#11
January
2023

Re-UNITA RESEARCH Newsletter

Editorial

In the framework of the “Renewable energies” pillar of the UNITA alliance, the Université de Pau et des Pays de l'Adour and the University of Torino are working together on the synthesis of new organic and polymeric hole transporting materials (HTMs) for emerging photovoltaic applications sharing a PhD in cotutelle (Ms Valentina Maruzzo). The research project combines the expertise of the two groups involved. The fruitful combination of the knowledge will enable the synthesis of small molecules and polymers for innovative and stable HTMs for Perovskite Solar Cells and is an excellent example of UNITA interconnection chance. The two groups recently were funded from the University of Torino with a Grant for Internationalization and joined an international workgroup for the submission of a EU project on photovoltaics.

Christine Lartigau-Dagron,
Université de Pau et des Pays de l'Adour
Maître de Conférences/HDR, IPREM
christine.lartigau-dagron@univ-pau.fr

Nadia Barbero
Università di Torino
Associate Professor, Department of Chemistry
nadia.barbero@unito.it

Cultural Heritage

Mountain landscapes in analysis and reflection

Eduardo Camilo, from the University of Beira Interior, Portugal, is developing a project entitled "Staging desire in the landscape. Representations of Serra da Estrela, Pyrenees, and Italian Alps as a tourist destination", a cooperative project that aims to analyze how mountain landscape is iconographically represented for strategic purposes of tourist promotion.
Although the nucleus and germ of the project focus on three mountain tourist regions (Serra da Estrela, the Pyrenees, and the Italian Alps), the project has the flexibility **AND VERY WELCOME THE ACCOMMODATION** OF other mountain tourist landscapes in which other universities of the UNITA Agreement are based, specifically in Spain, France, and Romania.

Circular Economy

Members of the TREASURE team next to one of the vehicles used to analyse the disassemblability and subsequent recyclability of electronic components

TREASURE project - Leading the transition of the European automotive supply chain towards a circular future.

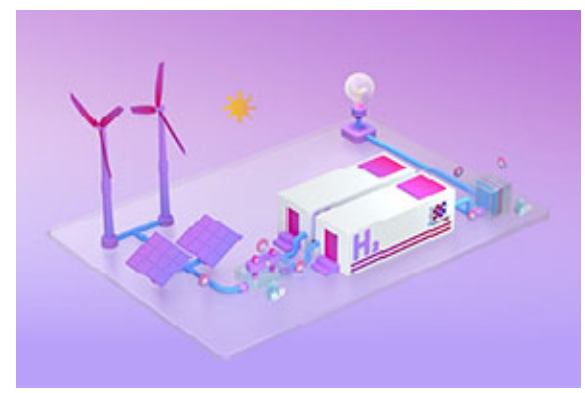
It is a 3 years research and innovation action co-founded by the European Commission under the H2020 programme willing to offer new opportunities for testing innovative technologies to make the automotive sector more circular.
TREASURE has the next main objectives:

- Guaranteeing a sustainable use of raw materials in the automotive sector.
- Adopting in practice the circular economy paradigm in the automotive sector.
- Offering better vehicle-related economic, environmental, and social performance.
- Creating new supply chains around end-of-life vehicles.

Politecnico di Milano coordinates the consortium, which is formed by a group of 15 organizations from 7 EU countries. The industrial ecology group of Universidad de Zaragoza takes part of the consortium. Its main role is to identify the most critical car parts from raw materials point of view and to define eco-design recommendations from the disassemblability and the recyclability point of view.

More information in:
https://www.treasureproject.eu/

Renewable Energies



HyCARE project

"The use of hydrogen as an energy carrier to store large amounts of energy in a small space, following an environmentally friendly process in which the only ingredient is water, has long been investigated.
Hydrogen storage, however, remains an open problem and this is what the HyCARE project, coordinated by the Chemistry Department of the University of Turin and financed with around EUR 2 million by the European Community through the FCHJU platform, aims to address. The idea behind the project is that hydrogen can be absorbed within a metal powder under mild conditions, that is, at temperatures and pressures close to ambient. This solution also has the advantage of significantly reducing the volume required for storing even large quantities of hydrogen."

More info:
https://frida.unito.it/wn_pages/contenuti.php/743_gestione-del-territorio-delle-risorse-e-dei-rifiuti-sostenibilit-ambientale/412_quale-energia-per-tempi-futuri-dall039idrogeno-una-soluzione-alla-sfida-delle-rinnovabili/

PhD student of the month

Vasco Ferrinho Lopes holds a B.Sc. and M.Sc. degree in Computer Science and Engineering from the Universidade da Beira Interior (UBI), where he is currently working toward a Ph.D. degree in Computer Vision and Neural Architecture Search. The goal of the PhD is the development of new frameworks and algorithms that efficiently and autonomously design optimal Artificial Neural Networks for a given problem, thus allowing researchers to leverage the computational power of Artificial Neural Networks without requiring deep expertise and expensive resources.
In the past, Vasco has worked on research projects, such as uPATO, RobotChain, INDTech 4.0 and CovidSight. Since 2019 he has been collaborating as an Invited Assistant in UBI. In 2021, he collaborated with Huawei R&D Center in Paris as a Research Assistant, where he developed Neural Architecture Search methods for network reliability, and in 2022 he worked in Google Research in the development of natural language processing solutions. Vasco received several awards, such as the APRP Best MSc Dissertation in Pattern Recognition 2019 Award and the ICANN21 "1st Springer & ENNS Best Paper Award". He is currently the CEO and Co-founder of DeepNeuronic, a company that develops Computer Vision solutions to detect threatening activities through CCTVs.

https://www.deepneuronic.com

Woman researcher of the month

Jenny Ponzo is an Associate Professor of Semiotics at the University of Turin. She is the Principal Investigator of the ERC Starting Grant research project "NeMoSanctI. New Models of Sanctity in Italy: A Semiotic Analysis of Norms, Causes of Saints, Hagiographies, and Narratives".
She is the Director of the Interdepartmental Research Center on Communication CIRCe, the vice-Director of the School of Humanistic Sciences, and the President of the Master's Degree Program in Communication and Media Cultures of the University of Turin. She formerly carried out her research at the University of Lausanne (Switzerland), Faculty of Arts, and at the Ludwig-Maximilians-University Munich (Germany), Interfaculty Program for the Study of Religion.

Highlights

3rd Call for applications for H2020-MSCA-Cofund EDENE PhD,
European Doctoral programme in ENergy and Environment: 10 PhD positions at the Université de Pau et des Pays de l'Adour, France

Information on: https://recherche.univ-pau.fr/en/expertise/european-projects/the-edene-doctoral-program/presentation.html

Start : 1st September 2023 - Duration : 36 months
Agenda:
Opening of CALL#3: December 10, 2022
Closure of CALL#3: March 13, 2023
Applications submitted on: https://aap.univ-pau.fr

UNITA ad Re-UNITA projects aim at engaging the general public within all the aspects connected to academic research, didactics creating a strong connection with up-to-date subjects, among which freedom and liberty represent a key point. In this framework the "Biennale Democrazia" (8th edition - At the Edge of Liberty) event will take place in Turin – March 22-26th 2023, and restarts from freedom (after the pandemic period) focalising on equality, affirmation of civil rights and liberties and progressive expansion of social rights as well.
http://biennaledemocrazia.it/biennale-democrazia-2022-project/