



RESSOURCES21

RESSOURCES21, "Rare metallic resources in the 21st century", is a research, training and advancement scheme for the environmental management of natural resources of critical metal in the 21st century. Many metals are gaining more and more applications in manufactured products and technology linked to carbon-free energy. Although just a few years ago access to metals was thought to be assured, in that they were plentiful and easy to reach, recent economic and political pressures have meant that it is now necessary to secure our supplies for the coming decades. Consequently, we must redefine the notion of resources in terms of geology, concentrations of metals and recycling, whilst taking environmental management and any potential toxic effects on ecology into account. [Find out more](#)

AN AID AGREEMENT WITH THE ANR

The RESSOURCES21 project, following a 2010 tender for projects from the Commissariat Général aux [Investissements d'Avenir](#). The definitive version of the agreement between the ANR (Agence Nationale de la Recherche) and the University of Lorraine was signed on 18 March 2013. It aims to define the specific conditions in which the RESSOURCES21 research project will be carried out and financed. The project was selected as part of the "laboratoires d'excellence" initiative.

DEVELOPING AND ADVANCING LabEx

RESSOURCES21 recruited its engineering project manager to spearhead the development and advancement of LabEx: [Laurie Wolff's](#) remit will include implementing operations with partners, drawing up projects in response to tenders, representing LabEx at national and international conferences, and organising scientists' meetings.

A DISCUSSION ON THE MINING AND MINERAL INDUSTRIES IN CANADA



Seven researchers from Lorraine have travelled to Toronto to take part in [PDAC 2013](#) (Prospectors &

Developers Association of Canada) as part of LabEx RESSOURCES21. This is an excellent opportunity as it generally takes 5 to 8 years after registration to get a place. This year, the PDAC welcomed around 30,000 participants and 600 exhibitors all working in mining in more than 125 countries. Taking part in this event has allowed the Lorraine team to demonstrate its skills in training and research, to boost its students' recruitment possibilities on the international stage, and to establish and reinforce partnerships with the mining and mineral industry. It was also a chance to promote the university and LabEx RESSOURCES21.

NICKEL AND RARE EARTH ELEMENTS: ESSENTIAL COMPONENTS FOR NEW TECHNOLOGY



More than 50 researchers came to the nickel study day on 21 March and the rare earth elements study day on 2 April, giving them the chance to pool their knowledge regarding strategic interests and the work already completed by the LabEx teams. The nickel study day demonstrated the rich variety of approaches to nickel that the LabEx laboratories use and showed that there is a real community of people working in this area (the origins of deposits, treating ores, the environment, modelling). The aim of the rare earth metals elements study day was to draw up an inventory of activities, from metallogenesis to treating ores and environmental impacts, and consider multi-disciplinary actions that could play a part in LabEx RESSOURCES21.

THE METALS THAT MAKE OUR WORLD - RENAISSANCE NANCY 2013 - MOMENTS D'INVENTION

If you are worried about the environment or just curious, come and meet our researchers: they will unveil the secrets behind researching and using the rare metals found in everyday objects. The focus of this initiative will be to reach out to the general public by introducing attendees to samples, advances in technology and different experiments. Our researchers and students will be there to welcome you every day, from midday to midnight on the Place Charles III in Nancy, 11-16 June 2013.

SIX MONTHS TO DEVELOP NEW PARTNERSHIPS IN CANADA

Yann Gunzburger, head of conferences at the GéoRessources laboratory and the man in charge of the "Exploitation et stockages" stream of the master's degree in GPRE (Géosciences, Planètes, Ressources, Environnement), is currently on a 6-month scientific visit to the Mine Design Laboratory at McGill University in Montreal as a guest researcher. This visit has been partly financed by LabEx RESSOURCES21 and aims to develop contact with universities in Quebec and the Canadian mining industry, particularly with regards to the use of natural resources. The hope is that this will generate new research and training collaborations. One of his current scientific projects centres on understanding mechanisms and foreseeing sudden ruptures ("rock bursts") in deep mines in hard rock, which cause several accidents every year.

A PROJECT FOR CREATING INNOVATIVE BUSINESSES

The ECONICK project (for the design of an environmentally friendly, high value nickel production process) has been accepted for entry into the Incubateur Lorrain. Led by Marie-Odile Simmonot, the project aims to create a phytomining business that produces high-added-value nickel salts and gives advice on phytoextraction. The "incubation" phase allows the project and its staff to reach a state of readiness. A package of services is gradually implemented as the project develops, with the final outcome being the creation of a company and the launch of the product onto the markets in the best possible conditions. In addition to this, thanks to Oséo (and in particular its competition for new talent) the following projects will be financed: a market analysis, an intellectual property analysis and a technical evaluation of the potential for creating a start-up.

GOLD MEDAL FOR ONE OF LORRAINE'S RESEARCHERS

The council for the Société de Géologie Appliquée en Métallogénie (SGA) has decided to award Michel Cuney the SGA-Newmont Gold Medal for 2013. This international prize is given in recognition of a career that encompasses particularly original work in geology and mining. The work in question has made a major contribution to (1) science through the research and (2) development of knowledge in the area of mineral resources, exploration and discovering deposits. Michel Cuney is CNRS research director at GéoRessources and has carried out research into uranium metallogeny. La Société Géologique de France has also awarded him the Barbier Prize 2013.

PUBLICATIONS

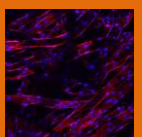
[See publications](#)

CNRS PLACEMENT WINNER

Asfawe Zegeye, a postgraduate student at LIEC, financed by R21, has been recruited into the CNRS during the CR2 selection process in April. He was ranked 5th in the list of 7 winners in Section 30.

FOCUS ON THE LORVER PROJECT

The LORVER project aims to restore the fertility of spoiled soil (a site for storing contaminated earth such as Sita-FD) and industrial wastelands (such as the GISFI experiment station in Homécourt) following past industrial activities. This will be done by reconstituting the soil to allow specific cultures to be planted for industrial purposes (fibres, energy, biochar, metals), such as poplars, hemp, nettles and hyperaccumulating plants.



PROJECT ID

Launch	July 2012
Duration	5 years
Budget	€6.8 M financed by the Agence de Mobilisation Economique (AME) at the Région Lorraine et l'Europe (Feder)
Scientific aims	Gaining knowledge of how spoiled sites and soils function and evolve in the long term
Socio-economic aims	Creating an option that gives site owners (e.g. ArcelorMittal Real Estate France, EPFL) an alternative to using agricultural land for processing biomass that is not destined for consumption as food.
Partners	<ul style="list-style-type: none"> ▪ 4 companies: Valterra (porteur du projet), Sita-FD, Chanvriers de l'Est and SEA-Marconi ▪ 5 laboratories based in Lorraine, including two belonging to LabEx RESSOURCES21 (LSE and LIEC), LRGP (VERTBILOR1), du LERMAB (Pôle Fibres Grand Est) ▪ 1 research centre: CRP Lippmann du Luxembourg ▪ 2 transfer structures: PROGEPI and CETELOR

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