawater salinity as optimization factor in water demineralization and efficient way of municipal wastewater utilization. In Proceedings of IWA Regional Conference and Exhibition on Membrane Technology and Water Reuse, Istanbul, Turkey, 18-22 October 2010; pp. 684-687.
16. Makarova, N.; Mitchenko, T.; Shevchuk, E.; **Maletskyi, Z.** Investigation and development of special hybrid sorbents for application in membrane technologies of arsenic extraction from water. In Proceedings of IWA Regional Conference and Exhibition on Membrane Technology and Water Reuse, Istanbul, Turkey, 18-22 October 2010; pp. 68-70.
17. **Maletskyi, Z.**; Mitchenko, T.; Wolfgang, H.; Makarova, N.; Sus, M. Hybrid sorbents based on exhausted anion exchange resins for iron removal. In Proceedings of Desalination for the Environment, Baden Baden, Germany, 2009.

Patents (3)

1. Mitchenko, T.; Mitchenko, A.; Stender, P.; **Maletskyi, Z.**; Shemetun, O.; Yefymovych, O. Thermo-insulation shell. UA77845, 2013-02-25, 2013. [Product](#)
2. Mitchenko, T.; Mitchenko, A.; Stender, P.; **Maletskyi, Z.** Automatic machine for the treatment and discharge of potable water to consumer container. UA78210, 2013-03-11, 2013. [Product](#)
3. Mitchenko, T.; **Maletskyi, Z.**; Orestov, Y.; Shevchuk, O. Means for stabilization treatment of water, process for preparation of such means, cartridge filler for filters containing such means, and process for treatment of water on membranes of reverse osmosis using such means. UA104361, 2014-01-27, 2012. [Product](#)

Other publications (8)

Popular science and technical publications, as the contributing editor of the "Water & Purification Technologies" magazine

1. EcoTechnologies of Water Treatment. **Maletskyi, Z.** 2015. 1-2: WaterNet, May 2015, Water & Purification Technologies Magazine, Vols. 75-76, pp. 4-12.
2. Effectiveness of drinking water filters during the spring time. **Maletskyi, Z.** 2013. 1: WaterNet, March 2013, Water & Purification Technologies Magazine, Vol. 67, pp. 16-32.

3. Industrial water desalination. **Maletskyi, Z.** 2013. 3: WaterNet, November 2013, Water & Purification Technologies Magazine, Vol. 69, pp. 4-12.
4. Membrane technology for water treatment and desalination. **Maletskyi, Z.** 2010. WaterNet, 2010, Water & Purification Technologies Magazine, Vols. 9-10.
5. Reverse Osmosis: Chemistry and Technology. **Maletskyi, Z.** 2011. 1: WaterNet, February 2011, Water & Purification Technologies Magazine, Vol. 55, pp. 22-28.
6. Water Desalination and energy saving technologies. **Maletskyi, Z.** 2010. WaterNet, 2010, Water & Purification Technologies Magazine, Vols. 11-12.

SERVICE ACTIVITIES

University service	Development of the WESH group research strategy (2018-2019) Coordination of the strategic PhD program at the faculty "Environmental effects on societal infrastructure – water" (2017)
Research and innovation networks	Management Committee member: EU COST Action CA19123 – Protection, Resilience, Rehabilitation of damaged environment, Management Committee substitute: EU COST Action CA19139 – Process-based models for climate impact attribution across sectors
Professional service	<u>Boards, committees, and societies</u> Board member: Forum for technology and development cooperation (Tekna-FTU), Norway Co-leader: Water Human Capital, Working Group of the Water Europe, European Technology Platform, European Commission, Brussels, Belgium Program coordinator: Professional Certification program of the Water Quality Association (WQA, US) in Russian speaking countries (2013-2015) National organiser: Stockholm Junior Water Prize, Stockholm International Water Institute (2012-2014, responsible for Ukraine) <u>Conferences, workshops and seminars organized</u> Scientific committee secretary: European Water Association & International Water Association joint conference "Water Management in Cold Climate", Harbin, China, 2020 Workshops co-facilitator: International Water Association World Water Development Congress, Colombo, Sri Lanka, 2019 Rapporteur: European Water Association Green Capital Conference: Sustainable urban drainage solutions (SUDS), Oslo, 2019, Workshop Coordinator: NATO Science for Peace, Water Safety Advanced Research Workshop, Norway-Germany, 2018 Scientific committee secretary: International Water Association, Particle Separation Conference, Oslo, Norway, 2016 Scientific committee secretary: European Water Association, Water Management in Cold Climate Conference, Spitsbergen, Norway <u>Expert panels</u> UN, WHO, UNECE Protocol on water & health Technical expert on water and health. Workshop of the European Union Water Initiative Plus for the Eastern Partnership (EUWI+ 4 EaP), 2 April 2019, United Nations, Geneva, Switzerland Technical expert on sanitation in the pan-European region. Meeting of policymakers and experts, WHO, 12-13 February 2019, Bonn, Germany Member of the expert team for the sanitation scoping study in the pan-European region (review for 56 countries), WHO/UNECE joint secretariat, Protocol on water & health

Peer-review

IWA Water Research; MDPI Water; MDPI Membranes; Water, Air, & Soil Pollution; Elsevier Desalination; MDPI Resources; MDPI Toxins