

V EUROPEAN RM@SCHOOLS CONFERENCE

WEBINARS, WORKSHOPS AND ON-LINE GAMES

3-4 DECEMBER 2020 - Time: 14:30-17:30

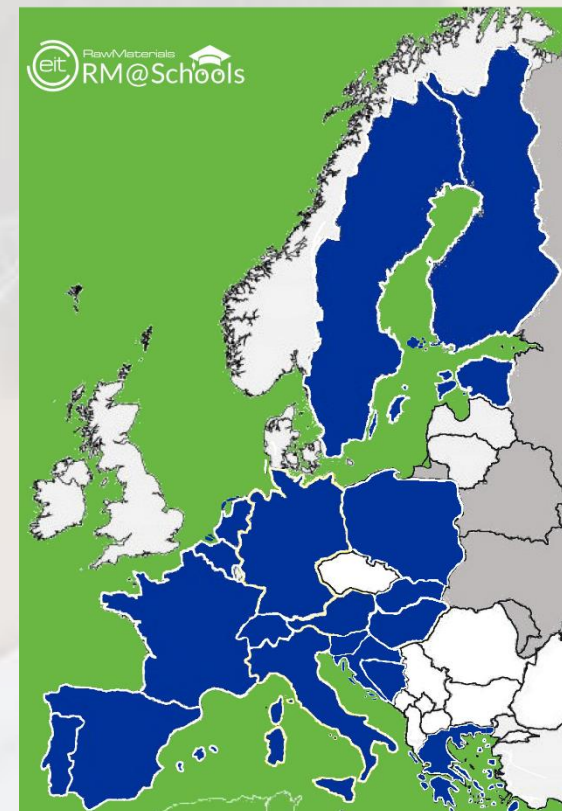
PROGRAMME FOR THE AFTERNOON SESSIONS

3rd of December

- 14:30 - 15:30 Mineral resources, sustainability and history in Congo - SGU, Sweden
- 15:00 – 15:30 Raw materials in solar cells: state of art and perspective - University of Milano Bicocca, Italy
- 15:30 -16:30 RAWsiko – Materials around us (game) - CNR, Italy
- 15:30 -16:00 RockCheck – you rock the rocks - GeoZS, Slovenia
- 15:30 - 16:30 Online Teaching – Didactical Approaches, Tools and Open Discussion (teachers), RWTH, Germany
- 15:45 -16:45 Where do my electronic devices end up? (webinar + game) - UPM, Spain
- 16:15 - 17:00 Who wants to be a RM-ambassador (game) - NTUA, Greece
- 16:30 - 17:30 Teach about raw materials using Minecraft! (teachers) - SGU, Sweden

4TH of December

- 14:30 - 15:45 Innovation for Sustainability, MyClimate, Switzerland
- 14:45 - 15:30 WEEE jungle: the (electronic) urban mining, ERION, Italy
- 15:00 -16:30 EP@Schools: Learning project management via toolkits (teachers) - IFAM, Germany
- 15:30 - 16:00 3D Mapping of Flooded Mine by Robotic System, University of Miskolc, Hungary
- 15:45 - 16:15 Circular economy: creating a world without waste (interactive quiz)- VITO, Belgium
- 16:00 - 16:30 RockCheck - how to teach innovatively about rocks with a connection to raw materials? (teachers)- GeoZS, Slovenia
- 16:20 - 16:40 Sustainable hydrogen and carbon supply and energy mining, MUL, Austria
- 16:30 - 17:30 Repository of ideas: A few words about circular economy, AGH, Poland
- 16:30 -17:30 RAWsiko – Materials around us, (game), CNR, Italy



Website: <http://rmschools.eu>

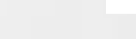
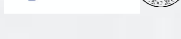
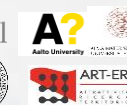
Organising committee:

A. Degli Esposti, R.Lapinska-Viola, A. Torreggiani (ISOF- CNR), M.Tassistro (SCITEC-CNR), L. Forini

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In connection with:



3rd of December

Time	14:30-15:30	15:00-15.30	15:30-16:30	15:30-16:00
Title	Mineral resources, sustainability and history in Congo	Raw materials in solar cells: state of art and perspective	RAWsiko Materials around us	RockCheck you rock the rocks
Organiser	Geological Survey of Sweden SGU (SE)	University of Milano Bicocca (IT)	National Research Council of Italy (CNR) (IT)	Geological Survey of Slovenia GeoZS (SI)
Abstract	<p>The Democratic Republic of Congo has been in active conflict during several hundred years, many times due to the country's rich natural resources – i.e. minerals like cobalt, copper and uranium. This webinar is focused on complex societal issues about human rights, sustainability and mineral resources and sustainable development on the basis of Congo history.</p> <p>The webinar is given by two geologists who have lived and worked in Congo for several years and have in-depth knowledge of the current situation.</p>	<p>All major future energy scenarios forecast a key role for photovoltaic solar energy (PV). PV is renewable and has a huge global potential. The raw material of almost all solar cells today is crystalline silicon that is one of the most widely available elements. A reliable and low-cost supply of raw materials ensures that solar will continue to become an increasingly attractive source of electricity.</p> <p>In this webinar after a short review of the state of art of the PV, we will consider raw materials availability for the various solar-pv technologies and which role they play into the future of PV manufacturing and development.</p>	<p>Play with your friend to the new digital RAWsiko, inspired by the classic game "Risiko!"</p> <p>The game is set in a not defined future where China decided to close its borders. From this moment, a desperate "raw materials rush" begins. You are the head of a company and you have to secure access to the Critical Raw Materials for your business!</p>	<p>Did you know that rocks have an enormous influence on your life?</p> <p>From sources of water and energy to different metals and minerals, even our buildings and infrastructure are made of them.</p> <p>Have you ever picked up a rock and stored it somewhere in your home? It is a good time to find it again. Join a webinar and learn more about your rock and its use with the RockCheck app on your mobile phone.</p>
Duration	1h	30 min	1h	30 min
Registration/ link to meeting:	<p>Link to meeting (ZOOM): https://zoom.us/j/97210106935?pwd=ZngrdkxMMTBQNG0vb0xKYINGaXRFZz09 Meeting ID: 972 1010 6935 Passcode: 373979</p>	<p>Link to meeting: https://unimib.webex.com/meet/simona.binetti</p>	<p>Sign up to the Rawsiko game online here Deadline for registration: 02/12/2020</p>	<p>Link to meeting (ZOOM): https://zoom.us/j/96794674555</p>

Time	15:30-16:30	15:45-16:45	16:15-17:00	16:30-17:30
Title	Online Teaching – Didactical Approaches, Tools and Open Discussion	Where do my electronic devices end up?	Who wants to be a RM-ambassador	Teach about raw materials using Minecraft!
Organiser	RWTH Aachen University (DE)	Universidad Politécnica de Madrid (ES)	National Technical University of Athens, Mineralogical Museum gaio-ORAMA (GR)	Geological Survey of Sweden, SGU (SE)
Abstract	In an interactive session we will discuss the current situation and challenges of online teaching. Which tools are available? What possibilities do I have to interact with my students? How can I best combine synchronous and asynchronous work phases? Teachers can learn to design their online teaching lessons with didactic concepts in mind, share their own experiences and get to know different tools that facilitate interaction and collaboration.	A short introduction will be given on critical raw materials and the circular economy, exposing the problem of electronic waste and electric batteries, as well as the need for urban mining. At the end a Kahoot quiz will be held to reinforce the knowledge that has been explained.	This on-line quiz game is based on the concept of the well-known TV quiz “Who wants to be a millionaire?” It includes questions of increasing difficulty on raw materials (RM). The main objectives of the game are to provide knowledge about the RM origin, properties, uses, etc., to highlight their importance in our everyday lives.	Join in on a webinar about raw materials, circular economy and sustainability in Minecraft! Using the modification BetterGeo, learn to teach about these subjects using one of the most popular games in the world. The webinar will feature an overview of gamification in general, the BetterGeo modification as well as the different teaching tools available.
Duration	1h	1h	45 min	1h
Registration/link to meeting:	Register to the meeting by 02/12/2020. Mail to: Lea Daling lea.daling@ima.rwth-aachen.de	Link to meeting (Teams): Follow the link	Register to the meeting by 02/12/2020. Link for registration: https://forms.gle/QFJNoR1Y6QG D4Hbo8	Link to meeting (ZOOM): Follow the link Meeting ID: 910 2579 5847 Passcode: 511649

4th of December

Time	14:30-15:45	14:45-15:30	15:00-16:30
Title	Innovation for Sustainability	The WEEE jungle: the (electronic) urban mining	EP@schools: Learning project management via toolkits
Organiser	Myclimate, Switzerland (CH)	ERION, Italy, (IT)	Fraunhofer IFAM, Germany (GE)
Abstract	<p>How to explore new and innovative ideas to tackle sustainability issues? Participants will solve a sustainability challenge in small groups and create projects and business ideas. Guided by a clear process and visual elements, they learn to ask the right questions and find answers. Let's be creative!</p>	<p>Do you want to discover more about what e-waste (electronic waste), officially known as WEEE, are? And to follow their entire value chain? Join this webinar and you will also find out that both your video-game console and your smartphone are "pocket mines" and how many important materials there are in this waste stream too! In addition, there will be a few interactive questions via Mentimeter.com and the vision of a short video (4'30").</p>	<p>The RM@Schools website offers a new toolkit combining information and teaching/learning material on the topic of bio-based composites with project management subjects. This webinar aims at introducing the idea of this offer and raising teachers' awareness of the different ways in which they can use this material in class or in homeschooling.</p>
Duration	75 min	45 min	90 min
Registration/ link to meeting:	Mail to Florian Strasser: florian.strasser@myclimate.org	Mail to: Antonella Castellano antonella.castellano@erion.it by 27/11/2020.	Mail to: Beate Brede beate.brede@ifam.fraunhofer.de by 01/12/2020.

Time	15:30-16:00	15:45-16:15	16:00-16:30
Title	3D Mapping of Flooded Mine by Robotic System	Circular economy: creating a world without waste (interactive quiz)	RockCheck - how to teach innovatively about rocks with a connection to raw materials?
Organiser	University of Miskolc, Hungary (HU)	VITO, Belgium (B)	Geological Survey of Slovenia, GeoZS (SI)
Abstract	A novel robotic system was developed for the autonomous exploration and mapping of Europe's flooded mines. The Robotic Explorer platform, made by three robots, uses non-invasive methods for autonomous 3D mine mapping for gathering valuable geological, mineralogical and spatial information. Connect to our webinar!	This online workshop offers a combination of informative content and interactivity by means of a quiz. The aim is to present the raw material challenges that are a consequence of our wasteful linear economy and to outline the principles of circular economy using everyday products and services. Participants are invited to think about an economy that manages materials in a linear way and propose solutions.	We introduce the RockCheck Toolkit - a learning module that uses an innovative Android app RockCheck to teach about rocks with connection to raw materials. It makes lessons more interesting, effective and helps to reach younger generations. In the webinar you will learn more about the app, exercises and how to use them in class or as a tool for distance learning.
Duration	30 min	30 min	30 min
Registration/ link to meeting:	For registration mail to: rmatschools@uni-miskolc.hu . Link to meeting (ZOOM): https://zoom.us/j/98296137301?pwd=Y01YMVY5K1JkWm1uMjY5OFVGBFpUT09 Meeting ID: 982 9613 7301 Passcode: 321058	For registration mail to: saskia.manshoven@vito.be Link to meeting: (ZOOM) https://vito.zoom.us/j/85862259448?pwd=SDZVclYxcnAwOTNtaHE3VWliUUhXZz09	Link to meeting: (ZOOM) https://zoom.us/j/96769576092

Time	16:20-16:40	16:30-17:30	16:30-17:30
Title	Sustainable hydrogen and carbon supply and energy mining	Repository of ideas: A few words about circular economy	RAWsiko-Materials around us
Organiser	Montanuniversität Leoben (MUL) (A)	University of Science and Technology (AGH) (PL)	National Research Council of Italy (CNR) (IT)
Abstract	Sustainable Carbon Supply and Energy Mining based on Methane decomposition is seen as a major contribution to a future carbon footprint reduction while maintaining a sustainable supply with raw materials and green energy	A Circular Economy is an economic concept in which products, materials and raw materials should remain in circulation for as long as possible, thereby seeking to minimise the amount of waste generated. The concept covers all stages of a product's life cycle - from design, through production, consumption, to waste. Its main objective is to move away from a linear economy (where waste is treated as the last stage of the life cycle) and shift towards the circular economy model where that the resulting waste is treated as secondary raw materials.	RAWsiko is a variation of the classic game "Risiko!" structured around Critical Raw Materials. The game is set in a future where China decided to put embargo on export of its raw materials. In the face of this decision, a desperate "raw materials rush" has begun. You are the head of a company and you have to secure access to the Critical Raw Materials for your business!
Duration	20 min	1h	1h
Registration/ link to meeting:	Link to meeting: https://unileoben.webex.com/unileoben/j.php?MTID=mf3cba411e78cc0c49a16e6bae1ba4b20	Register to the meeting by 01/12/2020. Link for registration: https://forms.gle/K1NNh8L5wtWT2Xjv6	Sign up to the Rawsiko game online here Deadline for registration: 02/12/2020