

RIS-RESTORE

SUMMER SCHOOL 2021

30.8. - 3.9.2021
Online

The appearance of circular economy concept
and industrial symbiosis in the utilization of red mud



Cutting edge
lectures



Industrial
symbiosis



REE recycling



Group work



Innovation pitching



Networking

Basic information

RIS-RESTORE

Organized by RIS-RESTORE project partners



TECHNISCHE
UNIVERSITÄT
WIEN
Vienna University of Technology



ZAVOD ZA
GRADENISTVO
SLOVENIJE
SLOVENIAN
NATIONAL BUILDING
AND CIVIL ENGINEERING
INSTITUTE



Alumina
d.o.o. Zvornik



BOSNA I HERCEGOVINA
FEDERACIJA BOSNE I HERCEGOVINE
FEDERALNI ZAVOD ZA GEOLOGIJU



UNIVERSITY OF NOVI SAD
FACULTY OF
TECHNOLOGY
NOVI SAD



University of Ljubljana
Faculty of Natural Sciences and Engineering



enviro^{ti}s
HOLDING

bay
Bay Zoltán
Nonprofit Ltd.
for Applied Research

Metso:Outotec

N NEMETALI

When: 5-day course; 30.8.-3.9. (Monday –Friday)

Registration deadline: 25th of August

Register at:

<http://ris-restore.zag.si/summer-school>



Basic information

RIS-RESTORE

Why apply?

- ▶ Awarded with 1 ECTS!
- ▶ State of the art knowledge on red-mud
- ▶ Learning on the principles of Industrial symbiosis and circular economy
- ▶ Networking activities with other participants & group work
- ▶ Short innovation pitching course



Which topics?

The Summer school will cover state of the art lectures in the topics of:

- ▶ Red-mud characterization (Day 1)
- ▶ Deposits in the ESEE region (Day 2)
- ▶ Extraction of REE from red mud (Day 3)
- ▶ Implementing industrial symbiosis - red mud recycling options (Day 4)
- ▶ Red mud utilization in the construction sector (Day 5)
- ▶ Short innovation pitching course & pitching session (Day 3 & 5)

Basic information

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Who should apply?

Summer school is focusing on the capacity building of the Master and PhD students from the ESEE region (Bosnia & Herzegovina, Serbia, Slovenia, Croatia, Montenegro, Greece, North Macedonia, Albania, Romania, Bulgaria). Other interested participants (researchers, professionals) will be selected on a case by case basis, depending on the open spaces after the 20th of August.

The limit of participants is set to 25 and the following selection criteria will apply, if more will be registered:

- Master/PhD student from the ESEE region (Bosnia & Herzegovina, Hungary, Serbia, Slovenia, Croatia, Montenegro, Greece, North Macedonia, Albania, Romania, Bulgaria)
- Field of study (Chemistry, Metallurgy, Mining, Geology, Materials science, Environmental sciences)
- Motivational letter



The student applicants will be selected upon fulfillment of the above criteria on a first-come, first-serve basis. Other interested participants will be informed after 20th of August on the available open spaces. Selection criteria will be based on their field of profession, the same as fields of study listed above, and the date of application following first-come, first-serve principle.

Registration deadline: 25th of August



Schedule

RIS-RESTORE

Date	30.8.	31.8.	1.9.	2.9.	3.9.
Time/Title	Day 1: Red-Mud "101"	Day 2: Red-Mud deposits in the ESEE region	Day 3: Extraction of REE from red mud	Day 4: Implementing industrial symbiosis - red mud recycling options	Day 5: Implementing industrial symbiosis - red mud recycling options in construction sector
9:00 - 9:15	Introduction	Introduction	Introduction	Introduction	Introduction
9:15 - 9:30	RIS -RESTORE project; Dr. Ana Mladenovič, Dr. Mateja Košir	Red mud in Podgorica - methods of red mud disposal, environmental problems in the surrounding area of red mud landfill / special review of the impact on groundwater, landfill management (specific examples from the field): MSc Gordana Djukanović	REE elements in bauxites and red mud In Montenegro: Dr.Slobodan Radusinović	Industrial symbiosis principles : Dr. Alenka Mauko Pranjič	Red mud utilization in the construction sector /remediation of contaminated soil with red mud: Dr. Ana Mladenovič Dr. Vesna Zalar Serjun Dr. Primož Oprčkal
9:30 - 9:45					
9:45 - 10:00					
10:00 - 10:15	Production of red mud-bauxite residue; Alumina d.o.o	Red mud tailing Dobro Selo /Mostar/: influence on the environment: Dr sc. Alisa Babajič	Magnetic separation techniques for red mud: Dr. Matej Dolenec/Uroš Herlec	Production of ceramic materials based on the byproducts: Laboratory and industrial level: Dr. Snežana Vučetić, Helena Hirsengerger and Prof. Janja Ranogajec	Red mud based geopolymers: prof. Mira Vukčević
10:15 - 10:30					
10:30 - 10:45					
10:45 - 11:00	Coffee break	Coffee break	Coffee break	Coffee break	Coffee break



Schedule

RIS-RESTORE

Date	30.8.	31.8,	1.9.	2.9.	3.9.
11:00 - 11:15	Mineralogy of bauxite and red mud; prof. Nenad Tomašić	Proposals for the remediation of the red mud landfill Dobro Selo near Mostar, Bosnia and Herzegovina: MSc Vedad Demir	"Apples to Aerospace": Dr Colin Collino	From mud to bud: tailings and nanotechnologies: Dr Suzana Gotovac Atlagić	Pitching session: Introduction
11:15 - 11:30		Implementing SWOT Analysis for red mud valorization; Case studies of 4 Ris -Restore regions: NTUA			5 pitches from student groups in max duration 5 minutes.
11:30 - 11:45		Discussion			
11:45 - 12:00	Bauxite residue processing routes: Dr Panagiotis Davris		Discussion		
12:00 - 12:15		Chemical analysis of red mud and other secondary raw materials: Bence Kószó	Lunch break	Lunch break	
12:15 - 12:30					
12:30 - 12:45					
12:45 - 13:00	Discussion	Lunch break	Lunch break		
13:00 - 13:15	Lunch break				
13:15 - 13:30					
13:30 - 13:45					
13:45 - 14:00					
14:00 - 14:30	Interactive group work	Video lab tours	Pitching workshop: Ljubljana University Incubator	Group work	
14:30 - 15:00					
15:00 – 16:00					

