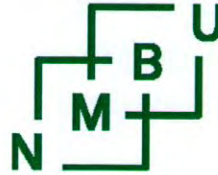




Direktoratet for
Internasjonalisering
og kvalitetsutvikling
i høyere utdanning



Norwegian University
of Life Sciences

Certificate of Completion

is awarded to

Prof. Serhii Martynov

National University of Water and Environmental Engineering

for participation in the **Staff Professional Development Training Program**
“**Innovative Pedagogy in Water Educational Programs of the Higher School**” of
Water Harmony Project, co-funded by the Norwegian Agency for International
Cooperation and Quality Enhancement in Higher Education, 2020-2022.
(list of trainings enclosed)

Harsha Ratnaweera, PhD
Project Manager – Water Harmony - II
Professor in Water & Wastewater Treatment
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P O Box 5003, 1432 Ås,
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Water Harmony
Eurasia-II

14th June 2022

No 0026

Staff Professional Development Training Program
2020-2022
50 hours

No	Lectures and Training Sessions	Dates	Hours
1	<p>Lecture. Digitalization of higher education:</p> <ul style="list-style-type: none"> - Introduction and structure of the professional development program - Status and trends in the digital transformation of the education sector - Online learning management systems (LMS) - Online active learning tools <p>Prof. H. Ratnaweera, Dr. Z. Maletsky, Norwegian University of Life Sciences (Ås, Norway)</p>	21-05-2020	3.0
2	<p>Lecture. Modern methods of active learning:</p> <ul style="list-style-type: none"> - Active Learning Methods: Overview and Trends - Cooperative learning (I-You-We techniques) - Minute Paper Technique - Mutual learning (Peer Learning, Stump Your Partner, Catchup techniques) - Problem based learning <p>Prof. H. Ratnaweera, Dr. Z. Maletsky, Norwegian University of Life Sciences (Ås, Norway)</p>	08-06-2020	3.0
3	<p>Lecture. Modern analytical methods for the study of water and materials:</p> <ul style="list-style-type: none"> - Review of analytical methods: spectroscopy, mass spectrometry, chromatography <p>Dr. Z. Maletsky, Norwegian University of Life Sciences (Ås, Norway)</p> <p>Virus analysis and research, including SARS</p> <p>Prof. V. Tarabara, Michigan State University (Lensing, USA)</p> <p>Raman spectroscopy and fluorescence</p> <p>Prof. I. Chernyshova, Columbia University (New York, USA)</p> <p>IR spectroscopy and scanning electron microscopy</p> <p>Prof. G. Korshin, University of Washington (Seattle, USA)</p>	08-07-2020	4.0
4	<p>Lecture. Online water quality measurements in the treatment process:</p> <ul style="list-style-type: none"> - The need for online monitoring - Water sampling: methods, possible errors, equipment - Real-time physical sensors: UV-visible absorption; Ion selective electrodes - Auto-analyzers: Flow injection analysis/sequential injection analysis; Microanalyzers, lab-on-a-chip analyzer - Virtual sensors (soft sensors, proxy settings) - Practical tasks and potential - Trends and technological developments <p>Prof. H. Ratnaweera, Dr. Z. Maletsky, Norwegian University of Life Sciences (Ås, Norway), Prof. S. Kalinowski, Warmia-Mazury University (Olsztyn, Poland)</p>	30-10-2020	3.0
5	<p>Lecture. Preparation of scientific publications:</p> <ul style="list-style-type: none"> - When to publish - Where to publish (open access, peer-reviewed journals, predatory journals) - Publishing process - How to organize your manuscript - Common mistakes leading to failure - How to work with links (mendeley.com) - How to present your publications and increase your scientific statistics: ORCID, Scopus, Researchgate, Google Scholar <p>Prof. H. Ratnaweera, Dr. Z. Maletsky, Norwegian University of Life Sciences (Ås,</p>	13-11-2020	3.0

6	Norway), Dr. N. Sivchenko, DOSCON (Oslo, Norway) Lecture. Building Information Modelling and Digital Twins: - Building Information Modelling (BIM) - Digital twins Prof. H. Ratnaweera, Norwegian University of Life Sciences (Ås, Norway), BIM Ing. O. Shelestina, Norsk Wavin (Oslo, Norway)	04-12-2020	2.5
7	Lecture. Circular Economy: - Linear economy and sustainable development - Circular economy in the water sector - Technologies for the reuse of water, energy and other valuable resources Dr. Z. Maletsky, Norwegian University of Life Sciences (Ås, Norway)	09-06-2021	1.0
8	Lecture. Preparation of successful grant applications: - Strategic planning for winning bids (how to assess the chances of winning and the understanding of the evaluators) - How to get maximum grades according to formal requirements? (Best Practices for Formulating Common Sections in Applications in the EU) Prof. H. Ratnaweera, Dr. Z. Maletsky, Norwegian University of Life Sciences (Ås, Norway)	18-10-2021	2.0
9	Lecture. Involvement of international organizations - opportunities for IWA, EWA, WaterEurope Prof. H. Ratnaweera, Norwegian University of Life Sciences (Ås, Norway)	19-11-2021	1.5
10	Lecture. Challenges of the next decade and technological solutions: - Challenges of the next decade and technological solutions - New pollutants and their fate in water treatment Prof. H. Ratnaweera, Dr. Z. Maletsky, Norwegian University of Life Sciences (Ås, Norway)	10-12-2021	2.0
11	Lecture. Physical and cyber risks in the water sector Prof. H. Ratnaweera, Norwegian University of Life Sciences (Ås, Norway)	13-06-2022	1.5
12	Review lectures materials and tutorial of lab works	2020-2022	23.5

Total hours: 50