



COST ACTION GREENERING – DATA COLLECTION

First name, Family Name: Eduardo Robles

Type (Academic or Industrial): Academic

Country: France

Leadership position in the COST: Member

Working Group in which you are involved: WG1

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Laboratory/Company: Institute of Analytical and Physicochemical Sciences for the Environment and Materials (IPREM-UMR 5254), CNRS/Univ Pau & Pays Adour/E2S UPPA, IUT of the Pays de l'Adour, 371 Rue de Ruisseau, 40004 Mont de Marsan, France

Laboratory/Company info (limited to 400 characters):

IPREM is a Joint Research Unit CNRS / UPPA (UMR 5254). The E2S project is composed of the UPPA and two national research organizations INRA and Inria, with an I-SITE excellence label. The Chair "Bois", recruited through this program, is in direct contact with Agrolandes, an industrial consortium of local agroforestry actors, to develop a green and circular economy in southwest France.

Link to the home page of the Laboratory/Company: <https://www.iprem.univ-pau.fr>

Fields of expertise (limited to 400 characters):

- Biomass Fractionation (organosolv and soda pulping, TCF bleaching, solvolysis, cellulose hydrolysis and defibrillation).
- Development bio-based materials from lignocellulosic biomass.
- Analysis of nanocellulose and lignin (TGA; XRD; DSC; NMR; DLS; IR; UV-vis).

5 Main publications or patents:

- Izaguirre, N., Gordobil, O., Robles, E., Labidi, J.* Enhancement of UV Absorbance of Chitosan Films by the incorporation of Solvolytically Fractionated Lignins, International Journal of Biological Macromolecules, in press, 2020.
- de Hoyos-Martínez, P. L., Robles, E., Khoukh, A., Charrier-El Bouhtoury, F., Labidi, J.* Formulation of Multifunctional Materials Based on the Reaction of Glyoxalated Lignins and a Nanoclay/Nanosilicate, Biomacromolecules, 20, 9, 3535-3546, 2019.
- Robles, E., Fernández-Rodríguez, J., Barbosa, A. M., Gordobil, O., Labidi, J.* Influence of pre-treatment and bleaching on physic-chemical properties of nanocellulose from agricultural waste, Carbohydrate Polymers, 183, 294-302, 2018.
- Fernández-Rodríguez, J., Gordobil, O., Robles, E., González-Alriols, M., Labidi, J.* Lignin valorization from side-streams produced during agricultural waste pulping and total chlorine free bleaching, Journal of Cleaner Production, 142, 2609-2617, 2017.
- Robles, E., Salaberria, A.M., Herrera, R., Fernandes, S.C.M., Labidi, J.* Self-bonded composite films based on cellulose nanofibers and chitin nanocrystals as antifungal materials, Carbohydrate Polymers, 144, 41-49, 2016.

Collaborations:



- France
 - LABOMAP Arts et Métiers Paris Tech
 - LERMAB University of Lorraine
 - University of Bordeaux
 - University of Ales
- Europe
 - Warsaw University of Life Sciences (Poland)
 - University of the Basque Country UPV/EHU (Spain)
 - Innorenew CoE (Eslovenia)
- Rest of the World
 - University of Malaysia Kelantan (Malaysia)
 - University of Sciences and Techniques of Masuku (Gabon)
 - Bolivarian University of Venezuela (Venezuela)
 - Pontifical Catholic University of Chile (Chile)

Facilities:

- Thermal Analysis
 - TA Q2500 thermogravimetric analysis
 - Thermomechanical analysis Mettler Toledo / SDTA840
 - TA Q20 differential scanning calorimetry
 - IKA C200 bomb calorimeter system
- Chromatography
 - Perkin Elmer Clarus 500 gas chromatography
 - Thermo scientific Ultimate 3000 high performance liquid chromatography
- Accelerated weathering chambers
 - Votsch 400 liter climate chamber
 - Votsch 750 liter climate chamber
 - Votsch Phytotron 3000 liters
- Portable spectroscopies
 - Low field nuclear magnetic resonance Diaspec 42 Frequency 7.98
 - Near Infrared Spectroscopy Consumer Physics, SCiO
 - UV
- Miscellaneous
 - Spectrocolorimeters
 - Rotational viscometers
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- Access to mutualized equipment from the [Xylomat](#) network and [UPPA Tech.](#)