

Sherbrooke, november 2011

Presentation



http://www.inf.poa.ifrs.edu.br/~evandro

The Federal Institutes

Created by Law 11.892 on December 29, 2008



The Federal Institutes of Education, Science and Technology are institutions of higher, basic and professional education, organized in a multicampus structure, specialized in providing professional and technological education, based on the combination of technological and technical expertise to their pedagogical practices .

Some statistics about IFRS

11.951 students (second semester - 2011)

Technical courses: 8.388 Technological courses: 1.506 Teaching courses: 670 Bachelor Degree: 124 Initial traning courses: 1.154 Postgraduation courses: 109



565 Professors480 Administratives

We offer nowadays 106 different courses

Some statistics about IFRS

STAFF

565 Professors480 Administratives

We offer nowadays 106 different courses



The Goals of the Federal Institute

Professional and technical education;

Providing technical courses for workers;

Conducting applied research to benefit the community;

Developing extension activities linked with the goals of professional education, market and society;

Encouraging and supporting the educational process, employment creation and citizen empowerment;

Offering several levels of courses (Technological courses, undergraduate courses, engineering courses, post-graduate *stricto sensu* – Master and Doctorate and post-graduate *lato sensu*).



Porto Alegre and gaucho's culture



http://youtu.be/eQ3x3jPzWUI

The Porto Alegre Campus



History of IFRS Porto Alegre Campus



1909: Foundation of Porto Alegre Business School



1934: Creation of University of Porto Alegre, which integrated the Law School and Business School in their curriculum.

2008: Integration with the IFRS \rightarrow "Porto Alegre Campus".

Administration



Prof Paulo Roberto Sangoi Director



Prof Júlio Xandro Heck Assistant Director

The Campus in Numbers

New building

Professors: 110 Employees: 60 Students: 2,750 New area: 42,000 m² Technical courses: 14 Undergraduate courses: 4 Labs: 26 Classrooms: 24

The Porto Alegre Campus



Before July 2011



Location



Aerial view of the new headquarters



Technical courses



Administration Library Science Biotechnology Accounting Information Technology **Environmental Studies** Chemistry **Baking and Pastry Making Musical Instruments Computing Networks** Secretaryship Workplace Safety **Real Estate Transactions** Sales

Undergraduate Courses



Degree in Natural Sciences: biology and Chemistry (9 semesters / day) Environmental Management Technology (6 semesters / day) Management Process Technology (6 semesters / night) Internet Systems Technology (6 semesters / day) Degree in Pedagogy (6 semesters / night) **Distance Learning**

Environmental Technician - distance: 7 centers - RS 2011: Administrative Technician

Professional Master 2012

Professional Master's Degree in Environmental Education and Technology

Students

February 2011 2,000 - normal courses 150 – distance learning courses TOTAL: 2,400 students

February 2012

3,000 - normal courses 700 - distance learning courses TOTAL: 3,700 students

Programs and Services

Scholarships

Academic monitor Extension Technical and Scientific initiation

Assistance and Benefits

University Restaurant (all students) Student maintenance Housing allowance Child Care Transportation assistance

Course Times

Morning: 7:30 – 11:50 h Afternoon: 13:30 – 17:50 h Night: 19:00 – 22:30 h



Selected Projects

Urban Mobility

Characterizing water quality through wireless sensors

Biodegradation, Ecotoxicity and Bioremediation of Xenobiotics

Biodegradation of petroleum

Ecological Risk Assessment

Phytotoxic effects of Ateleia glazioveana Baill

Films, Culture and the World of Work

Urban Mobility

to develop an intelligent transportation system capable of informing drivers of traffic conditions, allowing them to make good decisions about which route to take.

UNLAD an

Prof André Peres, Prof Evandro Miletto



Urban Mobility

Main goal: to promote intelligent mobility

Specific goals: to minimize...

- Quality of life degradation
- Traffic congestion
- Air pollution
- **Traffic Accidents**
- Space required by cars



Research possibilities:

Incident data achievement device

Image detection,

mobile devices for traffic agents,

Communication protocols / database ..

Vehicle embedded devices / VANET

Spread data achievement (internet, social networks, ...)

ITS

Al techniques (recommendation systems, CBR ...), Data mining Monitoring and incident history, ..

Communication with drivers' mobile devices (phones, tablets, GPS, ...)

Urban Mobility

Use of ITS (Intelligent Transport Systems)

Goal: to encourage some drivers to change their route in order to contribute to the common good

Mechanisms

Real-time 24/7 traffic monitoring

Non-recurrent congestion identification (accidents, traffic congestion, etc.) Recurrent congestion identification (Daily congestions, weekends, holidays Planned traffic changes, road work, protests, events, etc.)

Communication with drivers

- Choose which drivers should be targeted for communication
- Identify the best actions to be taken
- Identify the best communication mechanisms
 - (Traffic signs, radio, mobile devices, embedded devices, GPS, etc.)

Urban Mobility Scenario



Characterizing water quality through wireless sensors

To monitor and analyze water quality using wireless sensors and physical, chemical and mircobiological indicators

Prof Simone Kapusta, Prof Magali Rodrigues, Prof André Peres, Prof Evandro Miletto



Characterizing water quality through wireless sensors

This project aims at creating sensor devices to collect information on water quality (pH, oxygen, conductivity and temperature). These devices are placed at strategic points of the streams and send the collected data to a central monitoring system.

Cavalhada stream



Expected results

creation of low-cost sensors operating real-time monitoring of water quality creation of a database

Providing grants for projects of urban management streams.

Biodegradation, Ecotoxicity and Bioremediation of Xenobiotics

OI JINN

Prof Telmo Manfron Ojeda

Biodegradation, Ecotoxicity and Bioremediation of Xenobiotics



Objectives

Development of methodologies to assess biodegradability and ecotoxicity of organic residues found in environment.

Assessment of the environmental impacts of traditional and new materials. Development of technology for the remediation of xenobiotics. Incident data achievement device

Biodegradation, Ecotoxicity and Bioremediation of Xenobiotics



Methodology

Respirometry for the biodegradation studies, using a high sensibility method developed during the doctorate.

Assessment of plant germination and growth in pots, according with OECD methodology.

Analysis and tests as required in existing labs in Porto Alegre.

Published results



Abiotic and biotic degradation of oxo-biodegradable polyethylenes

Telmo F.M. Ojeda^a, Emilene Dalmolin^b, Maria M.C. Forte^b, Rodrigo J.S. Jacques^c, Fátima M. Bento^d, Flávio A.O. Camargo^{a.e.*}

^aDepartment of Soil, Federal University of Rio Grande do Sal (UFRGS), Porto Alegre, RS 91540-000, Brazil ^bDepartment of Materials (UERCS) 0500 Revis Concolume Ave. Durin Alegre, RS (TER 15010), Brazil



Abiotic and biotic degradation of oxo-biodegradable foamed polystyren

Telmo Ojeda^a, Ana Freitas^a, Emilene Dalmolin^b, Marcus Dal Pizzol^c, Leonardo Vignol^c, José Melnik^d, Rodrigo Jacques^e, Fátima Bento^f, Flávio Camargo^{a,*}

^aDepartment of Soil, Faculty of Agronomy, UFRGS, mailbox 776, Porto Alegre, RS, Brazil ^bGSI Agromarau, Highway RS 324 Km 80, 99150-000 Marau, RS, Brazil



Degradability of linear polyolefins under natural weathering

Telmo Ojeda^{a,*}, Ana Freitas^b, Kátia Birck^b, Emilene Dalmolin^c, Rodrigo Jacques^d, Fátima Bento^e, Flávio Camargo^b

^aFederal Institute of Education, Science and Technology (IFRS), 90035-007 Porto Alegre, RS, Brazil ^bDepartment of Soil Science, Federal University of Rio Grande do Sul (UFRCS), 91540-000 Darto Alerre, RS, Brazil

Biodegradation of petroleum

Study of the correlation structure – biodegradability of petroleum samples of different origins.

Development of technology to accelerate the rate of degradation of petroleum in the ocean.

Prof Telmo Manfron Ojeda

Ecological Risk Assessment

Apply methodologies for ecological risk assessment using criteria such as the Brazilian and international standards.

Prof Karin Tallini, Prof Magali Rodrigues, Prof Simone Kapusta

models are composed of different steps

problem formulation, information gathering and development of the conceptual model of ARE;

characterization of environmental exposure (screening), characterization of ecological effects (and the target organisms or target species);

risk characterization and decision criteria.

These models can be applied to aquatic environments, land, air and can also be applied in the evaluation of laboratory and industrial waste.

Publications

TALLINI, K. ; RODRIGUEZ, M. T. R. . Estabelecimento de metodologia de avaliação de risco ecológico em ambiente aquático tendo o programa de monitoramento do rio Jacuí, São Jerônimo (RS) como referência. Journal of the Brazilian Society of Ecotoxicology, 2011.

TALLINI, K. ; Rodrigues, M. S. ; RODRIGUEZ, M. T. R. . Conceptual Model for Ecological Risk Assessment in the Aquatic Environment Using Environmental Monitoring Programs. In: 32nd Annual Meeting in North America of the Society of Environmental Toxicology and Chemistry (SETAC), 2011, Boston - USA. Abstract Book - SETAC North America 32nd Annual Meeting. Danvers, MA 01923 USA : Copyright Clearance Center, 2011.

Rodrigues, M. S. ; TALLINI, K. ; RODRIGUEZ, M. T. R. . Use of the Plant Bioindicator L. multiflorum for Ecological Risk Analysis of Air Emissions. In: 32nd Annual Meeting in North America of the Society of Environmental Toxicology and Chemistry (SETAC), 2011, Boston. Abstract Book SETAC North America 32nd Annual Meeting. Danvers, MA 01923 USA :

Rodrigues, M. S. ; TALLINI, K. ; RODRIGUEZ, M. T. R. . RP010 - Use of the Plant Bioindicator L. multiflorum for Ecological. In: 32nd Annual Meeting in North America of the Society of Environmental Toxicology and Chemistry (SETAC), 2011, Boston. Abstract Book SETAC North America 32nd Annual Meeting.

Phytotoxic effects of Ateleia glazioveana Baill. extracts on the development and histological structure of root cells



This study aims to characterize changes in seedling development caused by exposure to extracts of Ateleia glazioveana

Prof Márcia Bündchen, Prof Ângelo C.M.Horn, Vivian Bamberg Corassini



Prof Márcia Bündchen Biotechnology Technical Course

I study plant ecology at individual and community levels in an attempt to understand the responses of native vegetation to several environmental features like light and soil mineral availability

I am interested in how the histological structure and physiological processes are affected under the influence of environmental gradients, including biomass alocation, chlorophyll and carotenoids leaf concentration, mineral content and other leaf traits I supervised a Sherbrook's student (J.F.Rousseau) in the last internship.

Our project was about allelopathic effects and was awarded in the scientific meeting of IFRS (12^a Mostratec, nov/2011)



Trabalho Apresentado na 12ª Mostratec: Mostra de Ensino, Pesquisa e Extensão Instituto Federal de Educação, Ciência e Tecnologia do Rio Grande do Sul Campus Porto Alegre 3 a 5 de novembro de 2011

EFEITOS INIBITÓRIOS DA AROEIRA-VERMELHA SOBRE A GERMINAÇÃO E DESENVOLVIMENTO DE ALFACE

Vivian Bamberg Corassini, Jean-François Rousseau, Michaël Sage, Sabrina Letícia Couto da Silva(orient), Márcia Bundchen(orient), Ângelo Cássio Magalhães Horn(orient)

vivianbamcor@gmail.com, jfrousseau2@hotmail.com, Michael.Sage1@etu.cegepsherbrooke.qc.ca, sabrina.silva@poa.ifrs.edu.br, marcia.bundchen@poa.ifrs.edu.br, angelo.horn@poa.ifrs.edu.br

Instituição: Instituto Federal de Educação, Ciência e Tecnologia do Rio Grande do Sul

Campus: Porto Alegre

Films, Culture and the World of Work



Objectives

To promote an intercultural exchange between Brazil and Canada by the study of films.

To motivate students to reflect about Brazilian and Canadian's realities in the world of work.

Prof Cláudia Estima, Prof Jaqueline Donada, Prof Leniza Menda, Prof Renata Severo

Films, Culture and the World of Work

Methodology

At first, Brazilian and Canadian researchers involved in this project will study about films that represent the culture and the world of work in the Brazilian and Canadian settings. Then, these researchers will make a selection of 4 films and will organize 4 sections for the film presentations, which will be followed by lecturers and debates. As a final step, the lectures of the sections will write articles in order to make a publication about the event.

Films, Culture and the World of Work

Further details

The cultural studies, the lectures and debates can be carried out by videoconferences.

Visits in both countries along the execution of project can be programmed.

Canadian teachers, who are interested in the teaching of English, Portuguese, Literature, History and Cultures may join in this project.

Contacts

Prof Claudia Estima claudia.estima@poa.ifrs.edu.br

Prof^a Jaqueline Bon Donada jaqueline.donada@poa.ifrs.edu.br

Prof Angelo Horn angelo.horn@poa.ifrs.edu.br

Prof Karin Tallinni karin.tallinni@poa.ifrs.edu.br

Prof Magali Rodrigues magali.rodrigues@poa.ifrs.edu.br

Prof Renata Severo renata.severo@poa.ifrs.edu.br Prof André Peres andre.peres@poa.ifrs.edu.br

Prof^a Simone Kapusta simone.kapusta@poa.ifrs.edu.br

Prof Telmo Manfron Ojeda telmo.ojeda@poa.ifrs.edu.br

Prof Marcia Bundchen marcia.bundchen@poa.ifrs.edu.br

Prof Evandro Manara Miletto evandro.miletto@poa.ifrs.edu.br

Slides available at http://www.inf.poa.ifrs.edu.br/~evandro/



INSTITUTO FEDERAL DE EDUCAÇÃO, CIÊNCIA E TECNOLOGIA BIO GRANDE DO SIJI

RIO GRANDE DO SUL Campus Porto Alegre

Qualified, public, and free education

Prof Evandro Manara Miletto - evandro.miletto@poa.ifrs.edu.br

THE DESIGNATION OF