

OMAFRA-KTT Bio-Economy Seminar

**BIOPRODUCTS DISCOVERY & DEVELOPMENT CENTRE
SEMINAR SERIES**



**Thursday, December 15th, 2011 at 2:30 – 3:30 pm
Science Complex, Room 1511 (first floor)**



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Research at the University of Chile related to second generation bioethanol, our experience and challenges

Abstract

We are prospecting the chances to use some local materials with ample availability, enabling them to be used as raw materials for bioethanol production. We have studied the use of biological pre-treatment strategies for lignocellulose as a first step in the process, using the natural advantages of some fungi capable of selectively degrading the lignin present in all these sources, getting increased contents of reducing sugars. Additionally, collaborative work has been conducted with international partners in some novel options. Assays of ionic liquids (IL) applied in a pre-treatment step are giving some promissory results, increasing released sugars contents among other advances. However, it is necessary to complement the data with the analysis of solid and liquid fractions after saccharification.

Alejandro García: Agronomist (University of Chile, 1998); Ph.D. in Agricultural Sciences, Universidad Austral de Chile (2007); has conducted three mid term research internships (University of Waterloo, Canada (2004); Pontificia Universidad Católica de Chile (2005); Åbo Akademi University, Finland (2008); has been: (a) author of two book chapters; (b) Responsible for three research projects, supported by DID-UACH, the Foundation for Agricultural Innovation (FIA) and the National Commission for Scientific and Technological Research (CONICYT); (c) Author of 7 publications on ISI journals; (d) has been involved in teaching activities at the University of Chile and Universidad Austral de Chile for Agronomists, Natural Resources Engineers and Environmental Chemists; (e) has awarded 4 scholarships; (f) recognized as the best graduate student of Ph.D in 2007; (g) several works at International Conferences. Since 2007 has been: (a) Co-researcher of 3 projects related to second generation biofuels; (b) Executive Secretary of the Domeyko Research Programme of the University of Chile and c) since July 2011 is Assistant Professor at the Department of Wood Engineering and Biomaterials of the Faculty of Forest Sciences and Nature Conservation of the University of Chile.

René Carmona: Forestry Engineer, University of Chile (1983), Master in Forest Sciences and specialized in Wood Sciences and Industry, University of Chile (2007). Currently is Ph.D. candidate in Forest Sciences at the University of Córdoba (Spain) and Adjunct Professor at the University of Chile. His research fields comprise Wood chemistry, secondary metabolites and its influence in damage provoked by insects and marine drillers, Wood protection against thermal and biochemical degradation and the use of biomass for the obtainment of energy and bioproducts using biotechnological and thermochemical approaches. He has been involved in several FONDECYT, FONDEF and other projects supported by public agencies. He has several publications in journals and international conferences. He has directed many thesis Works for Forestry and Wood Engineers. He is an active member of CYTED NETWORK about biofuels.

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