

Id	Title	Date	Participants	Description	Research groups	Journal	DOI
37850604	Assessment and characterization of subsidence in the Catalan Potash Basin.	13/12/2023	Sidri Rius, Nor;Sanmiquel Pera, Lluís;Bascompta Massanes, Marc	La potassa és essencial per a la vida en el planeta Terra, ja que és necessària per a tots els éssers vius que hi habiten, com les plantes, els animals o els éssers humans. A Europa, aquest mineral es produeix principalment a Alemanya i a Espanya, la seva producció consisteix fins al 10% de l'oferta mundial. A causa de l'increment de la població mundial, és possible que sigui necessària una major demanda de potassa, fet que podria conduir a què les activitats minereshaguessin d'arribar a profunditats majors per tal d'extreure aquest recurs essencial, incrementant la inestabilitat d'aquestes infraestructures així com la possibilitat de generar impactes ambientals i socials, com és el cas a Espanya. A modular microflow injection analysis (microFIA) system for the determination of Fe(III) in a bioleaching reactor has been designed, developed and validated. The different modules of the analyzer (mixer, diluter, disperser and detector) were 3D-printed. Fe(III) quantification is due by measuring the color intensity of the chelate formed between Fe(III) and salicylic acid at 525 nm. The device has been designed to dilute, disperse and detect high Fe(III) concentrations in the form of an inexpensive multi-step photometric flow cell that uses an light-emitting diode (LED) as a light source and an light-dependent resistor (LDR) as a light intensity detector. This microFIA system has been shown to be	RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles		
37828105	Microflow injection analysis based on modular 3D platforms and colorimetric detection for Fe(III) monitoring in a wide concentration range	2/12/2023	Ricart Fort, David;Dorado Castaño, Antonio David;Lao Luque, Concepcion;Baeza Labat, Mireia	Tropospheric ozone (O3) is a secondary air pollutant that affects human health, vegetation and climate, especially in Mediterranean countries such as Spain. In order to tackle this long-standing issue, the Spanish government recently started to design the Spanish O3 Mitigation Plan. To support this initiative and ultimately provide recommendations, we performed a first ambitious emission and air quality modeling exercise. This study presents the development of different emission scenarios - aligned with or beyond the measures planned for 2030 in Spain - and the modeling of their respective impact on the O3 pollution across Spain (in July 2019) with both MONARCH and WRF-CMAQ air quality	RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles	Mikrochimica acta (1966)	10.1007/s00604-023-06029-x
36636193	Assessing ozone abatement scenarios in the framework of the Spanish ozone mitigation plan	1/12/2023	Petetin, Hervé;Guevara Vilardell, Marc;Garatachea Solé, Roger;López Coronado, Franco Rodrigo;De Oliveira, Kevin;Enciso, Santiago;Jorba Casellas, Oriol;Querol Carceller, Xavier;Massagué Obradors, Jordi;Alastuey Urós, Andrés;Pérez García-Pando, Carlos	This study aimed to investigate the causes of contrasting ozone (O3) trends in Spanish O3 hotspots between 2008 and 2019, as documented in recent studies. The analysis involved data on key O3 precursors, such as nitrogen oxides (NOx) and volatile organic compounds (VOCs), among other species, along with meteorological parameters associated with O3. The dataset comprised ground-level and satellite observations, emissions inventory estimates, and meteorological reanalysis. The results suggest that the increasing O3 trends observed in the Madrid area were mostly due to major decreases in NOx emissions from the road transport sector in this urban VOC-limited		Science of the total environment	10.1016/j.scitotenv.2023.165380
37836245	Drivers of divergent trends in tropospheric ozone hotspots in Spain, 2008-2019	28/11/2023	Massagué Obradors, Jordi;Escudero Tellechea, Miguel;Alastuey Urós, Andrés;Monfort Gimeno, Eliseo;Gangoiti Bengoa, Gotzon;Petetin, Hervé;Pérez García-Pando, Carlos;Querol Carceller, Xavier	This study aims to picture the phenomenology of urban ambient total lung deposited surface area (LDSA) (including head/throat (HA), tracheobronchial (TB), and alveolar (ALV) regions) based on multiple path particle dosimetry (MPPD) model during 2017-2019 period collected from urban background (UB, n = 15), traffic (TR, n = 6), suburban background (SUB, n = 4), and regional background (RB, n = 1) monitoring sites in Europe (25) and USA (1). Briefly, the spatial-temporal distribution characteristics of the deposition of LDSA, including diel, weekly, and seasonal patterns, were analyzed. Then, the relationship between LDSA and other air quality metrics at each		Air quality, atmosphere & health	10.1007/s11869-023-01468-0
36996210	Ambient air particulate total lung deposited surface area (LDSA) levels in urban Europe	10/11/2023	Liu, Xiansheng;Hadiatullah, Hadiatullah;Zhang, Xun;Trechera Ruiz, Pedro;Savakoochi, Marjan;Garcia Marlès, Meritxell;Reche, Cristina;Perez Lozano, Noemi;Beddows, David;Salma, Imre;Thén, Wanda;Kalkavouras, Panayiotis			Science of the total environment	10.1016/j.scitotenv.2023.165466

37748110	Economic performance of Spanish mining industry	10/11/2023	Yousefian, Mohammad;Sidki Rius, Nor		RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles		
37787401	Impacte 2022 Doctorats Industrials	3/10/2023	Pourmohammad Golloujeh, Mahsa				
37160502	Mass transfer vectors for nitric oxide removal through biological treatments	2/10/2023	Cubides Paez, David Fernando;Guimera Villalba, Xavier;Abasolo Zabalo, Nerea;Torrell Galceran, Helena;Jubany Güell, Irene;Gamisans Noguera, Xavier	The reduction of nitric oxide (NO) emissions to atmosphere has been recently addressed using biological technologies. However, NO removal through bioprocesses is quite challenging due to the low solubility of NO in water. Therefore, the abatement of NO emissions might be improved by adding a chelating agent or a mass transfer vector (MTV) to increase the solubility of this pollutant into the aqueous phase where the bioprocess takes place. This research seeks to assess the performance of different non-aqueous phase liquids (NAPs): n-hexadecane (HEX), diethyl sebacate (DSE), 1,1,1,3,5,5,5-heptamethyl-trisiloxane (HTX), 2,2,4,4,6,8,8-hexamethylnonane (HNO), and high	RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles	Environmental science and pollution research international	10.1007/s11356-023-30009-6
36980845	Quantitative and qualitative analysis of sustainability reporting in Spain-based mining companies	14/9/2023	Yousefian, Mohammad;Bascompta Massanes, Marc;Vintro Sanchez, Carla;Sanmiquel Pera, Lluís;Sidki Rius, Nor	As Corporate Social Responsibility (CSR) has gained significant attention in the mining industry as a means for achieving sustainability in recent decades, companies have been motivated to publish their reports aligned with the benefits of their stakeholders: society and the environment. Spain has made significant efforts to encourage Corporate Social Responsibility (CSR) in its mining industry. The government has introduced various policies and regulations to ensure that mining companies in the country operate in an ethical and sustainable manner. Spanish mining companies have also demonstrated a strong commitment to CSR by implementing initiatives	RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles		
37021826	Corporate Social Responsibility. A Quantitative approach for the mining sector.	7/9/2023	Bascompta Massanes, Marc;Sanmiquel Pera, Lluís;Vintro Sanchez, Carla;Yousefian, Mohammad;Anticoi Sudzuki, Hernan Francisco	The raw materials sector requires a holistic approach to analyse and quantify the environmental and socio-economic implications of the mining activity for all the stakeholders. Thus, it is proposed a quantitative approach to determine the corporate social responsibility (CSR) impact, applicable at the mine site and corporate levels, based on two steps: 1) a basic CSR index is obtained and 2) a correcting factor is applied, achieving the final, or corrected, CSR index. In the first step, the system can be used at any kind of mining project and stage: prospecting and exploration, development, mining, processing, closure or rehabilitation. It consists of two dimensions: environment and socio-	RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles		

37004467	AeroSolfd: leading to cleaner air in transport-related microenvironments	5/9/2023	Agathokleous, Stefanos;Moreno, Teresa;Warth, Tobias;Casado, Carlos;Asbach, Christof;Lehmann, Martin				
37122038	Valorisation of the fine fraction of construction and demolition waste for the production of new cementitious materials	1/9/2023	Alfonso Abella, María Pura;Anticoi Sudzuki, Hernan Francisco;Oliva Moncunill, Josep;Bascompta Massanes, Marc;Valls Del Barrio, Susana;Aponte Hernandez, Diego Fernando;García Valles, Maite;Pourmohammad Golloujeh, Mahsa;Fariás Castillo, Ingrid Carolina;Araos Henríquez, Paulo Sebastián;Yubero De Mateo, Maria Teresa;Martínez Alcalá, Arnau	The recycling of construction and demolition waste is mainly concentrated on the coarse fraction of its components. The fine fraction is mainly made up of the paste, consisting of hydrated cement, composed of amorphous calcium silicate and calcium aluminate hydrates, calcium hydroxide, together with the finer fraction of the aggregates, brick residues, gypsum and soils. From these components it is possible to manufacture binder materials that can partially replace Portland cement. This means a saving in energy and raw materials that leads to a considerable reduction in CO2 emissions caused by the manufacture of conventional Portland cement	RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles		
37101690	Modelling and evaluation of aggregate and ornamental rock quality	6/8/2023	Vera Burau, Maria Alejandra;Sanmiquel Pera, Lluís;Bascompta Massanes, Marc;Álvarez Ramírez, Daniel	Minimizing environmental impact is an important concern in all types of mining, but research generally focuses on metal mining. Recently environmental and social aspects are included in the evaluation of some deposits. In non-metallic mining, building materials are widely needed. Special interest is given to calcareous materials, due to their intrinsic characteristics, which are appropriate for construction and have a strong presence in the industry. Calcareous deposits are massive, often superficial, have extensive dimensions, and are frequent, so resource evaluation should be carried out simply and practically. For this a process must be in place to determine quality	RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles		10.11159/mmme23.126
36843017	The variability of mass concentrations and source apportionment analysis of equivalent black carbon across urban Europe	1/8/2023	Savadkoohi, Marjan;Pandolfi, Marco;Reche Andúgar, Cristina;Niemi, Jarkko V.;Mooibroek, Dennis;Titos Vela, Gloria;Green, David C.;Tremper, Anja H.;Hueglin, Christoph;Liakakou, Eleni;Mihalopoulos, Nikos;Stavroulas, Iasonas;Artiñano, Begoña;Coz, Esther;Alados Arboledas, Lucas;Beddows, David;Riffault, Véronique;de Brito, Joel F.	This study analyzed the variability of equivalent black carbon (eBC) mass concentrations and their sources in urban Europe to provide insights into the use of eBC as an advanced air quality (AQ) parameter for AQ standards. This study compiled eBC mass concentration datasets covering the period between 2006 and 2022 from 50 measurement stations, including 23 urban background (UB), 18 traffic (TR), 7 suburban (SUB), and 2 regional background (RB) sites. The results highlighted the need for the harmonization of eBC measurements to allow for direct comparisons between eBC mass concentrations measured across urban Europe. The eBC mass concentrations exhibited		Environment international	10.1016/j.envint.2023.108081
36850257	Arduino-based low-cost device for the measurement of detonation times in blasting caps	19/7/2023	Camara Zapata, Eduardo;Arumi Casanovas, Arnau;Bonet Dalmau, Jordi;Bascompta Massanes, Marc;Sanmiquel Pera, Lluís	The use of equipment such as oscilloscopes, high-speed cameras or acoustic sensors is quite common to measure detonation times from surface connectors and detonators. However, these solutions are expensive and, sometimes, not adequate to use in field conditions, such as mining or civil works. In this regard, a low-cost portable device is designed and tested using the Arduino platform, achieving a simple, robust and precise system to carry out field measurements. This study describes the characteristics and working principles of the designed device, as well as the verifications carried out to check the accuracy of the Arduino ceramic oscillator. Additionally, a field test was carried out	RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles	Sensors (Basel)	10.3390/s23146534

37089925	XII CIDUI	6/7/2023	Mulero Jiménez, Lorena;Cunill Solà, Jordi;Grau Vilalta, Maria Dolors		CITES - Sustainability Science and Technology Research Group		
37089909	Implementació a l'aula del projecte BOSC i sostenibilitat: Curs de formació del professorat	6/7/2023	Mulero Jiménez, Lorena;Cunill Solà, Jordi;Grau Vilalta, Maria Dolors	S?analitzarà la singularitat del curs de formació per al professorat ?Implementació a l'aula del Projecte Bosc i sostenibilitat? (110 inscrits en les tres edicions). El professorat assistent té un paper de co-creació, co-implementació i co-avaluació, que resulta clau per a al implementació del projecte, que té per objectiu donar a conèixer els Objectius de Desenvolupament Sostenible (ODS), prenent com a fil conductor els serveis ecosistèmics del bosc. S?analitzarà la singularitat del curs de formació per al professorat ?Implementació a l'aula del Projecte Bosc i sostenibilitat? (110 inscrits en les tres edicions). El professorat assistent té un paper de co-creació	CITES - Sustainability Science and Technology Research Group		
36827169	Air quality inside city public commuting buses: physico-chemical and biological characterisation.	6/7/2023	Fernández Iriarte, Amaia;Moreno Pérez, Teresa;Amato, Fulvio	Esta tesis doctoral se centra en la identificación de los factores que controlan las concentraciones de partículas inhalables, gases contaminantes y bioaerosoles en el interior de los autobuses públicos de Barcelona. El estudio se llevó a cabo en el sistema de transporte público de la ciudad, que es de particular interés debido a la renovación activa de la flota de autobuses y a la geografía de piedemonte costero pendiente de la ciudad, que afecta a los patrones de emisión de los autobuses a lo largo de rutas 'verticales' frente a rutas 'horizontales'. La metodología empleada consistió en mediciones físicas, análisis químicos y análisis de datos. El estudio se llevó a cabo en autobuses en			
37132553	Project for secondary-school students: energy used to obtain water	4/7/2023	Gomez Gamisans, Montserrat;Grau Vilalta, Maria Dolors;Xandri, Elvira	The essential services for the well-being of people today are access to water and energy. In addition, it must be taken into account that in many cases one depends on the other for its obtaining. In this way we have two possible relationships: - The water needed to obtain energy. - The energy needed to obtain water. This second option is the one that is being worked on in this project, therefore, it would be necessary to analyze what energy we need to obtain water, both in terms of Water Treatment Plant and drinking water, and with respect to the depuration of wastewater and its discharge and returns in the environment. In the way of managing surface water for obtained	CITES - Sustainability Science and Technology Research Group		10.21125/edulearn.2023.0601
36653793	Cooling rate modeling and evaluation during centrifugal atomization process	7/6/2023	Cegarra Salges, Sasha Alejandra;Pijuan Casas, Jordi;Riera Colom, Maria Dolores	Centrifugal atomization is a rapid solidification technique involving fast cooling rates to produce high-quality powders. The final microstructure of the atomized particles is closely linked with the thermal history and cooling rates experienced during the atomization process. However, there is insufficient research on the temperature evolution of metal particles produced by this technique, and most works evaluate the thermal history of the droplet through semi-empirical correlations that lie outside the conditions where they were derived. In this work, the cooling rate of centrifugally atomized Al-4%Cu was studied via mathematical modelling and experimental validation. A heat transfer	RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles	Journal of manufacturing and materials processing	10.3390/jmmp7030112

37257256	Recerca en l'eliminació d'impureses del Carbonat Càlcic per via seca pel desenvolupament d'un nou procés de purificació (CATbonate)	6/6/2023	Oliva Moncunill, Josep;Mohanty, Kalyani;Hoffmann Sampaio, Carlos;Alfonso Abella, María Pura;Anticoi Sudzuki, Hernan Francisco	El Carbonat Càlcic és àmpliament utilitzat en una multitud de productes que engloben sectors com la indústria de la construcció, plàstics, alimentària, paperera o de pintures i recobriments, entre d'altres. No obstant això, el seu ús industrial exigeix uns nivells de puresa determinats, difícils d'assolir en proporcions elevades. Una opció que tenen les principals mines de Carbonat Càlcic per augmentar la blancor és utilitzar processos de flotació per eliminar les impureses, tot i que també s'utilitzen tècniques d'aglomeració o la floculació. Totes aquestes tècniques, però, només poden ser aplicades per a minerals fins de mida inferior a 0.1 mm i requereixen una	RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles		
36868380	Spatiotemporal variations of tropospheric ozone in Spain (2008-2019)	1/6/2023	Massagué Obradors, Jordi;Escudero Tellechea, Miguel;Alastuey, Andres;Mantilla Iglesias, Enrique;Monfort Gimeno, Eliseo;Gangoiti Bengoa, Gotzon;Pérez García-Pando, Carlos;Querol Carceller, Xavier	This study aims to support the development of Spain's Ozone Mitigation Plan by evaluating the present-day spatial variation (2015-2019) and trends (2008-2019) for seven ground-level ozone (O3) metrics relevant for human/ecosystems exposure and regulatory purposes. Results indicate that the spatial variation of O3 depends on the part of the O3 distribution being analyzed. Metrics associated with moderate O3 concentrations depict an increasing O3 gradient between the northern and Mediterranean coasts due to climatic factors, while for metrics considering the upper end of the O3 distribution, this climatic gradient tends to attenuate in favor of hotspot regions pointing		Environment international	10.1016/j.envint.2023.107961
37741199	Effective separation of Silica sand from ground pit by HF pretreatment	1/6/2023	Mohanty, Kalyani;Oliva Moncunill, Josep;Alfonso Abella, María Pura	The Denver cell was used to investigate the froth flotation of silica sand using sodium oleate as a collector. The froth flotation tests revealed that there was little difference in the flotation of feldspar and quartz at pH 2-3, using pine oil as a pH regulator. After HF pre-treatment, the floatability of the feldspar significantly increased, while the floatability of quartz showed no changes. HF pre-treatment resulted in the leaching of SiO2 and enrichment of Na, K, and Al on the feldspar surface. As a result, the negative surface charge of feldspar increased at pH 2-3, allowing froth flotation separation for mineral feasibility. This took place via increased electrostatic adsorption between the	RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles		10.48158/MeCCE-15.T2-O-15
36749228	Development of 3D printed microfluidic platforms for the automatic determination of Fe(III) in the bioprocess of recovering valuable metals from electronic waste	1/6/2023	Ricart Fort, David;Lao Luque, Concepcion;Baeza Labat, Mireia;Dorado Castaño, Antonio David		RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles		10.48158/MeCCE-15.T2-O-03
36682604	Evaluation of operational temperature range of friction modifiers in ester containing formulations	31/5/2023	Cañellas Palou, Gerard;Emeric Casterà, Ariadna;Combarros, M.;Navarro, Àngel;Beltran, Lluís;Vilaseca Llosada, Montserrat;Vives Costa, Jordi		RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles		10.48158/MeCCE-15.T4-O-19

37740944	Construction and demolition waste, mineralogical and chemical characterization of CDW as function of particle size the 4-0.5mm and treatments for potential recycling	30/5/2023	Eljoudiani, Amina;Hoffmann Sampaio, Carlos;Oliva Moncunill, Josep	According to the EU Waste Framework Directive 2008/98/EC, all EU members must take all necessary steps to achieve at least 70% of non-hazardous construction and demolition waste (CDW) re-use, recycling, or other recovery by 2020. Construction and Demolition Waste (CDW) is a priority waste stream that accounts for around 30% of the EU's total waste generation.[1].An consistent method and recovery strategy are challenging since CDW is highly variable across member states and geographical regions. Depending on the geological availability of lithotypes, construction locations, and building designs, CDW is actually very varied. Commonly found in CDW are materials including asbestos	RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles		10.48158/MeCCE-15.T3-P-23
36682772	Study of the Interaction Between Esters and Different Friction Modifier Additives in a Group IV Base Stock	23/5/2023	Cañellas Palou, Gerard;Vives Costa, Jordi;Emeric Casterà, Ariadna;Combarros, M.;Navarro, A.;Vilaseca Llosada, Montserrat;Beltran, Lluís				
36781360	?Ruta del oro de Nariño?: estrategia de desarrollo sostenible basada en sus patrimonios geo-minero, biodiverso y cultural	17/5/2023	Delgado Martinez, Aida Mercedes	Se presentan los aspectos más relevantes logrados con el desarrollo de la Tesis Doctoral			
37770276	Optimització dels recursos dels dipòsits de la Faixa Estannífera Boliviana: minimització de l'energia de processament i augment de la recuperació	15/5/2023	Alfonso Abella, María Pura;Pourmohammad Golloujeh, Mahsa;Mohanty, Kalyani;Ochoa Freire, Gladys Alfonsina;Eljoudiani, Amina;Bascompta Massanes, Marc;Yubero De Mateo, Maria Teresa;Valls Del Barrio, Susana;Anticoi Sudzuki, Hernan Francisco;Sidki Rius, Nor;Martínez Alcalá, Arnau		RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles		
36024237	Optimització dels recursos dels dipòsits de la Faixa Estannífera Boliviana: minimització de l'energia de processament i augment de la recuperació	15/5/2023	Alfonso Abella, María Pura;Yubero De Mateo, Maria Teresa;Martínez Alcalá, Arnau;Sidki Rius, Nor;Anticoi Sudzuki, Hernan Francisco;Bascompta Massanes, Marc;Jiménez Franco, Abigail;Eljoudiani, Amina	Aconseguir que les ciutats i els assentaments humans siguin inclusius, segurs, resilents i sostenibles. Construir infraestructures resilents, promoure la industrialització inclusiva i sostenible i fomentar la innovació. Garantir modalitats de consum i producció sostenibles. Reduir la desigualtat en i entre els països.	RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles		

36002616	A comparison of the fuel consumption and truck models in different production scenarios	7/5/2023	Vera Burau, Maria Alejandra;Álvarez Ramírez, Daniel;Sanmiquel Pera, Lluís;Bascompta Massanes, Marc	Mine planning and mine design are crucial stages of a project in the mining industry. This study aimed to determine the impact of different constraints on the design and planning of a mine. Some of the deposit characteristics and parameters that influence the economic feasibility of a project were studied. Using economic criteria such as NPV, scenarios were established based on the best conditions to obtain higher profitability. Production was identified as the most relevant variable. Subsequently, the mining design was evaluated through technical parameters such as slope gradients and ramp widths, and it was identified that they have lower sensitivity in the final design and	RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles	Applied sciences (Basel)	10.3390/app13095769
36653898	Black Carbon source apportionment using time-dependent Absorption Angstrom Exponent (AAE)	28/4/2023	Savadkoohi, Marjan;Pandolfi, Marco;Alastuey Urós, Andrés;Querol Carceller, Xavier;Favez, Olivier	Among the aerosol particles optical properties, the Absorption Angstrom Exponent (AAE) is a crucial parameter describing the spectral dependence of light absorption by aerosols. It is intensively employed for black carbon (BC) source apportionment and aerosol characterization (e.g., BC, Brown Carbon ?BrC,? and dust). AAE has been widely investigated using data from filter-based absorption photometers such as the AE33 that measure light absorption at seven wavelengths (370-950 nm). BC source contribution is commonly obtained by applying the most frequent source apportionment method, the Aethalometer model. This model requires a-priori knowledge of the			10.5194/egusphere-egu23-7014
35759082	Resources policy	26/4/2023	Yousefian, Mohammad		RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles		
35733693	Design of a RGB-Arduino device for monitoring copper recovery from PCBs	24/4/2023	Morell Llorens, Joan;Escobet Canal, Antoni;Dorado Castaño, Antonio David;Escobet Canal, Teresa	The mobile phone industry, one of the fastest advancing sectors in production over the last few decades, has been associated with a high e-waste generation rate. Simultaneously, a high demand for the production of new electronic equipment has led to the scarcity of certain metals. In this context, many recent studies have focused on recovering certain metals from e-waste through the use of bioprocesses. Such recovery processes are based on the action of microorganisms that produce Fe(III) as an oxidant, in order to leach the copper contained in printed circuit boards. During the oxidation-reduction reaction between Fe(III) and metallic Cu, the color of the	RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles	Processes	10.3390/pr11051319
36024190	Mineralogy and mineral chemistry of the Au-Ag-Te-(Bi-Se) San Luis Alta deposit, Mid-South Peru	18/4/2023	Alfonso Abella, María Pura;Ccolque, Elsa;García-Vallés, Maite;Martínez Alcalá, Arnau;Yubero De Mateo, María Teresa;Anticoi Sudzuki, Hernan Francisco;Sidki Rius, Nor	A mineralogical and mineral chemistry study was carried out in the San Luis Alta telluride-rich gold deposit, mid-south Peru, to contribute towards determining its formation and improving the ore processing. The San Luis mineralization is considered an intrusion-related gold deposit located in the Arequipa segment of the Coastal Batholith. The mineralization occurs in quartz veins hosted in diorites and granodiorites from the Tiabaya Super-Unit. These veins are sulfide-rich in the deep areas and contain abundant iron oxides. Sulfides are mainly pyrite with minor chalcopyrite and galena. Native gold and telluride minerals are abundant. Mineral chemistry was determined using an	RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles	Minerals	10.3390/min13040568

35706429	Feasible H2S sensing in water with a printed amperometric microsensor	4/4/2023	Paré Estalella, Franc;Castro Carrasco, Rebeca Ignacia;Gabriel Buguña, David;Guimera Villalba, Xavier;Gabriel Buguña, Gemma;Baeza, Mireia	Concern over pollution has led to an increase in wastewater treatment systems, which require constant monitorization. In particular, hydrogen sulfide (H2S) is a toxic gas, soluble in water, commonly found in industrial and urban effluents. For proper removal control, fast, durable, and easy-to-handle analytical systems, capable of on-line measurements, such as electrochemical sensors, are required. Moreover, for a proper monitoring of said treatment processes, analysis must be carried out through all steps, thus needing for an economic and highly reproducible method of sensor fabrication. Digital printing have risen in the last few years as technologies capable of	RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles	ACS ES and T Water	10.1021/acsestwater.2c00589
35722724	Millora del procés productiu d'una pedrera des del procés d'arrencament amb voladura o de tipus mecànic, la càrrega, transport i descàrrega del material, fins a la planta de processament.	3/4/2023	Sanmiquel Pera, Lluís;Bascompta Massanes, Marc;Vera Burau, Maria Alejandra		RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles		
35255371	Corporate social responsibility and economic growth in the mining industry	1/3/2023	Yousefian, Mohammad;Bascompta Massanes, Marc;Sanmiquel Pera, Lluís;Vintro Sanchez, Carla	This research provides insight into the effects of implementing Corporate Social Responsibility initiatives in the mining industry in the European context. In many cases, the strategy is not coincident for shareholders and stakeholders, and as a result, the mining activity could be jeopardized. Achieving socially responsible goals can be a challenging task to conduct. This study aims to examine the relationship between Corporate Social Responsibility (CSR) performance and the economic growth of European mining companies using fixed effects regression models in addition to content analysis. <u>Data from 45 medium- and large-sized mining companies is analyzed.</u>	RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles	Extractive Industries and Society- An International Journal	10.1016/j.exis.2023.101226
35681768	Tribological performance of esters, friction modifier and antiwear additives for electric vehicle applications	28/2/2023	Cañellas Palou, Gerard;Emeric Casterà, Ariadna;Combarros, M.;Navarro, Àngel;Beltran, Lluís;Vilaseca Llosada, Montserrat;Vives Costa, Jordi	The replacement of conventional lubricants with esters is an alternative to provide a low environmental impact and at the same time excellent lubricity features, the high solubility of additives, good viscosity index, low volatility, and high thermal stability. Friction modifiers and antiwear/extreme pressure additives are extensively used to save energy and increase operational life in machine components. In this study, the lubricity of a Group IV base oil containing ester and various benchmark friction modifiers and/or antiwear/extreme pressure additives is measured to evaluate the influence of the ester on the <u>tribological performance of the mixture components. The tribological</u>	RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles	Lubricants	10.3390/lubricants11030109
35172602	Phenomenology of ultrafine particle concentrations and size distribution across urban Europe	1/2/2023	Trechera Ruiz, Pedro;Reche Andúgar, Cristina;Perez Lozano, Noemi;Savadkoohi, Marjan;Beddows, David;Marchand, N.;Mihalopoulos, Nikos;Jokiniemi, J.;Eleftheriadis, Kostas;Gerwig, Hubert;Hoffmann, Barbara;Hentrich, Doreen;Petaja, Tuukka;Alastuey Urós, Andrés	The 2017-2019 hourly particle number size distributions (PNSD) from 26 sites in Europe and 1 in the US were evaluated focusing on 16 urban background (UB) and 6 traffic (TR) sites in the framework of Research Infrastructures services reinforcing air quality monitoring capacities in European URBAN & industrial areas (RI-URBANS) project. The main objective was to describe the phenomenology of urban ultrafine particles (UFP) in Europe with a significant air quality focus. The varying lower size detection limits made it difficult to compare PN concentrations (PNC), particularly PN10-25, from different cities. PNCs follow a TR > UB > Suburban (SUB) order. PNC and Black Carbon (BC)		Environment international	10.1016/j.envint.2023.107744

34859882	Facilitating the implementation of neural network-based predictive control to optimize building heating operation	15/1/2023	Savadkoohi, Marjan;Macarulla Marti, Marcel;Casals Casanova, Miquel	Simple neural network (NN) architecture is a reliable tool to transform reactive rule-based systems into predictive systems. Thermal comfort is of utmost importance in office buildings, which need the activation of heating systems at an optimal time. A high-performance NN predictive system requires a large training dataset. This can limit system efficiency due to the lack of enough historical data derived from thermal controllers. To address this issue, we generated, trained and tested a dataset of eight sizes using a calibrated building model. A set of key performance indicators (KPIs) was improved by studying the output performance. The effect of normalization and standardization	GRIC - Group of Construction Research and Innovation	Energy	10.1016/j.energy.2022.125703
34901758	A review: biological technologies for nitrogen monoxide abatement	5/1/2023	Cubides Paez, David Fernando;Guimera Villalba, Xavier;Jubany Güell, Irene;Gamisans Noguera, Xavier	Nitrogen oxides (NOx), including nitrogen monoxide (NO) and nitrogen dioxide (NO2), are among the most important global atmospheric pollutants because they have a negative impact on human respiratory health, animals, and the environment through the greenhouse effect and ozone layer destruction. NOx compounds are predominantly generated by anthropogenic activities, which involve combustion processes such as energy production, transportation, and industrial activities. The most widely used alternatives for NOx abatement on an industrial scale are selective catalytic and non-catalytic reductions; however, these alternatives have high costs when treating large air	RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles	Chemosphere	10.1016/j.chemosphere.2022.137147
36636714	Bases científicas para un Plan Nacional de Ozono 2022	1/1/2023	Querol Carceller, Xavier;Massagué Obradors, Jordi;Alastuey, Andres;In't Veld, Marten;Guevara Vilardell, Marc;Petetin, Hervé;Garatachea, Roger;Lopez, Franco;De Oliveira, Kevin;Enciso, Santiago;Jorba Casellas, Oriol;Pérez García-Pando, Carlos	El objetivo principal de este documento es suministrar las bases científicas para que el MITECO desarrolle un Plan Nacional de O3. La complejidad de la formación de ozono, O3, y del desarrollo de episodios de contaminación, y por tanto de las estrategias a desarrollar para reducir los niveles de contaminación de este contaminante secundario, impulsaron al Ministerio para la Transición Ecológica y el Reto Demográfico a encargar a destacados investigadores un estudio que desarrollase las bases científicas para la futura elaboración del Plan Nacional de Ozono. Dicho documento ha sido financiado por MITECO y bajo el liderazgo			
35194827	Construction and demolition waste (CDW) recycling	21/12/2022	Pourmohammad Golloujeh, Mahsa;Oliva Moncunill, Josep;Hoffmann Sampaio, Carlos	Pòster amb el resum gràfic de la tesi doctoral en curs, que forma part de l'exposició 'Doctorat en Recursos Naturals i Medi Ambient de la UPC Manresa. 30 anys formant en recerca a la Catalunya Central 1992-2022'. Amb el suport d'Acció. Generalitat de Catalunya Postprint (published version)	RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles		
35150415	Development of 3D printed microfluidic platforms for the automatic determination of key analytes in the process of recovering valuable metals from electronic devices	21/12/2022	Ricart Fort, David;Lao Luque, Concepcion;Baeza, Mireia;Dorado Castaño, Antonio David	Pòster amb el resum gràfic de la tesi doctoral en curs, que forma part de l'exposició 'Doctorat en Recursos Naturals i Medi Ambient de la UPC Manresa. 30 anys formant en recerca a la Catalunya Central 1992-2022'. Postprint (published version)	RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles		

35150390	Recovery of valuable metals from lithium ion batteries (LIB's)	21/12/2022	Garcia Saez, Lidia				
35150373	Recovery of valuable metals from lithium ion batteries (LIB's)	21/12/2022	Garcia Saez, Lidia;Lao Luque, Concepcion;Sole Sardans, M. Montserrat;Dorado Castaño, Antonio David	Pòster amb el resum gràfic de la tesi doctoral en curs, que forma part de l'exposició 'Doctorat en Recursos Naturals i Medi Ambient de la UPC Manresa. 30 anys formant en recerca a la Catalunya Central 1992-2022'. Project BIOMETAL PID2020- 117520RA-I00 and ACCIO BIOCOLI ACE 34/21/000044, funded by MCI, AEI Postprint (published version)	RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles		
37744257	Research into new valorization processes for sandy aggregates	21/12/2022	Mohanty, Kalyani;Oliva Moncunill, Josep;Alfonso Abella, María Pura	Pòster amb el resum gràfic de la tesi doctoral en curs, que forma part de l'exposició 'Doctorat en Recursos Naturals i Medi Ambient de la UPC Manresa. 30 anys formant en recerca a la Catalunya Central 1992-2022'. Arenes Bellpuig SL. This project has been funded by ACCIO (Catalonia Trade and Investment) [Project Number: ACE014/20/000053]. Postprint (published version)	RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles		
37743953	Evaluation of desertification intensity with using of IMDPA in Catalonia	21/12/2022	Mohanty, Kalyani;Oliva Moncunill, Josep;Alfonso Abella, María Pura	Pòster amb el resum gràfic de la tesi doctoral en curs, que forma part de l'exposició 'Doctorat en Recursos Naturals i Medi Ambient de la UPC Manresa. 30 anys formant en recerca a la Catalunya Central 1992-2022'. Arenes Bellpuig SL. This project has been funded by ACCIO (Catalonia Trade and Investment) [Project Number: ACE014/20/000053]. Postprint (published version)	RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles		
37789616	Assessing road traffic noise in the United Kingdom using Harmonoise	21/12/2022	Simona Pujadó, Josep;Vallbe Mumburu, Marc;Rossell Garriga, Josep Maria	The Environmental Noise Directive (END), published in 2002, relates to the assessment and management of environmental noise. As part of the Fifth Framework Programme, the European Commission aimed to develop a new harmonised prediction model, which would facilitate the comparison of results between different member states [1]. The research resulted in the HARMONOISE model. Previously, each country with a long experience in management of road traffic noise, for instance, the United Kingdom (UK), the Netherlands, Germany and France, each one had their own model [2]. CRTN was and is the model used in the UK. HARMONOISE was at the end replaced by CNOSSO-EU	RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles		10.5821/ebook-9788498800951

35608260	Development of an integrated biological base processes for the recovery of strategic metals from electronic waste	21/12/2022	Morell Llorens, Joan;Guimera Villalba, Xavier;Dorado Castaño, Antonio David	Pòster amb el resum gràfic de la tesi doctoral en curs, que forma part de l'exposició 'Doctorat en Recursos Naturals i Medi Ambient de la UPC Manresa. 30 anys formant en recerca a la Catalunya Central 1992-2022'. Project BIOMETAL PID2020- 117520RA-I00 and ACCIÓ BIOCOLI ACE 34/21/000044, Postprint (published version)	RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles		
35571149	Analysis of Corporate Social Responsibility on the Economic Growth of the Mining Industry	21/12/2022	Yousefian, Mohammad	Pòster amb el resum gràfic de la tesi doctoral en curs, que forma part de l'exposició 'Doctorat en Recursos Naturals i Medi Ambient de la UPC Manresa. 30 anys formant en recerca a la Catalunya Central 1992-2022'. Postprint (published version)	RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles		
35267588	Some approaches to improve knowledge about subsidence processes in underground mining	21/12/2022	Sidki Rius, Nor	Pòster amb el resum gràfic de la tesi doctoral en curs, que forma part de l'exposició 'Doctorat en Recursos Naturals i Medi Ambient de la UPC Manresa. 30 anys formant en recerca a la Catalunya Central 1992-2022'. The authors would like to thank the support of ICL-Iberia for the data provided, also UPC and Santander bank for providing FPIUPC scholarship. Postprint (published version)	RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles		
35259819	Evaluation of desertification intensity with using of IMDPA in Catalonia	21/12/2022	Bayat, Zahra;Vives Costa, Jordi	Pòster amb el resum gràfic de la tesi doctoral en curs, que forma part de l'exposició 'Doctorat en Recursos Naturals i Medi Ambient de la UPC Manresa. 30 anys formant en recerca a la Catalunya Central 1992-2022'. Postprint (published version)	RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles		
36781098	Identification of a methodology for the design of a sustainable tourism route based on its geological-mining, biodiverse and cultural heritage, of el Tambo municipality, Nariño, Colombia	21/12/2022	Delgado Martinez, Aida Mercedes;Parcerisa Duocastella, David;Pantoja Timarán, Freddy		RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles		

35631815	Research into organic friction modifiers with improved environmental compatibility to optimize their tribological behaviour over a wide range of temperatures	21/12/2022	Cañellas Palou, Gerard; Vilaseca Llosada, Montserrat; Beltran, Lluís; Vives Costa, Jordi	Pòster amb el resum gràfic de la tesi doctoral en curs, que forma part de l'exposició 'Doctorat en Recursos Naturals i Medi Ambient de la UPC Manresa. 30 anys formant en recerca a la Catalunya Central 1992-2022'. Postprint (published version)	RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles		
35194797	Construction and Demolition Waste (CDW) Recycling	1/12/2022	Pourmohammad Golloujeh, Mahsa; Oliva Moncunill, Josep; Hoffmann Sampaio, Carlos	'InnoBages, impuls de la R+D+I al Bages' -- Verso de la portada Textos en anglès, castellà i català Descripció del recurs: 20 desembre 2022	RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles		
35150628	Heavy metals and industrial waste incineration location, speciation and recovery in fly ash bottom ash	1/12/2022	Eljoudiani, Amina; Hoffmann Sampaio, Carlos; Oliva Moncunill, Josep	Pòster amb el resum gràfic de la tesi doctoral en curs, que forma part de l'exposició 'Doctorat en Recursos Naturals i Medi Ambient de la UPC Manresa. 30 anys formant en recerca a la Catalunya Central 1992-2022'. Postprint (published version)	RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles		
35150612	Heavy metals and industrial waste incineration location, speciation and recovery in fly ash bottom ash	1/12/2022	Eljoudiani, Amina; Hoffmann Sampaio, Carlos; Oliva Moncunill, Josep		RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles		
35150295	Development of sustainable aluminium alloy powders for metal additive manufacturing	1/12/2022	Sajithkumar, Ananthakrishna; Niubo Eslava, Maria; Pijuan Casas, Jordi	'InnoBages, impuls de la R+D+I al Bages' -- Verso de la portada Textos en anglès, castellà i català Descripció del recurs: 20 desembre 2022	RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles		

35150312	Recovery of valuable metals from Lithium ion batteries	1/12/2022	Garcia Saez, Lidia;Lao Luque, Concepcion;Sole Sardans, M. Montserrat;Dorado Castaño, Antonio David	'InnoBages, impuls de la R+D+I al Bages' -- Verso de la portada Textos en anglès, castellà i català Descripció del recurs: 20 desembre 2022	RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles		
35150240	Development of 3D printed microfluidic platforms for the automatic determination of key analytes in the process of recovering valuable metals from electronic devices	1/12/2022	Ricart Fort, David;Lao Luque, Concepcion;Baeza, Mireia;Dorado Castaño, Antonio David	'InnoBages, impuls de la R+D+I al Bages' -- Verso de la portada Textos en anglès, castellà i català Descripció del recurs: 20 desembre 2022	RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles		
35150264	Analysis of Corporate Social Responsibility on the Economic Growth of the Mining Industry	1/12/2022	Yousefian, Mohammad;Bascompta Massanes, Marc;Sanmiquel Pera, Lluís;Vintro Sanchez, Carla	'InnoBages, impuls de la R+D+I al Bages' -- Verso de la portada Textos en anglès, castellà i català Descripció del recurs: 20 desembre 2022	RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles		
35150225	Some approaches to improve knowledge about subsidence processes in underground mining	1/12/2022	Sidki Rius, Nor;Sanmiquel Pera, Lluís;Bascompta Massanes, Marc	'InnoBages, impuls de la R+D+I al Bages' -- Verso de la portada Textos en anglès, castellà i català Descripció del recurs: 20 desembre 2022	RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles		
35150218	Research into organic friction modifiers with improved environmental compatibility to optimize their tribological behaviour over a wide range of temperatures	1/12/2022	Cañellas Palou, Gerard;Vives Costa, Jordi;Vilaseca Llosada, Montserrat;Beltran, Lluís	'InnoBages, impuls de la R+D+I al Bages' -- Verso de la portada Textos en anglès, castellà i català Descripció del recurs: 20 desembre 2022	RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles		

35235066	The Forest and sustainability project: Open science schooling methodology in secondary education	1/12/2022	Mulero Jiménez, Lorena;Grau Vilalta, Maria Dolors;Bosch Tous, Ricardo	Pòster amb el resum gràfic de la tesi doctoral en curs, que forma part de l'exposició 'Doctorat en Recursos Naturals i Medi Ambient de la UPC Manresa. 30 anys formant en recerca a la Catalunya Central 1992-2022'. Postprint (published version)	CITES - Sustainability Science and Technology Research Group		
35234794	The Forest and Sustainability Project: Open Science Schooling methodology in Secondary Education	1/12/2022	Mulero Jiménez, Lorena;Grau Vilalta, Maria Dolors;Bosch i Tous, Ricard	'InnoBages, impuls de la R+D+I al Bages' -- Verso de la portada Textos en anglès, castellà i català Descripció del recurs: 20 desembre 2022	CITES - Sustainability Science and Technology Research Group		
35234569	ERN - EXPLORATORI of Natural Resources	1/12/2022	Grau Vilalta, Maria Dolors;Cunill Solà, Jordi;Mulero Jiménez, Lorena	'InnoBages, impuls de la R+D+I al Bages' -- Verso de la portada Textos en anglès, castellà i català Descripció del recurs: 20 desembre 2022	CITES - Sustainability Science and Technology Research Group		
37741545	Improvements in the sustainability of industrial hemp plantations by remote sensing and modelling of agro-biochemical parameters	1/12/2022	Puente Sandoval, Juan Jose;Grau Vilalta, Maria Dolors;Vallbe Mumburu, Marc	The society of the 21st century requires technologies that allow an optimal use of natural resources, maintaining at all times a respectful attitude towards the environment and sustainability criteria. The Doctoral Program carries out its research in the field of the use of available natural resources under the prism of minimizing their environmental impact. This perspective is considered from a holistic point of view, which includes all environmental aspects, from obtaining the raw material to its deposition once converted into waste, including all the stages related to its physicochemical and biological transformation. In this framework, the PhD Program in Natural	CITES - Sustainability Science and Technology Research Group		10.5821/ebook-9788498800951
34943883	Centrifugal atomization of glass-forming alloy Al86Ni8Y4.5La1.5	17/11/2022	Pijuan Casas, Jordi;Cegarra Salges, Sasha Alejandra;Dosta, Sergi;Albaladejo Fuentes, Vicente;Dolores Riera, María	Centrifugal atomization is a rapid solidification technique for producing metal powders. However, its wide application has been limited to the production of common metal powders and their corresponding alloys. Therefore, there is a lack of research on the production of novel materials such as metallic glasses using this technology. In this paper, aluminum-based glassy powders (Al86Ni8Y4.5La1.5) were produced by centrifugal atomization. The effects of disk speed, atomization gas, and particle size on the cooling rate and the final microstructure of the resulting powder were investigated. The powders were characterized using SEM and XRD, and the amorphous fractions of the atomized	Materials (Basel)		10.3390/ma15228159

36636723	Anexo Informe A2.3 COVs de especial interés para su reducción: COVs de especial interés para su reducción en base a los estudios del plan nacional de Ozono	1/11/2022	Querol Carceller, Xavier;Massagué Obradors, Jordi;Carnerero Quintero, Cristina;Alastuey, Andres;In 't Veld, Marten;De Oliveira, Kevin;Guevara Vilardell, Marc;Jorba Casellas, Oriol;Pérez García-Pando, Carlos;Mantilla Iglesias, Enrique				
34313709	Corporate Social Responsibility Index for Mine Sites	20/10/2022	Bascompta Massanes, Marc;Sanmiquel Pera, Lluís;Vintro Sanchez, Carla;Yousefian, Mohammad	A new quantitative index to analyse the corporate social responsibility (CSR) level of mine sites was developed, providing an easy and friendly tool to analyse and apply a continuous improvement approach to CSR levels, being able to involve all the potential stakeholders. The index can be used in any type of project and stage: prospecting and exploration, development, mining, processing, closure and rehabilitation. The system consists of two dimensions, environment and socioeconomic, formed by 30 elements that analyse potential positive and negative impacts. Moreover, it can be adapted to the specific characteristics of any mining activity including new elements if	RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles	Sustainability (Switzerland)	10.3390/su142013570
34167065	LCA analysis and comparison in quarrying: Drill and blast vs mechanical extraction	1/10/2022	Bascompta Massanes, Marc;Sanmiquel Pera, Lluís;Gangolells Solanellas, Marta;Sidki Rius, Nor	The production of mineral resources from quarrying is vital and irreplaceable for providing raw materials for a wide range of economic sectors. Additionally, today's society demands a supply of mineral resources that is as sustainable as possible. This paper presents a comprehensive LCA study comparing two commonly used techniques to extract mineral resources for quarrying, using the cradle-to-gate approach. The global warming potential (GWP) is used as the main indicator, although all the other potential emissions from the extraction process are also calculated. The results obtained reveal that blasting techniques have a lower impact on global warming (-28%) and	RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles	Journal of cleaner production	10.1016/j.jclepro.2022.133042
34229531	Subsidence management and prediction system: a case study in potash mining	13/9/2022	Sidki Rius, Nor;Sanmiquel Pera, Lluís;Bascompta Massanes, Marc;Parcerisa Duocastella, David	Subsidence is an important environmental and safety issue in the mining sector, yet there remain voids in knowledge in terms of management and prediction. This study aims to improve knowledge on the impact of mining operations on the surface, reducing their effect on the environment, increasing the safety of mining operations, monitoring stress behavior and predicting rock mass. Therefore, an analysis was carried out to process and analyze the measured subsidence data and, subsequently, create a numerical model to predict the surface subsidence of a case study mine. The model was developed based on a finite element method (FEM). It was achieved by	RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles	Minerals	10.3390/min12091155
34256230	Análisis de estabilidad y simulaciones de desprendimientos en canteras a partir de modelos 3D obtenidos con vuelos de dron	1/9/2022	Ruiz Carulla, Roger;Camara Zapata, Eduardo;Martinez Bofill, Joan	Se presentan dos casos en canteras donde se trabaja a partir de un modelo 3D del terreno obtenido mediante la reconstrucción fotogramétrica con dron. El primer caso se centra en la delimitación detallada de una masa rocosa inestable y se comparan los resultados de análisis de estabilidad realizados con cuatro metodologías: test cinemático, equilibrio límite mediante el programa RocPlane y equilibrio límite con métodos numéricos en 2D y 3D mediante los programas Slide2D y Slide3D, todos ellos de Rocscience. Se comparan los resultados obtenidos considerando distintos valores de cohesión y ángulo de fricción obtenidos de ensayos de laboratorio sobre el plano	EnGeoModels - Monitoring and Modelling in Engineering Geology		

34220549	Caracterización de biopelículas y herramientas avanzadas de modelización para el desarrollo de bioreactores mediados con hidrógeno para la valorización de gases residuales	1/9/2022	Gamisans Noguera, Xavier;Sole Sardans, M. Montserrat;Bonsfills Pedros, Ana;Castro Carrasco, Rebeca Ignacia;Guimera Villalba, Xavier	The BIGDEAL project represents an important advance in the study of the best available technologies for the recovery of waste gases from different sources (combustion facilities, biogas production, effluents from fermenters ...), with a high content of inorganic compounds such as CO2 and SO2. In a previous project (RTI2018-099362-B-C22), developed by the same consortium of research projects (UPC and UAB), under the acronym ENSURE, the foundations have been laid for the development of bioprocesses for the recovery of gaseous effluents, mainly SO2 and NOx. The technology studied in this project has shown, on the one hand, enormous potential and global impact and, on the Future engineers, in addition to technical knowledge, should incorporate in their academic curricula aspects that contribute to making a sustainable activity. This will contribute to changing the concept that society has about mining and to be a socially accepted activity. In the mining engineering studies at the Universitat Politècnica de Catalunya (UPC), students have the opportunity to develop cooperation projects together with professors and other staff members. They all collaborate with artisanal miners from different underdeveloped countries, mainly from Latin America, and contribute to making mining more environmentally friendly. Moreover, they have	RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles		
35019418	Experiences of Mining Engineering students in cooperation for development	1/9/2022	Sidki Rius, Nor;Alfonso Abella, María Pura;Martínez Alcalá, Arnau;Gaona Boixader, Roger;Sendrós Gálvez, Miquel;Bel Roset, Guillem;Bascompta Massanes, Marc;Anticoi Sudzuki, Hernan Francisco;Yubero De Mateo, Maria Teresa;Jiménez Franco, Abigail	Future engineers, in addition to technical knowledge, should incorporate in their academic curricula aspects that contribute to making a sustainable activity. This will contribute to changing the concept that society has about mining and to be a socially accepted activity. In the mining engineering studies at the Universitat Politècnica de Catalunya (UPC), students have the opportunity to develop cooperation projects together with professors and other staff members. They all collaborate with artisanal miners from different underdeveloped countries, mainly from Latin America, and contribute to making mining more environmentally friendly. Moreover, they have	RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles		
35019341	Service-learning in engineering: analysis of students experiences in development cooperation	1/9/2022	Alsina Aubach, Montserrat;Alfonso Abella, María Pura;Sidki Rius, Nor;Bel Roset, Guillem;Gaona Boixader, Roger	Future engineers, in addition to technical knowledge, should incorporate in their academic curricula aspects that contribute to making a sustainable activity. This will contribute to changing the concept that society has about mining and to be a socially accepted activity. In the mining engineering studies at the Universitat Politècnica de Catalunya (UPC), students have the opportunity to develop cooperation projects together with professors and other staff members. They all collaborate with artisanal miners from different underdeveloped countries, mainly from Latin America, and contribute to making mining more environmentally friendly. Moreover, they have	STNB - Number Theory Barcelona Seminary		
35019203	Characterization of illitic materials from the Collsuspina quarry Catalonia, Spain	1/9/2022	Sabaté, Xavier;García-Vallès, Maite;Sidki Rius, Nor;Alfonso Abella, María Pura	Often the use of materials from quarries is not optimised and the activity ceases when there are still enough reserves. In the present study, materials from an inactive quarry have been characterised to determine whether it is still possible to continue quarrying. The quarry is located in the area of Collsuspina, in Catalonia, Spain. The chemical composition was determined by X-ray fluorescence. The mineralogy was determined by X-ray powder diffraction and scanning electron microscopy. Minerals are mainly quartz, feldspars, illite and chlorite. Thermal properties have been established from differential thermal and thermogravimetric analysis (DTA-TG) and dilatometry. The	RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles		
35019248	The use of borax to gold recovery in artisanal mining: Thermal considerations	1/9/2022	Villegas Flores, Karla Stephanie;Alfonso Abella, María Pura;Bel Roset, Guillem;García-Vallès, Maite	Mercury is still frequently used for gold recovery in artisanal mining, despite the fact that it seriously harms health and is illegal in many countries. An alternative to the use of the mercury amalgamation method by the so-called borax method. This consists of a pyrometallurgical process in which the gold concentrate is mixed with boron and melted, so that when it cools, the gold is separated from the rest of the material with which it is found. This process is carried out in a rudimentary manner. In order to establish a protocol, it is necessary to know the thermal behaviour of the mixture of the concentrate with and the borax. In this way it is possible to determine the optimal ratios	RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles		

35631884	Projecte Bosc i Sostenibilitat. Treballar els Objectius de Desenvolupament Sostenible a través del Bosc	1/9/2022	Mulero Jiménez, Lorena;Grau Vilalta, Maria Dolors	Aquest document va adreçat al professorat de Secundària que implementa el projecte BOSC i sostenibilitat amb els seus estudiants. Els estudiants de Secundària treballen el bosc com a element clau per lluitar contra el canvi climàtic i tenen l'oportunitat de prendre consciència del seu paper en l'estalvi d'aigua i energia, així com analitzar l'arbrat que els envolta en el seu entorn més immediat. A partir d'aquí poden relacionar els continguts treballats amb alguns dels 17 ODS. El Projecte consta de 6 Documents d'activitats relacionats amb el bosc i el canvi climàtic: 0. Treballar els Objectius de Desenvolupament	CITES - Sustainability Science and Technology Research Group		
34223427	Study of immobilized biomass reactors for sulfate reducing activity characterization and improvement	31/8/2022	Castro Carrasco, Rebeca Ignacia;Gabriel Buguña, Gemma;Gamisans Noguera, Xavier;Guimera Villalba, Xavier	Immobilization of non-granular sludge is an auspicious option for sulfate reducing activity improvement. In this study, PVA-biomass granules and alginate-biomass granules were tested for mechanical stability, adsorption capacity and sulfate reduction. Moreover, two configurations of reactors, a Continuous Stirred Tank Reactor (CSRT) and a Column Reactor (CR) were operated, evaluating sulfate and glycerol consumption H2S production in order to improve sulfate-reduction process within SONOVA process. The CR presented a stable sulfate reducing activity, higher production of H2S and low wash out comparing to CSTR	RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles		
34183731	Development of a low-cost microelectromechanical system for the digitisation of boreholes	1/8/2022	Bonet Dalmau, Jordi;Arumi Casanovas, Arnau;Camara Zapata, Eduardo;Palà Schönwälder, Pere;Bascompta Massanes, Marc	The deviation of drill holes from their theoretical position can lead to failures or dangerous situations due to the risk of fly-rocks when blasting rock. The origin of these deviations may be due to several causes: poor positioning of the drilling machine, deviations of the drill string due to unfavourable geological conditions, wear of drilling tools, etc. A novel equipment has been developed to evaluate boreholes efficiently and safely, being able to validate them and find and quantify potential deviations from the projected trajectory. The system consists of a probe that is introduced into the borehole to determine the heading (dip direction angle) and inclination (dip angle) of the	RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles		10.11159/mmme22.131
34183711	Analysis of an accident in the mining sector using the Feyer & Williamson method	1/8/2022	Sanmiquel Pera, Lluís;Bascompta Massanes, Marc;Sidki Rius, Nor;Vives Costa, Jordi;Lopez Martinez, Joan Antoni	This research presents the case of the analysis of an accident in an aggregate processing plant through the Feyer & Williamson method. This method was designed to allow the coding of a time sequence of up to 3 events that have preceded a given accident. These events are called Preceding Events and are characterised as determining factors for the genesis of the accident. In addition, causal factors can also be identified, which are considered to have influenced the accident but not in such a decisive way as the events. The method makes it possible to identify 4 types of events and 8 types of causal factors, as well as different types of human error that have directly influenced the origin	RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles		10.11159/mmme22.123
34183634	FEM analysis of saline creep behaviour over time	1/8/2022	Sidki Rius, Nor;Bascompta Massanes, Marc;Sanmiquel Pera, Lluís;Parcerisa Duocastella, David;Alfonso Abella, María Pura;Vera Burau, Alejandra;González Jiménez, Gabriel;Biosca Munts, Jose	The case study is a potash ore deposit located in the Spanish Ebro Basin; it is configured by 8 salt lithologies separated by layers of clays. Saline materials have a characteristic called Creep, which is the flow capacity once an underground excavation is opened. This flow can be fast enough to present a safety hazard for the miners and an operational issue due to the cross-section reduction of the drift or even its collapse. Different variables including temperature or pressure influence directly the creep evolution. In recent years, the mining infrastructure of this case study is reaching considerable depths, such as opening underground excavations at more than 900 meters depth	RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles		10.11159/mmme22.110

34057078	Mercury pollution from the artisanal gold mining in the La Paz department, Bolivia	24/7/2022	Villegas Flores, Karla Stephanie;Alfonso Abella, María Pura;Freixas, Anna;Higuera Higuera, Pablo León;Aranibar Jiménez, Ana María;González Valoys, Ana	Bolivia is the only country in the Andean region that still allows the use and import of mercury, which is being used in artisanal and small-scale gold mining. In the department of La Paz there is a large gold mining activity, which is mainly developed as artisanal mining through cooperatives. Gold is exploited from primary orogenic-type deposits, and from placer-type deposits, where gold is free. In both cases, miners still use mercury to gold recovering. In this study, an assessment of gold pollution and the efficiency of gold processing by amalgamation was carried out to demonstrate the need to abandon these practices. A significant part of the mercury still used in South America is obtained	RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles		
34208671	Generating 3D geothermal maps in Catalonia, Spain using a hybrid adaptive multitask deep learning procedure	1/7/2022	Mirfalah Lialestani, Seyed Poorya;Parcerisa Duocastella, David;Himi, Mahjoub;Shahri, Abbas Abbaszadeh	Mapping the subsurface temperatures can efficiently lead to identifying the geothermal distribution heat flow and potential hot spots at different depths. In this paper, an advanced adaptive multitask deep learning procedure for 3D spatial mapping of the subsurface temperature was proposed. As a result, predictive 3D spatial subsurface temperatures at different depths were successfully generated using geolocation of 494 exploratory boreholes data in Catalonia (Spain). To increase the accuracy of the achieved results, hybridization with a new modified firefly algorithm was carried out. Subsequently, uncertainty analysis using a novel automated ensemble	RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles	Energies	10.3390/en15134602
35059077	Rate-dependent behaviour of fracture propagation in salt rock	1/7/2022	Escanelas Tur, Andreu;Camara Zapata, Eduardo;Liadad, Joaquín;Carol, Ignacio	This paper describes an on-going experimental and numerical modelling research project on salt rock specimens. The experimental part of the study consists of a number of Mode I fracture tests with the WST (Wedge-Splitting Test) configuration, which are performed at different loading rates and complemented by a series of standard uniaxial creep tests. The preliminary WST results show a greater mechanical fracture work accompanied with lower force peaks, for the slower tests. As a first attempt to represent the experimental results, an in-house Finite Element model has been used, which combines an inviscid discrete fracture approach with a Maxwell chain model for the	GGMM - Group of Geotechnics and Mechanics of Materials		10.1201/9781003295808-17
33966075	Studying forests in an open schooling project	7/6/2022	Mulero Jiménez, Lorena;Cunill Solà, Jordi;Grau Vilalta, Maria Dolors;Mancho Ferreras, Francesc	The objective of this study is to run a pilot test on the application of Open Science Schooling (OSS) methodology in projects with secondary-school students to know the impact it can have on their learning and their perception of it in addition to know how to develop teaching practice. As a study sample, we have selected a series of countries that are participating in an Erasmus+ project; to ensure a more exhaustive study, we are working with one of the participating schools located in Catalonia, near to our research group. In our study, we will consider the application of the Open Science Schooling methods in several secondary-school projects with the goal of comparing them and	CITES - Sustainability Science and Technology Research Group	Journal of technology and science education	10.3926/jotse.1461
33808967	Contribution to the hydrogeological knowledge of the high mountain karst aquifer of the Port del Comte (SE, Pyrenees)	2/6/2022	Herns Canellas, Joan Ignasi;Soler Gil, Albert;Jorge Sanchez, Juan	This thesis has aimed to improve the hydrogeological knowledge of the Port del Comte Massif (PCM), a karstic aquifer system located in the south-eastern sector of the Pyrenees that plays a strategic role in the provision of water resources in the basins of the Llobregat and Segre river basins. The specific objectives have been aimed at deepening the knowledge of the geological structure of its reservoirs, the hydrodynamic and geochemical behaviour, the establishment of a conceptual model; and the study of climate change (CC) scenarios. A data acquisition work has been carried out followed by its processing and modeling. The results have been published in 4 peer-reviewed			

35664957	Contribución a la búsqueda de una solución integral en la crítica situación de Zaruma	1/6/2022	Sidki Rius, Nor;Parcerisa Duocastella, David;Alfonso Abella, María Pura;Bascompta Massanes, Marc;Yubero De Mateo, María Teresa;Sanmiquel Pera, Lluís	La minería il·legal és una activitat que consisteix en l'explotació de minerals metàl·lics i no metàl·lics sense control ni regulació social i ambiental per part d'un estat. Aquest és el cas de Zaruma, ciutat colonial a l'Equador, declarada Patrimoni Cultural en aquest país i que a més cerca ser declarada Patrimoni de la Humanitat. Zaruma és una joia arquitectònica sostinguda en el temps, compta amb edificacions patrimonials i històriques que daten del segle XV, i que el dia d'avui es troben amenaçades per la subsidència a causa de la mineria il·legal. Dades, recerca i experiència en les	RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles		
33771111	Tribological behaviour of steel optimised automotive AW/FM oil additives in front of non-common materials	21/5/2022	Cañellas Palou, Gerard;Emeric Casterà, Ariadna;Combarros, M.;Navarro, A.;Beltran Giralt, Luis;Vilaseca Llosada, Montserrat;Vives Costa, Jordi	In the recent years, new component designs and materials have been continuously incorporated in vehicle production in order to reduce weight and increase autonomy. The use of new pieces and materials has triggered a huge number of tribological challenges for current oil formulations, commonly designed to work with steel-steel contacts (St-St). Lightweight alloys, such as aluminum, are optimum candidates to substitute ferrous based components +,?. The AIM of this study is to evaluate the performance of 3 commercial steel antiwear (AW) and/or friction modifier (FM) additives in front of aluminum-steel contact (Al-St)	RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles		
36980429	Les petjades del temps	18/5/2022	Sidki Rius, Nor	Exposició fotogràfica geològica	RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles		
33796495	Exposición ocupacional de mercurio en mineros auríferos del departamento de La Paz - Bolivia	27/4/2022	Villegas Flores, Karla Stephanie;Higueras Higuera, Pablo León;Alfonso Abella, María Pura	Bolivia es el único país de la región andina que aun permite el uso e importación de mercurio, el cual se está utilizando en la minería artesanal y a pequeña escala para la obtención del oro. La manipulación y exposición del mercurio es directa durante la amalgamación y refogado, por ello, se ha realizado una investigación para conocer la contaminación por mercurio de aguas y su afección en la salud de los mineros. Se han analizado las concentraciones de THg en cabellos de los mineros ubicados en los municipios de Pelechuco y Coroico, ubicados en las áreas protegidas de Cotapata y Apolobamba, respectivamente. Los resultados muestran una media de 969 2 ng/g de	RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles		
33080774	Elements and mineral resources	12/4/2022	Sanz Balague, Joaquim;Tomas Guix, Oriol;Jiménez Franco, Abigail;Sidki Rius, Nor	This textbook is the first to offer essential information on the ores and basic properties of the majority of chemical elements, together with the most important industrial minerals, their latest applications and recycling options, illustrated with a wealth of photos. This book represents the culmination of a comprehensive project jointly pursued by the Valentí Masachs Geology Museum and the Universitat Politècnica de Catalunya (UPC) (Polytechnic University of Catalonia) over the past several years. Published in response to multiple requests from university professors and other educators, it will promote a new society in which human beings use the Earth's natural	GREMS - Sustainable Mining Research Group		https://doi.org/10.1007/978-3-030-85889-6

32885254	A novel bioscrubber for the treatment of high loads of ammonia from polluted gas	9/3/2022	Morral Moltó, Eloi;Dorado Castaño, Antonio David;Gamisans Noguera, Xavier	This work presents a novel bioscrubber configuration for the treatment of high ammonia loads at short contact times. The biological reactor was designed to work as a moving-bed biofilm reactor (MBBR) increasing biomass retention time. This configuration is still unexplored for the treatment of waste gases. Long-term operation of a lab-scale bioscrubber under different inlet concentrations of ammonia (60-7570 ppmv) and a gas contact time of 4 s was performed to study the system operational limits during 250 days. The effect of the dissolved oxygen concentration on the nitrification rate was also evaluated. Under these conditions, a critical elimination capacity (EC) of 250 NH ₃ -m ⁻³ ·h ⁻¹ and a	RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles	Environmental science and pollution research international	10.1007/s11356-022-19065-6
35153970	Activitats Experimentals	1/3/2022	Grau Vilalta, Maria Dolors;Mulero Jiménez, Lorena	El present document té com a finalitat facilitar les activitats experimentals, tant de camp com de laboratori, relacionades amb el Projecte Bosc i Sostenibilitat. El Projecte consta de 6 Documents d'activitats relacionats amb el bosc i el canvi climàtic: 0. Treballar els Objectius de Desenvolupament Sostenible a través del Bosc (manual per al professorat) 1. Activitats per a l'estudi de la qualitat i consum de l'aigua (El bosc i l'aigua) 2. Activitats per a l'estudi de la qualitat de l'aire (El bosc i l'aire) 3. Activitats per a l'estudi de l'arbrat (El bosc i la ciutat) 4. Activitats per a l'estudi de la gestió forestal i la sostenibilitat (Gestió sostenible) 5.	CITES - Sustainability Science and Technology Research Group		
32887998	Process mineralogy of the tailings from Llagua: towards a sustainable activity	7/2/2022	Alfonso Abella, María Pura;Ruiz Orellana, Miquel;Zambrana Martínez, Rubén Néstor;Sendrós Gálvez, Miquel;García-Vallès, Maite;Anticoi Sudzuki, Hernan Francisco;Sidki Rius, Nor;Salas Reyes, Antonio Enrique	There are significant tin reserves in the dumps and tailings from Llagua. Currently, this waste is being processed using gravity concentration or a combination of gravity concentration with a final stage of froth flotation. A process mineralogy study of the tailings and their products after processing in Llagua was carried out to determine the failings of the processing system in order to contribute to designing an improved new processing scheme. The mineralogy of the feed tailings, concentrate, and final tailings was determined by X-ray diffraction, scanning electron microscopy, and mineral liberation analysis. The tailings were composed of quartz, tourmaline, illite, K-	RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles	Minerals	10.3390/min12020214
32502534	Environmental and occupational characterisation of coals and dust from coal mining	13/1/2022	Trechera Ruiz, Pedro;Moreno Pérez, Teresa;Querol Carceller, Xavier	The main objective of this PhD thesis is the study of coal mine dust patterns produced by different types of mining operations and different types of coal. In addition, the potential links between oxidative potential (OP) of coal dust and its geochemistry have been investigated in order to identify indicators of potential concern for human health. To these ends, extensive particle size, chemical, mineralogical and OP analyses were carried out on: i) deposited coal mine dust collected in from different areas in underground and open-pit coal mines; ii) a selection of powdered coal samples from in-seam channel profiles covering a wide and contrasting variety of coal			
34337487	Activitats per conèixer la gestió forestal i la sostenibilitat	1/1/2022	Mulero Jiménez, Lorena;Grau Vilalta, Maria Dolors	El present document té com a finalitat facilitar les activitats a desenvolupar en l'estudi de la gestió forestal sostenible arreu del planeta. El principal objectiu és relacionar la riquesa dels serveis dels boscos a la sostenibilitat i la necessitat de la gestió forestal per preservar aquests recursos. Per desenvolupar les activitats es proporcionen els enllaços d'internet en els que es pot trobar tot el material interactiu necessari per desenvolupar les activitats proposades. El Projecte consta de 6 Documents d'activitats relacionats amb el bosc i el canvi climàtic: 0. Treballar els Objectius de Desenvolupament	EXPLORATORI - EXPLORATORI Natural Resources		

34337471	Activitats per a l'estudi de la qualitat de l'aire i les emissions de CO2	1/1/2022	Mulero Jiménez, Lorena;Grau Vilalta, Maria Dolors	<p>El present document té com a finalitat facilitar les activitats a desenvolupar en l'estudi de la contaminació de l'aire i el càlcul de les emissions de CO2 i altres paràmetres, per part dels estudiants de qualsevol centre de secundària. Per desenvolupar les activitats es proporcionen els enllaços d'internet en els que es pot trobar tot el material interactiu necessari per desenvolupar les activitats proposades.</p> <p>El Projecte consta de 6 Documents d'activitats relacionats amb el bosc i el canvi climàtic: 0. Treballar els Objectius de Desenvolupament Sostenible a través del Bosc (manual per al professorat) 1. Activitats per</p>	EXPLORATORI - EXPLORATORI Natural Resources		
34336858	Activitats per a l'estudi de l'arbrat	1/1/2022	Mulero Jiménez, Lorena;Orellana Asenjo, Giancarlo;Grau Vilalta, Maria Dolors	<p>El present document té com a finalitat facilitar les activitats a desenvolupar en l'estudi de les cobertes del sòl i de l'arbrat de qualsevol zona del territori de Catalunya per part de l'estudiant. Per implementar-lo es proporcionen els enllaços d'internet en els que es pot trobar tot el material interactiu necessari per desenvolupar les activitats proposades.</p> <p>El Projecte consta de 6 Documents d'activitats relacionats amb el bosc i el canvi climàtic: 0. Treballar els Objectius de Desenvolupament Sostenible a través del Bosc (manual per al professorat) 1. Activitats per a l'estudi de la qualitat i consum de l'aigua (El bosc i l'aigua) 2</p>	EXPLORATORI - EXPLORATORI Natural Resources		
34336812	Activitats per a l'estudi de la qualitat i el consum de l'aigua	1/1/2022	Mulero Jiménez, Lorena;Grau Vilalta, Maria Dolors	<p>El present document té com a finalitat facilitar les activitats a desenvolupar en l'estudi de la qualitat de l'aigua en diferents tipus de massa d'aigua ja siguin aqüífers, rius, embassaments... El principal objectiu és relacionar la qualitat de l'aigua amb la proximitat de la massa d'aigua a estudiar amb un entorn urbanitzat o un entorn forestal (sent el segon de millor qualitat). Per desenvolupar les activitats es proporcionen els enllaços d'internet en els que es pot trobar tot el material interactiu necessari per desenvolupar les activitats proposades.</p> <p>El Projecte consta de 6 Documents d'activitats relacionats amb el bosc i</p>	EXPLORATORI - EXPLORATORI Natural Resources		
35254160	Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles (RIIS)	1/1/2022	Alfonso Abella, Maria Pura;Anticoi Sudzuki, Hernan Francisco;Vallbe Mumburu, Marc;Parcerisa Duocastella, David;Sanmiquel Pera, Lluís;Oliva Moncunill, Josep;Bascompta Massanes, Marc;Niubo Eslava, Maria;Hoffmann Sampaio, Carlos;Dorado Castaño, Antonio David;Lao Luque, Concepcion;Sole Sardans, M. Montserrat;Escobet Canal, Teresa;Gamisans Noguera, Xavier;Vives Costa, Jordi;Moncunill Geniz, Francisco Javier;Perez Rafols, Francisco;de las Heras Cisa, F. Xavier;Tarres Puertas, Marta Isabel;Barcons		RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles		
35235027	Manual pel càlcul d'emissions de GEH: Versió simplificada per a centres docents	1/1/2022	Mulero Jiménez, Lorena;Losantos Viñolas, Pedro;Capdevila Canal, Sira;Grau Vilalta, Maria Dolors		CITES - Sustainability Science and Technology Research Group		

32299095	Tractament d'emissions gasoses amb altes càrregues d'amoniac mitjançant tecnologies biològiques avançades.	3/12/2021	Morral Moltó, Eloi;Gamisans Noguera, Xavier;Dorado Castaño, Antonio David	En els darrers anys s'ha produït un increment considerable de la generació de residus sòlids, líquids i gasosos. De tots aquests, els residus gasosos són probablement els que tenen una major problemàtica associada, ja que un cop han estat emesos a l'atmosfera la seva recuperació és complicada i el seu tractament s'encareix. A més a més, un cop els gasos són alliberats a l'atmosfera aquests poden recorre grans distàncies amb molt poc temps, afectant grans àrees de terreny. Les principals problemàtiques associades als contaminants gasosos són l'increment de la temperatura planetària, la generació de boirum o la pluja àcida, entre altres. Les tècniques fisicoquímiques	RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles		
32023837	Geochemistry and oxidative potential of the respirable fraction of powdered mined Chinese coals	1/12/2021	Trechera Ruiz, Pedro;Moreno Pérez, Teresa;Córdoba Sola, Patricia;Moreno Palmerola, Natàlia;Amato, Fulvio;Cortés, Joaquim;Zhuang, Xinguo;Li, Baoqing;Li, Jing;Shangguan, Yunfei;Oliete Domínguez, Ana;Kelly, Frank;Mhadhbi, Takoua;Jaffrezo, Jean Luc;Uzu, Gaele;Querol Carceller, Xavier	This study evaluates geochemical and oxidative potential (OP) properties of the respirable (finer than 4 µm) fractions of 22 powdered coal samples from channel profiles (CP4) in Chinese mined coals. The CP4 fractions extracted from milled samples of 22 different coals were mineralogically and geochemically analysed and the relationships with the OP evaluated. The evaluation between CP4/CP demonstrated that CP4 increased concentrations of anatase, Cs, W, Zn and Zr, whereas sulphates, Fe, S, Mo, Mn, Hf and Ge decreased their CP4 concentrations. OP results from ascorbic acid (AA), glutathione (GSH) and dithiothreitol (DTT) tests evidenced a clear link between specific		Science of the total environment	10.1016/j.scitotenv.2021.149486
32187775	A global observational analysis to understand changes in air quality during exceptionally low anthropogenic emission conditions	1/12/2021	Sokhi, Ranjeet S.;Singh, Vikas;Querol Carceller, Xavier;Finardi, Sandro;Targino, Admir Créso;Andrade, Maria de Fatima;Pavlovic, Radenko;Garland, Rebecca M.;Massagué Obradors, Jordi;Kong, Shaofei	This global study, which has been coordinated by the World Meteorological Organization Global Atmospheric Watch (WMO/GAW) programme, aims to understand the behaviour of key air pollutant species during the COVID-19 pandemic period of exceptionally low emissions across the globe. We investigated the effects of the differences in both emissions and regional and local meteorology in 2020 compared with the period 2015-2019. By adopting a globally consistent approach, this comprehensive observational analysis focuses on changes in air quality in and around cities across the globe for the following air pollutants: PM _{2.5} , PM ₁₀ , PM _{10-2.5} (coarse fraction of PM)		Environment international	10.1016/j.envint.2021.106818
32083525	Impacto del cambio climático en acuíferos kársticos del Pirineo. El caso del Port del Comte, Lleida (España)	17/11/2021	Jódar Bermúdez, Jorge;Hermes Canellas, Joan Ignasi;Lambán Jiménez, Luis Javier;Martos, Sergio;González Ramón, Antonio;Soler Gil, Albert;Custodio Gimena, Emilio	Las zonas de alta montaña generan la mayor parte de recursos hídricos de los que se abastecen los ecosistemas ubicados en las zonas bajas. Cuando las montañas constituyen en sí un acuífero, el agua recargada permanece más tiempo en la cuenca, proporcionando así un recurso hídrico estratégico en las estaciones secas. Esto es especialmente importante en el área mediterránea, propensa a la sequía, y donde la disponibilidad de agua es escasa y depende en gran medida de la escorrentía de las cuencas de cabecera. En este marco, es fundamental evaluar el impacto del Cambio Climático (CC) en la disponibilidad de recursos hídricos en zonas de montaña, ya que esto ayudará a diseñar			
32776483	Els Serveis del BOSC i els ODS	12/11/2021	Grau Vilalta, Maria Dolores;Mulero Jiménez, Lorena	Exposició on es relacionen els Objectius de Desenvolupament Sostenible de l'Agenda 2030, utilitzant com a fil conductor els serveis ecosistèmics del bosc. Relació entre la qualitat de l'aigua i de l'aire amb l'arbrat i la gestió forestal.	CITES - Sustainability Science and Technology Research Group		

32775236	Els serveis del bosc i els ODS	8/11/2021	Grau Vilalta, Maria Dolors;Mulero Jiménez, Lorena	Exposició on es relacionen els Objectius de Desenvolupament Sostenible de l'Agenda 2030, utilitzant com a fil conductor els serveis ecosistèmics del bosc. Relació entre la qualitat de l'aigua i de l'aire amb l'arbrat i la gestió forestal.	CITES - Sustainability Science and Technology Research Group		
34317487	Jornada Tesis Doctorals Vicente López - Sostenibilidad	29/10/2021	Cubides Paez, David Fernando	Firts of the sessions about the PhD thesis that are currently on-going at the Sustainability Area in the framework of the Vicente López grants			
32086010	Production and Microstructure of Al-Ni-Y and Al-Ni-Y-La Powder by Centrifugal Atomization	18/10/2021	Cegarra Salges, Sasha Alejandra				
32122271	Identification of natural and anthropogenic geochemical processes determining the groundwater quality in Port del Comte high mountain karst aquifer (SE, Pyrenees)	15/10/2021	Herms Canellas, Joan Ignasi;Jódar Bermúdez, Jorge;Soler Gil, Albert;Lambán Jiménez, Luis Javier;Custodio Gimena, Emilio;Nuñez Genestós, Joan Agustí;Arnó Pons, Georgina;Parcerisa Duocastella, David;Jorge Sanchez, Juan	The Port del Comte Massif (SE, Pyrenees) contains one of the most important vulnerable and strategic karst aquifers for supplying freshwater to the city of Barcelona (Spain). It is a fragile system, whose possible environmental impact is highly conditioned by land use. To improve the hydrogeological knowledge of the system, between September 2013 and October 2015, a detailed fieldwork was carried out for the revision of the geological model, the inventory of water points, and the in situ physico-chemical characterization on major elements and isotopes of up to a total of 43 springs, as well as precipitation water. This paper focuses on the characterization of the	RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles	Water (Basel)	10.3390/w13202891
33763795	Learn about the water around you: use with secondary-school students	1/10/2021	Mulero Jiménez, Lorena;Grau Vilalta, Maria Dolors	In this paper, we present the Manual on water quality and consumption. It is part of the Forest and sustainability project, which seeks to tie the Sustainable Development Goals to woodlands. Our work is based on a series of open-access websites belonging to the administration. They allow secondary school students to take a first-hand look at the state of the bodies of water in their area, and to evaluate their water footprint and the carbon footprint associated with their water consumption. During the 2019-2020 school year we ran a pilot test of the program with secondary-school teachers, which allowed us to develop a working method that is currently being used at	CITES - Sustainability Science and Technology Research Group	Modern environmental science and engineering	10.15341/mese(2333-2581)

32060525	Evolution in the law of transport noise in England	27/9/2021	Simona Pujadó, Josep; Vallbe Mumburu, Marc; Rossell Garriga, Josep Maria; Sanchez Roemmele, Xavier	This article tracks the evolution of the regulatory framework in relation to transport noise in England from private and public nuisances in common law to the defence of statutory authority. The article looks at the evolution of transport noise law focusing primarily on the emergence of turnpike roads in the eighteenth century, railways in the nineteenth century, the extension of road motor vehicles in the verge of the twentieth century and, lastly, the introduction of jet aircraft after World War II. The introduction of these noise sources shaped the current noise regulatory framework in England. Traffic noise in England enjoys protection against nuisance claims. Nowadays, the British	RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles	Transportation research. Part D, Transport and environment	10.1016/j.trd.2021.103050
32064980	Study of immobilization methods for sulfate-reducing sludge characterization through H2S production evaluation	3/9/2021	Castro Carrasco, Rebeca Ignacia; Gamisans Noguera, Xavier; Gabriel Buguña, Gemma; Guimera Villalba, Xavier	Immobilized sulfate reducing sludge present a solution for fast analysis of H2S production and accurate mass transfer studies using amperometric microsensors. For this purpose, polymer carrier alginate, PVA and agar were mixed with sludge and placed in a flat plate bioreactor. Kinetic rates were calculated and long-term assays were performed to evaluate sulfate consumption, COD removal and resistance in order to select the optimal immobilization method. The selected method was also validated following the activity of immobilized sulfate-reducing sludge in the monitoring platform <i>Peer Reviewed</i>	RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles		10.48158/MeCCE-14.DG.11.06
32027618	Analysis of the surveying errors in the Cabanasses Ramp breakthrough	4/8/2021	Sanmiquel Pera, Lluís; Bascompta Massanes, Marc; Anticoi Sudzuki, Hernan Francisco; Sidki Rius, Nor	The Cabanasses Ramp is a complex tunnel designed to access the Cabanasses Mine and improve the environmental conditions, safety and production capacity. Its construction started in July 2012, finishing in 2020. Until now, the only access to the Mine was through 2 mine shafts called ?Pozo 2? and ?Pozo 3?. The Cabanasses Mine is located in Súria (Bages, Catalonia, Spain). The Ramp will be about 5.1 km length, descending more than 800m with a high gradient, with a maximum slope of 21%. One of the first surveying works carried out during the construction of this ramp was the transmission of the orientation and cartographic system between	RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles		10.11159/mmme21.114
32010500	Characterization of Clays in Catalan Potash Basin. Influence on the Geomechanical conditions in Potash Mining	4/8/2021	Sidki Rius, Nor; Bascompta Massanes, Marc; Sanmiquel Pera, Lluís; Parcerisa Duocastella, David; Alfonso Abella, María Pura; González Jiménez, Gabriel R.		RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles		10.11159/mmme21.109
30960409	Understanding the local and remote source contributions to ambient O3 during a pollution episode using a combination of experimental approaches in the Guadalquivir valley, southern Spain	10/7/2021	In 't Veld, Marten; Carnerero Quintero, Cristina; Massagué Obradors, Jordi; Alastuey Urós, Andrés; de la Rosa, Jesús D.; Sánchez de la Campa Verdona, Ana M.; Escudero Tellechea, Miguel; Mantilla Iglesias, Enrique; Gangoiti Bengoa, Gotzon; Pérez García-Pando, Carlos; Olid García, Miriam; Moreta González, Juan Ramón; Hernández Pérez, José Luis; Santamaría Sancho, Julián J.; Millán Muñoz, Millán; Querol Carceller, Xavier	The Guadalquivir Valley is one of three major O3 hotspots in Spain. An airborne and surface measurement campaign was carried out from July 9th to 11th, 2019 to quantify the local/regional O3 contributions using experimental approaches. Air quality and meteorology data from surface measurements, a microlight aircraft, a helium balloon, and remote sensing data (TROPOMI-NO2-ESA) were used to obtain the 3D distribution of O3 and various tracer pollutants. O3 accumulation over 2.5 days started with inputs from oceanic air masses transported inland by sea breezes, which drew O3 and its		Science of the total environment	10.1016/j.scitotenv.2020.144579

32023996	Difusió i prioritització dels ODS en els joves: des de Primària a la Universitat	1/7/2021	Mulero Jiménez, Lorena; Grau Vilalta, Maria Dolors; Torra Bitlloch, Immaculada; Cunill Solà, Jordi	En aquest treball, s'estudia com conscienciar els estudiants de secundària sobre el medi ambient i la sostenibilitat. Es pretén que prenguin consciència del seu paper com a transformadors del món. Per aconseguir-ho, treballem a través dels Objectius de Desenvolupament Sostenible (ODS) buscant formes d'integrar-los al seu entorn estudiantil diari. Les mostres d'estudiants tenen des de 9 fins als 50 anys, amb nivell diferent de familiarització amb els ODS. Peer Reviewed Postprint (author's final draft) Objectius de Desenvolupament Sostenible: 2 - Fam zero	CITES - Sustainability Science and Technology Research Group		
31937605	Aquaesteam: reptes, ciència i tecnologia	1/7/2021	Alsina Aubach, Montserrat; Alfonso Abella, Maria Pura; Bascompta Massanes, Marc; Domenech Blazquez, Margarita; Freixanet De La Iglesia, Maria Josep; Grau Torrent, Sergi; Leon Pardo, Miquel; Méndez Planell, Montserrat; Niubo Eslava, Maria; Rossell Garriga, Josep Maria; Sidki Rius, Nor; Vives Costa, Jordi; de las Heras Cisa, F. Xavier; Martínez Domene, Joan; Arumi Casanovas, Arnau; Giralt Mas, M. Rosa; Blanes Priego, Manel; Yubero De Mateo, Maria Teresa; Gomez Gamisans, Montserrat; Ciriano Nogales, Yolanda	El projecte sol·licitat té com a objectiu despertar, educar i impulsar vocacions científiques mostrant als estudiants, així com al públic en general, la importància de la interrelació entre els diferents àmbits de ciència i tecnologia, i la necessitat de treballar en equip els diferents sectors del coneixement perquè la societat avanci. L'estratègia consisteix a plantejar uns reptes, una col·lecció de preguntes sobre problemes reals de ciència i tecnologia, en forma de vídeo, que puguin ser abordats per escolars de qualsevol nivell educatiu com a treball STEAM en equip, generant propostes per solucionar-los. Se'ls ofereix l'assessorament interdisciplinari d'investigadors de la IIPC i	STNB - Number Theory Barcelona Seminary		
31937596	El Bosque y la sostenibilidad	1/7/2021	Grau Vilalta, Maria Dolors; Cunill Solà, Jordi; Mancho Ferreras, Francesc; Mulero Jiménez, Lorena; Domenjó Espada, Iolanda	El objetivo del proyecto consiste en relacionar el BOSQUE con la mayoría de los 17 Objetivos de Desarrollo Sostenible (ODS) de la Agenda 2030. Se trabaja a partir del estudio del agua y del aire del entorno más próximo a los estudiantes de Secundaria de cada centro, para acabar analizando la superficie de árboles que les rodea y comprobar cuán importante es la gestión forestal. Se trata de comprobar el papel fundamental que juega el bosque en las cuestiones relacionadas con la mitigación del cambio climático. La clave radica en que sean los propios jóvenes el motor de cambio en sus familias, a la vez que sirvan de modelo para el resto de estudiantes de su centro.	CITES - Sustainability Science and Technology Research Group		
31209977	Lessons from the COVID-19 air pollution decrease in Spain: Now what?	1/7/2021	Querol Carceller, Xavier; Massagué Obradors, Jordi; Alastuey Urós, Andrés; Moreno Pérez, Teresa; Gangoi Bengoa, Gotzon; Mantilla Iglesias, Enrique; Diéguez Rodríguez, José Jaime; Escudero Tellechea, Miguel; Monfort Gimeno, Eliseo; Pérez García-Pando, Carlos; Petetin, Hervé; Jorba Casellas, Oriol	We offer an overview of the COVID-19-driven air quality changes across 11 metropolises in Spain with the focus on lessons learned on how continuing abating pollution. Traffic flow decreased by up to 80% during the lockdown and remained relatively low during the full relaxation (June and July). After the lockdown a significant shift from public transport to private vehicles (+21% in Barcelona) persisted due to the pervasive fear that using public transport might increase the risk of SARS-CoV-2 infection, which need to be reverted as soon as possible. NO2 levels fell below 50% of the WHO annual air quality guidelines (WHO AQGs) but those of PM2.5 were reduced less than expected due		Science of the total environment	10.1016/j.scitotenv.2021.146380
32260548	An inkjet-printed amperometric H2S sensor for environmental applications	30/6/2021	Paré Estatella, Franc; Castro Carrasco, Rebeca Ignacia; Guimera Villalba, Xavier; Gabriel Buguñá, Gemma; Baeza Labat, Mireia	Hydrogen sulfide (H2S) is a highly toxic chemical capable of causing severe health issues. Due to its environmental impact, it is critical to create effective methods for its monitoring. Inkjet printing technology has become an alternative for sensor fabrication because it is an economic, fast, and reproducible method for mass producing micro-electrodes. Herein, a miniaturized 25 mm2 inkjet-printed amperometric sensor is presented. A gold electrode coupled with a silver track was modified with two inks: single-walled carbon nanotubes (SWCNTs) and a mixture of SCWCNTs and poly(vinyl alcohol) (PVA). Morphological and electrochemical properties were studied, as well as H2S sensor	RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles	Chemistry proceedings	10.3390/CSAC2021-10462

32012738	A novel bioscrubber for the treatment of high loads of ammonia from polluted gas	25/6/2021	Morral Moltó, Eloi;Gamisans Noguera, Xavier;Dorado Castaño, Antonio David	At present, the management of industrial waste is one of the major problems of society development. A wide range of pollutants are emitted from industrial facilities such as odorous compounds, VOCs, NH3 or H2S. Ammonia (NH3) is a colourless, strongly odorous, toxic, reactive and corrosive gas that is a by-product of the biological degradation of urea, proteins and amino acids found in the organic fraction of municipal solid wastes. Traditionally, physical-chemical process has been used for the abatement of gaseous pollutants such as adsorption with activated carbon, wet-scrubbing, incineration, and air stripping. However, high operational cost and secondary pollutant	RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles		
31263921	2005-2018 trends in ozone peak concentrations and spatial contributions in the Guadalquivir Valley, southern Spain	1/6/2021	Massagué Obradors, Jordi;Contreras, Juan;Campos, Alberto;Alastuey Urós, Andrés;Querol Carceller, Xavier	We assessed 2005-2018 data series of NO, NO2, and O3 surface measurements, meteorological data and remote sensing of tropospheric NO2 by OMI-NASA in the Guadalquivir Valley (GV, Andalucía). The GV is one of the Spanish atmospheric basins with the most exceedances of the EU's hourly O3 information threshold (180 µg O3/m ³). We aimed to deepen understanding of the phenomenology of O3 episodes in the GV, quantify local and regional contributions from long-range transported O3, and identify key episodes and atmospheric parameters to validate modeling tools for the assessment of O3 abatement policies with acceptable uncertainty levels.		Atmospheric environment	10.1016/j.atmosenv.2021.118385
32577756	Determinació de les emissions dels pous de lixiviats en un abocador clausurat	22/4/2021	Gamisans Noguera, Xavier;Morral Moltó, Eloi		RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles		
32023968	Learn about the water around you: use with secondary-school students	25/3/2021	Mulero Jiménez, Lorena;Pàmies Fernandez, Joaquim;Grau Vilalta, Maria Dolors	In this paper, we present the Manual per a l'estudi de la qualitat i consum de l'aigua (Manual on water quality and consumption). It is part of the BOSC i sostenibilitat project, which seeks to tie the Sustainable Development Goals to woodlands. Our work is based on a series of open-access websites belonging to the administration. They allow secondary school students to take a first-hand look at the state of the bodies of water in their area, and to evaluate their water footprint and the carbon footprint associated with their water consumption. During the 2019-2020 school year we ran a pilot test of the program with secondary-school teachers, which	CITES - Sustainability Science and Technology Research Group		
32023832	Comprehensive evaluation of potential coal mine dust emissions in an open-pit coal mine in Northwest China	1/2/2021	Trechera Ruiz, Pedro;Moreno Pérez, Teresa;Córdoba Sola, Patricia;Moreno Palmerola, Natàlia;Zhuang, Xinguo;Li, Baoqing;Li, Jing;Shangguan, Yunfei;Oliete Domínguez, Ana;Kelly, Frank;Querol Carceller, Xavier	Coal mining in China is continually increasing, and the associated emitted coal mine dust is of growing environmental and occupational concern. In this study, deposited coal mine dust (DD) was analysed in three different regions of an active, highly-volatile bituminous open-pit coal mine in the Xingjian Province, Northwest of China: coal working fronts, tailings handling sites, and road traffic sites. Samples were analysed for particle size, and geochemical and mineralogical patterns, and then compared with the respirable DD fractions (RDDs, <4 µm) separated from DD samples. Online measurements of ambient air concentrations of particulate matter (PM10 and PM2.5), black carbon		International journal of coal geology	10.1016/j.coal.2021.103677

30489517	Study and optimisation of copper bioleaching process for electronic waste valorisation.	28/1/2021	Gamisans Noguera, Xavier;Dorado Castaño, Antonio David;Benzal Montes, Eva	In the current economical context, the use of waste material with economic potential should be a priority. In this sense, the increasing production of electrical and electronic equipment waste (WEEE) makes these materials a potential source for valuable and scarce metals. For this reason, it is important to develop new metal recovery methodologies economically that are more profitable, sustainable and environmental friendly. A possible solution to this problem is to take advantage of the metabolic activity of certain microorganisms, mainly bacteria, to regenerate the responsible agents for the extraction of metals from the matrix in which they are contained once the useful life	RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles		
33235101	Método para recuperación biológica de metales en residuos eléctricos y electrónicos.	28/1/2021	Dorado Castaño, Antonio David;Benzal Montes, Eva;Gamisans Noguera, Xavier;Sole Sardans, M. Montserrat;Lao Luque, Concepcion		RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles		
30744948	Influence of ore grade and mineral medium on chalcopyrite bioleaching with mixed microbial consortia	4/1/2021	Benzal Montes, Eva;Sole Sardans, M. Montserrat;Lao Luque, Concepcion;Morral Moltó, Eloi;Gamisans Noguera, Xavier;Dorado Castaño, Antonio David	In the present work, key parameters in copper bioleaching from chalcopyrite have been investigated at long-term operation. In detail, the type of mixed microbial consortium (origin and adaptation); the composition of two mineral media (the growth medium and the modified 9K medium); its buffer capacity by the buffers HCl/KCl and Na ₂ HPO ₄ /KH ₂ PO ₄ ; and the influence of different ore grades in relation with the potential alkalinity associated have been investigated. For the first time, a mixed microbial consortium, obtained from a gas-phase biotrickling filter treating high loads of H ₂ S, was employed revealing significant copper extraction by biological leaching. Results reveal that	BIOGAP - Biological Treatment of Gaseous Pollutants and Odours Group	Environmental progress & sustainable energy	10.1002/ep.13588
30155783	Albitization of the granitic basement of the Guillerries and Roc de Frausa Massifs (NE Spain) in relationship to the Permian - Triassic palaeosurface.	17/12/2020	Gómez Gras, David Manuel;Parcerisa Duocastella, David;Fàbrega Alsina, Carles	Els granítoids Hercinians que comformen el nucli dels mass íssos de les Guillerries i el Roc de Frausa (NE Espanya) presenten una facies vermella d'alteració sota la discordança Permo-Triàssica caracteritzada per una intensa oxidació, albitització de la plagiòclasi, cloritització de la biotita, microclinització del feldspat potàssic i dissolució parcial dels quarz. L'albitització forma un perfil vertical de 150-200 m de potència on la major intensitat de l'alteració es produeix a la part superior del perfil a prop de la discordança i va decreixent amb la profunditat de forma progressiva, fins a quedar restringida a les parets de les fractures en les parts més inferiors del perfil. L'albitització presenta una gran	RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles		
31989552	Reunión Mid-term ENSURE	11/11/2020	Cubides Paez, David Fernando	Informe de l'estat de el projecte			

32023807	Mineralogy, geochemistry and toxicity of size-segregated respirable deposited dust in underground coal mines	1/11/2020	Trechera Ruiz, Pedro;Moreno Pérez, Teresa;Córdoba Sola, Patricia;Moreno Palmerola, Natàlia;Zhuang, Xinguo;Li, Baoqing;Li, Jing;Shangguan, Yunfei;Kandler, Konrad;Oliete Domínguez, Ana;Kelly, Frank;Querol Carceller, Xavier	We focus on a comparison of the geochemistry and mineralogy patterns found in coal, deposited dust (DD), respirable deposited dust (RDD) and inhalable suspended dust (PM10) from a number of underground mines located in China, with an emphasis on potential occupational health relevance. After obtaining the RDD from DD, a toxicological analysis (oxidative potential, OP) was carried out and compared with their geochemical patterns. The results demonstrate: i) a dependence of RDD/DD on the moisture content for high rank coals that does not exist for low rank coals; ii) RDD enrichment in a number of minerals and/or elements related to the parent coal. The wear on		Journal of hazardous materials	10.1016/j.jhazmat.2020.122935
29833215	A review of biotechnologies for the abatement of ammonia emissions	15/10/2020	Morral Moltó, Eloi;Gabriel Buguñá, David;Dorado Castaño, Antonio David;Gamisans Noguera, Xavier	Ammonia emissions are found in a wide range of facilities such as wastewater treatment plants, composting plants, pig houses, as well as the fertilizer, food and metallurgy industries. Effective management of these emissions is important for minimizing the detrimental effects they can have on health and the environment. Physical-chemical (thermal oxidation, absorption, catalytic oxidation, etc.) treatments are the most common techniques for the abatement of ammonia emissions. However, the requirement for more eco-friendly techniques has increased interest in biological alternatives. Accordingly, several bio-based process configurations (biofilters, biotrickling filters and	RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles	Chemosphere	10.1016/j.chemosphere.2020.128606
29375068	The use of tailings to make glass as an alternative for sustainable environmental remediation: the case of Osor, Catalonia, Spain	16/9/2020	Alfonso Abella, María Pura;Tomas Guix, Oriol;Domenech Rubio, Luis Miguel;García-Vallès, Maite;Martínez Manent, Salvador;Roca Pascual, Núria	Tailings from the Osor fluorite mines release large amounts of potentially toxic elements into the environment. This work is a proposal to remove these waste materials and use them as a raw material in the manufacture of glass. The chemical composition of the tailings was determined by X-ray fluorescence and the mineralogy by X-ray diffraction. Waste materials have SiO ₂ , Al ₂ O ₃ and CaO contents suitable for a glass production, but Na as NaCO ₃ has to be added. Two glass formulations, with 80%20% of the residue and 10%20% Na ₂ CO ₃ , have been produced. The crystallization temperatures, obtained by differential thermal analysis, were 875 and 901 °C and the melting	RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles	Minerals	10.3390/min10090819
30587813	El BOSC i la sostenibilitat	1/7/2020	Grau Vilalta, Maria Dolors;Mulero Jiménez, Lorena	Exposició virtual que permet prendre consciència de la importància del BOSC en el planeta, la seva relació amb el canvi climàtic (aigua, aire i arbrat) i els Objectius de Desenvolupament Sostenible. L'Exposició consisteix en un seguit de pósters i vídeos, que una vegada visionats permeten respondre diversos qüestionaris.	CITES - Sustainability Science and Technology Research Group		
29211570	Evaluation of candidate sites in a proposal for sustainable development: 'The Gold Route?', Nariño, Colombia	20/6/2020	Delgado Martinez, Aida Mercedes;Pantoja Timarán, Freddy	The candidate sites to be included in a sustainable development proposal, called 'The Gold Route' to be developed in the municipality of El Tambo, Nariño Colombia, were evaluated. This route combines the geological heritage and mining heritage along with the richness in biodiversity, history, and existing culture in the territory, with the use of the technique of participatory action research (PAR), participation planning, and the component disaggregation technique. The studied area is part of what is known as 'Pastos knots' (Nudo de los Pastos), considered alongside the Colombian Massif, as two of the most relevant formations of the Andes Mountain Range and a hot spot for		Geoheritage (Berlin)	10.1007/s12371-020-00481-4

29206409	A hybrid computing model to predict rock strength index properties using support vector regression	11/6/2020	Shahri, Abbas Abbaszadeh;Maghsoudi Moud, Fardad;Mirfallah Lialestani, Seyed Poorya	The uniaxial compressive strength (UCS) and elasticity modulus (E) are two of the most quoted rock strength parameters in engineering application. Due to approved technical difficulties indirect measurements, the tendency for determining these parameters through predictive models using simpler and cheaper tests in practical oriented applications have widely been highlighted. In this paper, a new hybridized multi-objective support vector regression (MSVR) model integrated with the firefly metaheuristic algorithm (FMA) was developed to touch upon a computational method in rock engineering purposes. The optimum internal parameters were adjusted through		Engineering with computers	10.1007/s00366-020-01078-9
28945101	Liberation characteristics of Ta?Sn ores from Penouta, NW Spain	31/5/2020	Alfonso Abella, María Pura;Hamid, Sarbast Ahmid;Anticoi Sudzuki, Hernan Francisco;García-Vallés, Maite;Oliva Moncunill, Josep;Tomas Guix, Oriol;López Moro, Francisco Javier;Bascompta Massanes, Marc;Llorens, Teresa;Castro, David;García Polonio, Francisco	The strategic importance of tantalum and its scarcity in Europe makes its recovery from low grade deposits and tailings interesting. In Penouta, the contents of Ta and Sn in old tailings from an Sn mine are of economic interest. Due to the relatively low grade of Ta of around 100 ppm, a detailed study of the mineralogy and liberation conditions is necessary. In this study, the mineralogy and the liberation characteristics of Sn and Ta ores of the Penouta tailings were investigated and compared with the current leucogranite outcropping ores. The characterization was conducted through X-ray diffraction, scanning electron microscopy and electron microprobe. In	RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles	Minerals	10.3390/min10060509
27762142	Copper recovery from PCBs by Acidithiobacillus ferrooxidans: toxicity of bioleached metals on biological activity	1/4/2020	Benjal Montes, Eva;Cano Larrotta, Ana Maria Jose Candelaria;Sole Sardans, M. Montserrat;Lao Luque, Concepcion;Gamisans Noguera, Xavier;Dorado Castaño, Antonio David	The suitability and limits of bioleaching for copper recovery from printed circuit boards has been stated with new strategies and methodologies. The process has been tested using a continuous column reactor simulating those conditions found at industrial scale. The new strategy developed improved the kinetic reaction rate and overcomes transport limitations for the leaching solution, thus improving copper recoveries from 50 to 80% in only 6 h. This drastically reduced the time required by previous studies to achieve the same copper recovery. Inhibition effects of the biological process due to the release of metals from e-waste has been identified by means of	BIOGAP - Biological Treatment of Gaseous Pollutants and Odours Group	Waste and biomass valorization	10.1007/s12649-020-01036-y
28459230	Determinació de les emissions dels pous de lixiviat a un abocador	27/3/2020	Gamisans Noguera, Xavier;Morral Moltó, Eloi	Determinació de les emissions dels pous de lixiviat a un abocador Preprint	RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles		
27790518	Elemental copper recovery from e-wastes mediated with a two-step bioleaching process	27/3/2020	Benjal Montes, Eva;Sole Sardans, M. Montserrat;Lao Luque, Concepcion;Gamisans Noguera, Xavier;Dorado Castaño, Antonio David	Copper recovery from printed circuit boards (PCB) from waste mobile phones was investigated using a two-step bioleaching process. The method consists of a first step where Fe(II) ions are biologically oxidised to Fe(III) by Acidithiobacillus ferrooxidans. Later, Fe (III) ions are put in contact with the PCBs for copper solubilisation. At the conditions tested in the present work, the Fe(II) bio-oxidation (first step) was almost completed in 48 h. Two different methods (filtration and sedimentation) for biomass separation before the second step were tested. No significance differences between both separation methods were observed in terms of the overall process efficiency. In both cases	BIOGAP - Biological Treatment of Gaseous Pollutants and Odours Group	Waste and biomass valorization	10.1007/s12649-020-01040-2

26538175	Chemistry and sources of PM2.5 and volatile organic compounds breathed inside urban commuting and tourist buses	15/2/2020	Fernández Iriarte, Amaia;Amato, Fulvio;Moreno Palmerola, Natàlia	Inhalable particulate matter (size <2.5 µm: PM2.5) inside commuting and tourist buses moving through the city of Barcelona, Spain, was chemically analysed. The analyses show PM dominated by organic carbon (mostly 10?20 µg/m3) and elemental carbon (mostly 3?6 µg/m3; OC/EC = 3.4), followed by SO42, Fe, Ca, K, Al2O3, Mg, and Na, with calculated mineral content being around one third that of total carbon. Elemental carbon levels are higher inside diesel buses than those powered by natural gas or electricity, and higher in the upper floor of open-top double decker tourist buses than in the lower floor. Overall major element concentrations inside the buses are typically		Atmospheric environment	10.1016/j.atmosenv.2019.117234
27277797	Effect of processing parameters on copper powder produced by novel hybrid atomisation technique	4/2/2020	Cegarra Salges, Sasha Alejandra;Pijuan Casas, Jordi;Hernández Rossi, Ricardo;Riera Colom, Maria Dolores	In the present work, a novel design of centrifugal atomiser for producing pure copper powder was studied. The novel complementary hybrid system provides an external stream of gas to increase the cooling rate of the atomised particles. Effects of the operating parameters, such as disc rotating speed and gas flowrate on the morphology, particle size distribution, cooling rate and microstructure, were analysed. It was evidenced from the experimental results that the median particle size in the novel atomisation process is mainly controlled by centrifugal disintegration. The microstructure of the produced powders was equiaxed and the grain size decreased with	RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles	Powder metallurgy	10.1080/00325899.2020.1724431
29284916	Resultados proyecto ENSURE	18/12/2019	Cubides Paez, David Fernando	Presentación de resultados de investigación en el marco de las jornadas de seguimiento del proyecto ENSURE			
26281399	Strategic minerals milling modelling of high pressure grinding rolls and process parameters dependency	18/12/2019	Alfonso Abella, María Pura;Oliva Moncunill, Josep;Anticoi Sudzuki, Hernan Francisco	Comminution is the most energy consuming process in mining industry, where nearly 60 % of the electricity expenditure is due to grinding purposes. In the nature most of the ore minerals are found, finely disseminated and intimately associated with the gangue, thus, liberation is the main target to recover these minerals. In order to optimize the size reduction process, the correct prediction of the characteristic of the product in a milling reactor turns into a crucial task, and is the main motivation to develop this thesis. The materials used in this study belong to the so-called strategic raw materials, according to the European Commission to increase competitiveness on the local	RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles		
26281175	Modelling of Liberation in Ta- and W-Rich Minerals.	18/12/2019	Alfonso Abella, María Pura;Oliva Moncunill, Josep;Hamid, Sarbast Ahmad Hamid	With the general trend across all commodities towards the treatment of lower grade and medium grade ores, it is becoming increasingly important to develop the proper design for comprehensive mineralogical characterization and a complete procedure based on image analysis and grade distribution is proposed for the measurement of the liberation in the particles to reach the mineral liberation modeling. This thesis aims to develop an appropriate methodology to characterize complex low-grade Ta and medium grade W ores for the purpose of developing the most appropriate physical separation strategy. As result of this investigation a methodology is proposed for	RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles		

25892216	High-pressure grinding rolls: model validation and function parameters dependency on process conditions	1/12/2019	Anticoi Sudzuki, Hernan Francisco; Guasch Cascallo, Eduard; Oliva Moncunill, Josep; Alfonso Abella, María Pura; Bascompta Massanes, Marc; Sanmiquel Pera, Lluís	<p>A model for High Pressure Grinding Rolls (HPGR) was developed in this work based on the widely used Population Balance Model (PBM). This approach uses a variety of different functions one of which is the breakage distribution function. The methodology to determine the function parameters is presented and using these values, the model was compared with real processed materials from an HPGR pilot plant, with tungsten ore as the test material. The results of the model parameter determination, and the product of the comminution in the HPGR, showed the dependency of material breakage on the material characteristics and on the operative and process conditions.</p>	RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles	Journal of materials research and technology	10.1016/j.jmrt.2019.09.016
29221149	Documento síntesis para la Declaratoria del Distrito Regional de Manejo Integrado (DRMI) "enclave subxerofítico del Patía"	8/11/2019	Delgado Martinez, Aida Mercedes	<p>La importancia de este documento se debe a que puede ser un área potencial para el desarrollo de geoturismo o para integrar la iniciativa para obtener el certificado de calidad de un Geoparque Mundial, en el departamento de Nariño, Colombia, junto con el municipio de El Tambo, región donde se desarrolló la tesis doctoral.</p> <p>Fuí integrante del equipo técnico.</p>			
29217536	Management environmental plan of natural regional park Azufral-Chaitán Volcano	21/10/2019	Delgado Martinez, Aida Mercedes	<p>En Nariño-Colombia, se está gestando una iniciativa de un Geoparque Mundial de la UNESCO, el cual tiene como áreas preliminares, el municipio de El Tambo, donde desarrolló la tesis y el Volcán Azufral Chaitán, entre otras.</p> <p>Fuí integrante del equipo técnico que formuló este Plan.</p>			
27613634	Modelització i desenvolupament d'un nou procés per a la purificació del CaCO ₃	17/10/2019	Parcerisa Duocastella, David; Oliva Moncunill, Josep; Bascompta Massanes, Marc; Hoffmann Sampaio, Carlos; Alfonso Abella, María Pura; Anticoi Sudzuki, Hernan Francisco; Sidki Rius, Nor; Reverté Manso, Modesto	<p>El projecte M&P4CaCO₃ permetrà desenvolupar un model i procés de flotació per minerals industrials capaç d'incrementar l'eficiència durant el seu processament i revalorar els productes comercialitzats per les empreses del sector.</p> <p>L'assoliment dels objectius permetran consolidar el lideratge de Reverté dins de Catalunya com a productor de carbonat càlcic, fomentant un increment en les vendes nacionals i internacionals. Per altra banda, aquest nou procés permetrà assegurar el subministrament d'una</p>	RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles		
29225961	Documento síntesis para la Declaratoria del Distrito Regional de Manejo Integrado (DRMI) "Cerro Chimayoy"	11/10/2019	Delgado Martinez, Aida Mercedes	<p>La importancia de este documento se debe a que puede ser un área potencial para desarrollar una propuesta de geoturismo o integrar la iniciativa para la certificación de calidad de un Geoparque Mundial, en el departamento de Nariño, Colombia.</p> <p>Fuí integrante del equipo técnico.</p>			

25903350	Young students as critical science detectives	1/10/2019	Grau Vilalta, Maria Dolores;Torra Bitlloch, Immaculada;Mancho Ferreras, Francesc;Mulero Jiménez, Lorena	The idea to create the YOUNG STUDENTS AS CRITICAL SCIENCE DETECTIVES emerged from a number of Erasmus+ experimentations with open schooling and open science schooling. The lessons learned from this rich experimentation revealed that it is difficult, sometimes impossible, for secondary schools in Europe to implement and experiment with the full concept and methodology of what we understand as ?open science schooling?. The challenge for many schools and science teachers are: when trying to implement the full open science schooling methodology, they experienced ? not surprisingly ? that the traditional school and science curricula made it	CITES - Sustainability Science and Technology Research Group		
25978363	Ventilation friction factor determination and comparison: two case studies of potash mining	1/10/2019	Bascompta Massanes, Marc;Sanmiquel Pera, Lluís;Anticoi Sudzuki, Hernan Francisco;Oliva Moncunill, Josep	Friction factor is a crucial parameter in assessing and modelling ventilation systems in underground mining. However, the development of a mine along its life-cycle can complicate the airflow supply required at the working faces, creating setbacks in terms of productivity and production. Hence, it is very important to determine all the ventilation parameters, including roughness and the friction factor. In this paper we examine the data from several surveys that were carried out in two potash mines (both using the room-and-pillar method) with the aim of determining the friction factors through the Von Kármán equation, which connects the Atkinson friction factor with	RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles	Journal of the Southern African Institute of Mining and Metallurgy	10.17159/2411-9717/707/2019
29184327	Baseline hydrogeochemical characteristic of a vulnerable pristine high-mountain karst aquifer in the southeastern Pyrenees. The Port del Comte massif (Topic 7 - Karst Hydrogeology)	27/9/2019	Herms Canellas, Joan Ignasi;Jódar Bermúdez, Jorge;Soler Gil, Albert;Vadillo, Iñaki;Lambán Jiménez, Luis Javier;Martos, Sergio;Custodio Gimena, Emilio;Jorge, Joan	High mountain karst aquifers located in pristine zones are often an important source of water supply downstream. These hydrological systems with typically short transit times are very vulnerable and there is a general consensus regarding the necessity of their protection. Despite of that, most of these high-mountain hydrogeological systems are not sufficiently characterized neither well understood. From the perspective of climate change impact on groundwater resources, karst aquifers located in the drought-prone Mediterranean areas are currently on the focus of research. The predicted scenarios of both an increasing of temperatures and a decreasing of precipitations			
29184225	Typology of karst aquifers in Europe: a review : GeoERA RESOURCE project, CHAKA work package	26/9/2019	Pardo Iguzquiza, Eulogio;Marechal, Jean-Christophe;Ladouche, Bernard;Herms Canellas, Joan Ignasi	Although karst aquifers represent a widespread groundwater resource in Europe, there is no unified classification and each country has adopted his own typology, taking into account the characteristics of their own karst aquifers. The main objective of the CHAKA (CHALK and KARst) work package, part of the GeoERA RESOURCE project (http://geoera.eu/projects/resource9/), is to achieve a joint classification typology that should be applicable to a large spectrum of karstic environments, and to associate it to recommendations regarding aquifer management (aquifer protection, monitoring strategies, exploitation, etc.). This presentation describes the current			
25851122	Analysis of a historical accident in a Spanish coal mine	26/9/2019	Sanmiquel Pera, Lluís;Bascompta Massanes, Marc;Anticoi Sudzuki, Hernan Francisco	There has been a long history of coal mine accidents and these, usually, involve serious injuries, fatalities, and the destruction of facilities. In the seventies, an explosion killed 28 miners in a Spanish coal mine. This paper gives insight into the main factors of the accident by means of the causation mode, using two well-known alternatives: (1) the method from the Spanish Instituto Nacional de Seguridad y Salud en el Trabajo (INSST), where the causes and circumstances of the accident are classified into immediate causes and basic causes, and (2) the Feyer and Williamson method, where the classification is done using precursor events and contributing factors. The analysis identifies the	RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles	International journal of environmental research and public health	10.3390/ijerph16193615

25892171	Modeling the liberation of comminuted scheelite using mineralogical properties	3/9/2019	Hamid, Sarbast Ahmad;Alfonso Abella, María Pura;Oliva Moncunill, Josep;Anticó Sudzuki, Hernan Francisco;Guasch Cascallo, Eduard;Hoffmann Sampaio, Carlos;Garcia-Vallès, Maite;Escobet Canal, Teresa	In this paper, the modeling of the liberation of scheelite is presented. A pattern of concentration experiments was performed to investigate the scheelite liberation and distribution density calculation procedure. In this work, one sample from a Mittersill tungsten ore was studied. This work describes a method for determining the downstream milling energy requirements for rod mill products based on a Bond mill test performance. The grade distribution of particles at a given size fraction was calculated using a predictive liberation model. The concentration behavior of these particles in size fractions was evaluated using batch concentrate tests. The recovery of particles in	RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles	Minerals	10.3390/min9090536
27831176	Projecte bosc i sostenibilitat. Manual de treball dels Objectius de Desenvolupament Sostenible (ODS) i el BOSC	1/9/2019	Mulero Jiménez, Lorena;Grau Vilalta, Maria Dolors	El Projecte consta de 5 manuals relacionats amb el bosc i el canvi climàtic: 0. Manual de treball dels Objectius de Desenvolupament Sostenible i el Bosc (manual per al professorat) 1. Manual per a l'estudi de la qualitat de l'aire (el bosc i l'aire) 2. Manual per a l'estudi de la qualitat i consum de l'aigua (el bosc i l'aigua) 3. Manual per a l'estudi de l'arbrat (el bosc i la ciutat) 4. Manual per a l'estudi de la gestió forestal i la sostenibilitat (gestió sostenible)	CITES - Sustainability Science and Technology Research Group		
27831170	Projecte bosc i sostenibilitat. Manual per a l'estudi de la gestió forestal i la sostenibilitat	1/9/2019	Mulero Jiménez, Lorena;Grau Vilalta, Maria Dolors	El Projecte consta de 5 manuals relacionats amb el bosc i el canvi climàtic: 0. Manual de treball dels Objectius de Desenvolupament Sostenible i el Bosc (manual per al professorat) 1. Manual per a l'estudi de la qualitat de l'aire (el bosc i l'aire) 2. Manual per a l'estudi de la qualitat i consum de l'aigua (el bosc i l'aigua) 3. Manual per a l'estudi de l'arbrat (el bosc i la ciutat) 4. Manual per a l'estudi de la gestió forestal i la sostenibilitat (gestió sostenible)	CITES - Sustainability Science and Technology Research Group		
27831150	Projecte bosc i sostenibilitat. Manual per a l'estudi de l'arbrat	1/9/2019	Mulero Jiménez, Lorena;Grau Vilalta, Maria Dolors	El Projecte consta de 5 manuals relacionats amb el bosc i el canvi climàtic: 0. Manual de treball dels Objectius de Desenvolupament Sostenible i el Bosc (manual per al professorat) 1. Manual per a l'estudi de la qualitat de l'aire (el bosc i l'aire) 2. Manual per a l'estudi de la qualitat i consum de l'aigua (el bosc i l'aigua) 3. Manual per a l'estudi de l'arbrat (el bosc i la ciutat) 4. Manual per a l'estudi de la gestió forestal i la sostenibilitat (gestió sostenible)	CITES - Sustainability Science and Technology Research Group		
27831140	Projecte bosc i sostenibilitat. Manual per a l'estudi de la qualitat i el consum de l'aigua	1/9/2019	Mulero Jiménez, Lorena;Grau Vilalta, Maria Dolors	El Projecte consta de 5 manuals relacionats amb el bosc i el canvi climàtic: 0. Manual de treball dels Objectius de Desenvolupament Sostenible i el Bosc (manual per al professorat) 1. Manual per a l'estudi de la qualitat de l'aire (el bosc i l'aire) 2. Manual per a l'estudi de la qualitat i consum de l'aigua (el bosc i l'aigua) 3. Manual per a l'estudi de l'arbrat (el bosc i la ciutat) 4. Manual per a l'estudi de la gestió forestal i la sostenibilitat (gestió sostenible)	CITES - Sustainability Science and Technology Research Group		

27831131	Projecte bosc i sostenibilitat. Manual per a l'estudi de la qualitat de l'aire	1/9/2019	Mulero Jiménez, Lorena;Grau Vilalta, Maria Dolors	El Projecte consta de 5 manuals relacionats amb el bosc i el canvi climàtic: 0. Manual de treball dels Objectius de Desenvolupament Sostenible i el Bosc (manual per al professorat) 1. Manual per a l'estudi de la qualitat de l'aire (el bosc i l'aire) 2. Manual per a l'estudi de la qualitat i consum de l'aigua (el bosc i l'aigua) 3. Manual per a l'estudi de l'arbrat (el bosc i la ciutat) 4. Manual per a l'estudi de la gestió forestal i la sostenibilitat (gestió sostenible)	CITES - Sustainability Science and Technology Research Group		
25685760	Modelització mitjançant dinàmica de fluids computacional del Mòdul Hidromètric del segle XIX de la Sèquia de Manresa.	15/7/2019	Peña Pitarch, Esteban;Felipe Blanch, Jose Juan de;Vives Costa, Jordi	L'objectiu principal de la present Tesi Doctoral és verificar mitjançant tècniques de la Dinàmica de Fluids Computacional (CFD) la hipòtesi de que el Mòdul Hidromètric (MH) de la Sèquia de Manresa, construït durant el segle XIX per limitar el cabal de la mateixa a 1000 l/s, compleix amb aquest valor nominal de disseny. Per tal de poder configurar el model ha estat necessari la creació, descripció i implementació d'una metodologia CFD que permetés simular i validar un model que reproduïx el comportament dinàmic d'aquest dispositiu de regulació hidràulic, el MH. Aquesta aportació és prèvia a l'objectiu principal i no es pot menystenir més si es té en compte la	SIR-OPE - Service and Industrial Robotics - Operation, Production and Enterprise		
26984927	The forest and climate change: example of application in open science schooling	1/7/2019	Mulero Jiménez, Lorena;Grau Vilalta, Maria Dolors;Torra Bitlloch, Immaculada	This work is an application of Open Science Schooling (OSS) where schools, in cooperation with other stakeholders, become an agent of community well-being; families are encouraged to become real partners in school life and activities; professionals from enterprise, civil and wider society are actively involved in bringing real-life projects into the classroom. Specifically, it has been working with a European project: Project Erasmus+ Open Science Schooling: Fostering re-engagement in science learning through open science schooling. Developed at the secondary school Pere Fontdevila in Gironella, a direct application of OSS has been carried out around the forest	CITES - Sustainability Science and Technology Research Group		10.21125/edulearn.2019.0357
25827012	E-waste valorisation by recovering valuable metals with microorganisms	26/6/2019	Benzal Montes, Eva;Cano Larrotta, Ana Maria Jose Candelaria;Sole Sardans, M. Montserrat;Lao Luque, Concepcion;Gamisans Noguera, Xavier;Dorado Castaño, Antonio David	The effectiveness of bioleaching in copper recovery from printed circuit boards by Acidithiobacillus ferrooxidans has been evaluated under a wide range of conditions demonstrating the suitability of the technology and their limits. The process has been tested using a column reactor simulating conditions found at industrial scale and operating in continuous mode. Moreover, new strategies have been adapted to increase the efficiency of the operation and to reduce the time required for this purpose. Taking into account the complex composition of electronic waste, the limitations of applicability, for instance due to the accumulation of toxic metals in the solution, have	BIOGAP - Biological Treatment of Gaseous Pollutants and Odours Group		
32085929	Fabricación de polvo de cobre por atomización híbrida	25/6/2019	Cegarra Salges, Sasha Alejandra;Pijuan Casas, Jordi;Hernández Rossi, Ricardo;Riera Colom, Maria Dolores		RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles		

26630141	A novel bioscrubber for the abatement of gaseous ammonia emissions at high loads: characterization of the absorption step	19/6/2019	Morral Moltó, Eloi;Gabriel Buguñía, David;Dorado Castaño, Antonio David;Gamisans Noguera, Xavier	At present, the management of industrial and municipal wastes is one of the major problems of society development. A wide range of pollutants is emitted from industrial facilities such as VOCs, NH3 or H2S, apart from odours. Among them, the presence of high concentrations of ammonia (NH3) can be alarming on the exhausted gas of composting plants, reaching often concentrations up to 300-500 ppmv. Besides, concentration peaks up to 700-1000 ppmv have been also reported [1]. Ammonia is a colorless, strongly odorous, toxic, reactive and corrosive gas that is a by-product of the biological degradation of urea, proteins and amino acids found in the organic	RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles		
29208428	Typology of karst aquifers and recommendations for their management ? GeoERA RESOURCE project, CHAKA work package	17/6/2019	Marechal, Jean-Christophe;Charlier, Jean-Baptiste;Ladouche, Bernard;Herms Canellas, Joan Ignasi	Karst aquifers represent a widespread groundwater resource in Europe. Classically, due to their high degree of heterogeneity, the understanding of karst aquifers hydrogeology relies on the monitoring of the main outlet of the aquifer, considering it as the right proxy in order to characterize the karst as a whole entity. Until now, the proposed approach has focused on discharge time series analysis using several types of tools (spectral analysis, recession curve analysis...). During the last decades additional parameters are being monitored (temperature, turbidity, electrical conductivity, etc). They provide promising information about the karst hydrodynamics and vulnerability.			
25826290	Análisis de un accidente del sector minero mediante el método del árbol de causas y el método de Feyer & Williamson	6/6/2019	Sanmiquel Pera, Lluís;Bascompta Massanes, Marc;Felipe Blanch, Jose Juan de;Vintro Sanchez, Carla;Anticoi Sudzuki, Hernan Francisco;Freijo Alvarez, Modesto	Fundamento y Métodos: En esta investigación se presenta el caso del análisis de un accidente del sector minero a través de 2 métodos distintos: 1) árbol de causas, 2) Feyer & Williamson. En el método del árbol de causas se identifican y codifican causas inmediatas y causas básicas según el método de clasificación del INSHT. Seguidamente se ordenan esquemáticamente en forma de árbol, desde el accidente, pasando por causas inmediatas y finalizando en causas básicas. Normalmente, si la investigación del accidente ha sido o ha podido ser adecuada, se puede identificar una causa básica detrás de cada causa inmediata	RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles	ORP Journal	
25400503	Análisis de un accidente del sector minero mediante el método del árbol de causas y el método de Feyer & Williamson	6/6/2019	Sanmiquel Pera, Lluís;Bascompta Massanes, Marc;Felipe Blanch, Jose Juan de;Vintro Sanchez, Carla;Anticoi Sudzuki, Hernan Francisco;Freijo Alvarez, Modesto	Fundamento y Métodos: En esta investigación se presenta el caso del análisis de un accidente del sector minero a través de 2 métodos distintos: 1) árbol de causas, 2) Feyer & Williamson. En el método del árbol de causas se identifican y codifican causas inmediatas y causas básicas según el método de clasificación del INSHT. Seguidamente se ordenan esquemáticamente en forma de árbol, desde el accidente, pasando por causas inmediatas y finalizando en causas básicas. Normalmente, si la investigación del accidente ha sido o ha podido ser adecuada, se puede identificar una causa básica detrás de cada causa inmediata	RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles		
25639683	The importance of mineralogical knowledge in the sustainability of artisanal gold mining: a mid-south Peru case	1/6/2019	Alfonso Abella, María Pura;Anticoi Sudzuki, Hernan Francisco;Yubero De Mateo, Maria Teresa;Bascompta Massanes, Marc;Henao, Laura;García-Vallès, Maite;Palacios Ubach, Silvia;Yáñez, Juan	Mineralogy and gold processing techniques from several mining areas of the Nazca-Ocoña gold belt, Mid-South Peru, were investigated to assess the efficiency of gold extraction methods in relation to their mineralogy. The deposits from this belt are intrusion gold related to mineralization in quartz veins. Native gold occurs as micrometric grains encapsulated in pyrite and in minor amounts in other sulfides and quartz. Electrum is found mainly in fractures of pyrite and attains up to 35 wt. % Ag. In addition to these occurrences, gold tellurides also occur and they are abundant in San Luis. Gold processing is carried out by amalgamation with mercury and/or cyanidation. The comparison of the	RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles	Minerals	10.3390/min9060345

29184163	3D geological modelling as a tool for supporting spring catchment delineation in high-mountain karst aquifers: the case study of the Port del Comte (Eastern Pyrenees) aquifer	24/5/2019	Herms Canellas, Joan Ignasi; Nuñez Genestós, Joan Agustí; Colomer, Montse; Arnó Pons, Georgina; Jódar Bermúdez, Jorge; Soler Gil, Albert; Griera, Albert	High mountain karst aquifers (HMKA) represent important and vulnerable natural water resources that must be protected, even more those aquifers located in the drought-prone Mediterranean area. In this geographical framework, climate models simulations accounting for the last emission scenarios considered in the 5th IPCC (2013) assessment report forecast an increase in temperature and a decrease in precipitation. The joint effect of such climate conditions will likely impact the recharge of the Mediterranean HMKA. Despite the importance of these systems for water resources, most of them are still vaguely characterized. In this sense, the use of 3D geological models			
24469560	Optimització i validació d'un prototip amb base biotecnològica per a la recuperació de metalls valuosos en residus electrònics	1/5/2019	Dorado Castaño, Antonio David; Benzal Montes, Eva; Sole Sardans, M. Montserrat; Gamisans Noguera, Xavier; Lao Luque, Concepcion; Bernadich Marquez, Marc; Gironés García, Xavier; Escobet Canal, Teresa; Escobet Canal, Antoni; Castro Carrasco, Rebeca Ignacia; Miquel Grau, Ramon; Cano Larrotta, Ana Maria Jose Candelaria; Hajji Esstitou, Meriem		RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles		
26998720	El bosc i els objectius de desenvolupament sostenible	8/4/2019	Grau Vilalta, Maria Dolors; Torra Bitlloch, Immaculada; Mancho Ferreras, Francesc; Juan Fraile, Querubín; Marmi, Josep; Marina, Dolors; Rodríguez Gómez, Eva; Muñoz, Rosalia; Viladrich, Susanna; Gorchs, Glòria; Mulero Jiménez, Lorena; Ruiz Terradellas, Mercé	Presentació del projecte BOSC i sostenibilitat	CITES - Sustainability Science and Technology Research Group		
26999446	Open schooling: application in the study of the forest	12/3/2019	Mulero Jiménez, Lorena; Torra Bitlloch, Immaculada; Grau Vilalta, Maria Dolors	In this work, it has been doing a comparison between some really knowing methodologies of student-centred learning -Learning by doing; method Montessori; Constructivism; Constructionism and the innovating system Open Schooling. The objective is being able to evaluate it. Specifically, it has been working with an European project: Project Erasmus+ Open Science Schooling: Fostering re-engagement in science learning through open science schooling. The most important goal of the project consists in encouraging ?Open Science Schooling? where schools in cooperation with other stakeholders become an agent of	EXPLORATORI - EXPLORATORI Natural Resources		10.21125/inted.2019.2116
23623201	Introductory analysis of human upper body after stroke	1/1/2019	Peña Pitarch, Esteban; Vives Costa, Jordi; Lopez Martinez, Joan Antoni; Al Omar Mesnaoui, Anas; Alcelay Larrion, Jose Ignacio; Ticó Falguera, Neus	The most reliable prognostic factors associated with Upper Extremity (UE) recovery are localized motor impairments, especially in the musculature of the hand and abduction of the shoulder in the first days after a stroke. Evaluation of the biomechanics of the hand allows an accurate identification of the motion arcs of the digital joints. Objective: Assess the prognostic value of the range of motion of the finger joints using an instrumental glove (CyberGlove II®) one week after stroke for UE functional recovery at 6 months. Methodology: A prospective, longitudinal, observational study with follow-ups at 3-4 days, 1 week, 3 and 6 months of patients with UE	SIR-OPE - Service and Industrial Robotics - Operation, Production and Enterprise	International Journal of Privacy and Health Information Management	10.4018/IJPHIM.2019010103

23558777	Computational fluid dynamics techniques for fixed-bed biofilm systems modeling: Numerical simulations and experimental characterization	13/12/2018	Gamisans Noguera, Xavier; Dorado Castaño, Antonio David; Prades Martell, Lledó	This thesis is focused on the development of one-phase and multiphase models using computational fluid dynamics (CFD) techniques to analyze biosystems behavior at mesoscale. In the first part, the operation of a fixed-bed biofilm reactor was simulated using Eulerian one-phase models, coupling fluid flow dynamics with biokinetics. The results reproduced accurately bioreactor performance, being experimentally verified hydrodynamics and species transport. However, the models had to be adapted to reproduce real scenarios where the biofilm motion can play a key role. On further consideration, this thesis suggested the development of Eulerian two-phase models using	RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles		
23568744	Estudiar a escala laboratorio y con modelización el comportamiento de finos en la molienda en barras de todo uno de potasa y ver que parámetros se pueden afectar de una manera más eficiente para reducir	1/12/2018	Oliva Moncunill, Josep; Anticoi Sudzuki, Hernan Francisco; Hoffmann Sampaio, Carlos		RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles		
29184122	Estimación de tiempos de tránsito en acuíferos kársticos de alta montaña del Pirineo oriental mediante isótopos ambientales. El macizo del Port del Comte (Lleida, España)	15/11/2018	Herns Canellas, Joan Ignasi; Jódar Bermúdez, Jorge; Lambán Jiménez, Luis Javier; Martos, Sergio; Jorge, Joan; Vadillo, Iñaki; Soler Gil, Albert; Custodio Gimena, Emilio	En el presente trabajo se estima el tiempo de tránsito del agua subterránea que descarga por los manantiales principales del Macizo del Port del Comte. Para ello se utilizan dos métodos diferentes: (1) la aproximación clásica que estudia cómo se amortigua en el agua de descarga la amplitud de la variación estacional del contenido isotópico de la recarga, y (2) la modelación numérica de los procesos de flujo y transporte con modelos agregados. El método clásico sobreestima los tiempos de tránsito con un factor de proporcionalidad de 1,9. Los tiempos de tránsito estimados mediante modelación numérica varían entre 1,7 y 2,9 años.			
26550021	1er Premi Domènec Valero	8/11/2018	Vives Costa, Jordi		RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles		
23469034	Evaluación de los accidentes en el sector minero español entre los años 2010 y 2016	2/11/2018	Freijo Alvarez, Modesto; Sanmiquel Pera, Lluís; Vintro Sanchez, Carla; Vives Costa, Jordi; Viladomat Vers, Antoni; Montaña Puig, Juan	Las actividades mineras son una de las industrias de mayor riesgo que exponen a los a sus trabajadores a un alto nivel de riesgo de salud y seguridad en el trabajo. El objetivo de este estudio fue evaluar durante un período comprendido entre 2010 y 2016 los accidentes leves, graves y mortales en jornada de trabajo, descartando la siniestralidad en itinerari, en la industria minera española. Aunque tanto el número de empleados como de accidentes han bajado, destaca la alta siniestralidad en las explotaciones de extracción de carbón en comparación con las lesiones en las explotaciones de	LRG - Lightning Research Group	ORP Journal	

23524849	An improved high-pressure roll crusher model for tungsten and tantalum ores	25/10/2018	Anticoi Sudzuki, Hernan Francisco;Guasch Cascallo, Eduard;Hamid, Sarbast Ahmad Hamid;Oliva Moncunill, Josep;Alfonso Abella, María Pura;Bascompta Massanes, Marc;Sanmiquel Pera, Lluís;Escobet Canal, Teresa;Escobet Canal, Antoni;Parcerisa Duocastella, David;Peña Pitarch, Esteban;Argelaguet Isanta, Maria Rosa;Felipe Blanch, Jose Juan de	An improved approach is presented to model the product particle size distribution resulting from grinding in high-pressure roll crusher with the aim to be used in standard high-pressure grinding rolls (HPGR). This approach uses different breakage distribution function parameter values for a single particle compression condition and a bed compression condition. Two materials were used for the experiments; altered Ta-bearing granite and a calc-silicate tungsten ore. A set of experiments was performed with constant operative conditions, while varying a selected condition to study the influence of the equipment set-up on the model. The material was comminuted using a previously	RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles	Minerals	10.3390/min8110483
23522061	Técnicas de minería de datos para la mejora de la seguridad en explotaciones a cielo abierto	25/10/2018	Sanmiquel Pera, Lluís;Bascompta Massanes, Marc;Rossell Garriga, Josep Maria;Vives Costa, Jordi;Guasch Cascallo, Eduard		RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles		
23517488	Ventajas en la adquisición de datos topográficos con drones y posterior diseño de explotaciones mineras a cielo abierto mediante softwares específicos	25/10/2018	Sanmiquel Pera, Lluís;Bascompta Massanes, Marc;Parcerisa Duocastella, David;Anticoi Sudzuki, Hernan Francisco;Felipe Blanch, Jose Juan de		RIIS - Grup de Recerca en Recursos i Indústries Intel·ligents i Sostenibles		