

Notes from the Research Roundtable on Environmental Issues
Concordia Rural research Group
February 6, 2008

Introduction (Bill Reimer) [Bill.Reimer@concordia.ca]

This meeting was called by the Concordia Rural Research Group and supported by the Department of Sociology and Anthropology. The objectives are:

- to discover rural-related research taking place at Concordia, and
- foster collaboration among Concordia researchers and students.

We have selected a number of topics that have important rural implications – and are beginning our series of roundtables with this focus on the environment. We have been thrilled by the response but face serious time constraints in getting the material on the table. Thus we have decided to limit each presentation to 5 minutes and (reluctantly) leave the followup questions and discussion to you on your own time. To this end we will establish a web page where contact information and a summary of the discussion will be posted (<http://alcor.concordia.ca/~reimer/crrg>).

Our objective is not to add to your workload – but to seek opportunities where our commitments and interests can enhance each other's work. This will require you to think about ways in which you and your students might take advantage of your colleagues' expertise, resources, and enthusiasm, or contribute to their objectives – then contact them directly or through CRRG. We would also welcome your participation in the work of CRRG so that we can continue this type of activity at Concordia.

Katja Neves-Graca [knevesgr@alcor.concordia.ca]

Dept. of Sociology and Anthropology: katja.neves_graca@mac.com

She is working on three main projects on environmental issues: global warming, New Orleans, St-Damase.

Global warming: she looks at certain animals' situation. For example, she is trying to understand what exactly it is going on with polar bears.

New Orleans: she looks at the post-Katrina historical period. She is waiting for results and she is interested in the co-construction of disasters, i.e. the recovery strategies in a long term processes.

St-Damase: FQRSC founded. St-Damase is a town with industrial agriculture industries from past generation but the community is trying to learn to work with the food organic system, ecological services. She found out that ecological services are more in cities than in the country side so she is trying to demystify the logic behind it.

She is interested in contemporary epistemology and is doing scientific epistemological research, and historical analysis of the traditional knowledge.

Her Arguments: different epistemologies complement one another.

She is also looking at the issue of social scientists: what do we do; the representation.

Jochen Jaeger [jjaeger@alcor.concordia.ca]

Department of Geography, Planning and Environment; jjaeger@alcor.concordia.ca

He is interested in landscape change (e.g., landscape fragmentation), road ecology, urban sprawl, environmental impact assessment, and environmental indicators. He uses methods such as GIS analysis, computer simulation models, field work, interviews and trans-disciplinary approaches to research. He presented three examples from his work:

Project 1: "Landscape fragmentation by transportation infrastructure in Switzerland: Quantitative analysis 1885-2002 and implications for traffic planning and regional planning". The project is funded by the Swiss Federal Roads Authority and the Swiss Federal Office for the Environment. The results have been included in the "Swiss Environmental Statistics" and the Swiss Monitoring System of Sustainable Development (MONET).

Project 2: "Fragmentation of ecosystem and habitats by transport infrastructures and settlements". This project is conducted for all European countries in collaboration with the European Environment Agency.

Project 3: "Modelling the persistence of wildlife populations as a function of increasing road density". This work looked at thresholds in road density.

Further research interests are in wildlife corridors and their role in Environmental Impact Assessment (EIA), i.e., in the "A2A" project which aims at re-connecting the Adirondack State Park and the Algonquian park for movement of wildlife populations.

Suggestions for future projects in collaboration with other Concordia researchers:

- (1) Have wildlife corridors and the A2A plan been taken into account in EIA studies? To what degree?
- (2) Perception and support of the A2A project by the rural population,
- (3) Connectivity model of the A2A region for a series of species.

Pascale Biron [Pascale.biron@concordia.ca]

Dept of Geography, Planning and Environment: pascale.biron@concordia.ca

She is working on river straightening in agricultural watersheds and human-environment interactions with river restoration for fish habitat

She is doing fieldwork in the Nicolet River, which drains into Lac St-Pierre, on stream restoration for fish habitat. They are trying to understand the impact of restoration structures on the river to help improving the success rate of these projects. The work involves a combination of field work, laboratory experiments and numerical modelling. She is also working on river bank erosion problems in agricultural watersheds, where hard-engineering (rip-rap) and soft-engineering (using vegetation) methods of bank stabilization are used. Finally, she is working on

problems related to river straightening in agricultural watersheds, which resulted in serious losses of habitat, and is also problematic as rivers are going back to a meandering course, creating erosion problems in areas where the riparian zone is very small. This is the case in the St-Césaire river and the Richer river near St-Marc-sur-Richelieu.

Monica Mulrennan [Monica.mulrennan@concordia.ca]

Dept of Geography, Planning and Environment; Monica.Mulrennan@concordia.ca

"The Politics and Knowledge of Environmental Protection for the James Bay Cree Community of Wemindji"

This particular project is a SSHRC (CURA) funded project involving the James Bay Cree community of Wemindji. The focus of the project is to formulate strategies for protecting an environment of great cultural, historical and economic significance to the Cree in ways that build upon, rather than diminish, existing local institutions of land and sea tenure. The establishment of a culturally appropriate protected area would differ from older style PA models and provide Crees with a measure of legal protection against industrial developers while acknowledging the stewardship rights of traditional inhabitants and enabling them to create opportunities for low impact forms of development, such as ecotourism and ethnotourism. The protected area includes one of the largest remaining rivers in the region that has not been impacted by hydrodevelopment. It is of particular significance because it served as a historical trade route connecting the interior with the coast. Her team has succeeded in having a biodiversity reserve established and has been instrumental in securing a moratorium on mining in the PA. At the same time the Wemindji Cree are negotiating mining development on other parts of their territory. As such the project is involved in a search for creative solutions to the old problem of balancing local development needs with culturally appropriate environmental protection in a context of increasing demands on local resources by the societal mainstream.

She is also involved in research with indigenous Torres Strait Islanders in Northern Australia. This work examines local knowledge and resource management practices with respect to the Islander small boat fisheries in a context of the Islanders' sea claim. Recent work has also included an examination of marine protected areas in the Central Philippines.

Adrian Tsang [tsang@gene.concordia.ca]

Professor and Director; Centre for Structural and Functional Genomics;
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Biofuels and bioproducts genomics: carbon cycle; idea is how can we approach dealing with greenhouse gases – we'll have to use technology as our habits are likely not to stop. Bioeconomy is fundamentally about the harnessing of the output of living systems to create the energy, chemicals and materials that feed modern society; genomics concerns the understanding of living systems at the most fundamental level. Feedstock genomics – use less water consumption; energy balance; biodiversity and conservation; sustainable development – overall this is very complex. Biofuels comparison – how you convert it relates to efficiency (conversion factories are to be built in rural communities). Competition from Genome Canada, which is focused on biofuels and bioproducts – not focused on people.

William Zerges [zerges@alcor.concordia.ca]

Associate Professor: Biology Dept. zerges@alcor.concordia.ca

Summary of an FQRNT-funded collaboration entitled "Development of biosensors for bioavailable toxic trace metals" with Dr. Kevin Wilkinson (University of Montreal) and Dr. Peter Campbell (INRS-ETE, University of Quebec). Biosensors of Bioavailable Toxic Trace Metals; trace metals are important environmental pollutants; one of the problems in assessing the risk of metals in an environment is that not all the chemical species of a particular metal can be taken up by organisms and cause toxicity.

Environmental testing for metals would benefit from assays for bioavailable metals. Our approach is to engineer an aquatic organism to report whether or not it is sensing specific metals in natural waters. Strains of the common freshwater green alga, *Chlamydomonas reinhardtii*, are being generated to give a measurable response to bioavailable species of cadmium and nickel.

Martin L Martens [mmartins@jmsb.concordia.ca]

Assistant Professor – Management; mmartens@jmsb.concordia.ca

Sociology of environmental regulatory enforcement or on the influence of fake grass roots organizations on the dialog about global warming.

Management professor at JMSB – organisational theorist research in the sociology of environmental regulation ; how different political regimes influence environmental regulation. Looking into how large mega corps create/establish grassroots organisations in attempts to influence the dialogue surrounding environmental standards and regulations. Research network for business sustainability – submitted 2.7 million \$ to SSHRC (Knowledge Cluster).

James Grant [grant@alcor.concordia.ca]

Department of Biology; grant@alcor.concordia.ca

Overview of the type of research that is going on in Biology Environmental research in Biology: Biodiversity and Climate Change are the big topics. DNA barcode linker is one initiative; you can't manage biodiversity if you can't identify it. Effects of aquaculture on wild fish populations: escape of farmed salmon which interbreed and endanger wild stocks; we overfish wild fish populations to make fish meal, which we feed to farmed salmon. Juvenile salmon and acidification: modest pH values around 6 disrupt natural anti-predator behaviour of fish, which could endanger wild fish populations. Forestry research: Research on spruce budworm and forest tent caterpillars, two major defoliators of forests provides insights on how one might control the outbreak of these pests without the use of pesticides. Habitat loss is the major cause of endangered species in Canada; the top two human activities that are responsible for this are agriculture and urbanization. Parasites can be used as indicators of ecosystem health and pollution. Robert Weladji uses northern ungulate populations as sentinels of climate change and

incorporates traditional ecological knowledge in the management of the bush-meat trade and other conservation issues in Africa.

Charles H Cho [ccho@jmsb.concordia.ca]

Assistant Professor; Department of Accountancy, Environmental accounting;
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Reporting and disclosure, media, environ, reporting on internet by Americas...

Us: EPA, internet users: 1, 2 billion mark in 2007

Corporate websites

Sustainability/United nations, green washing concept

5 stages: green glossy to sustainability

Theoretical framework: Goffman: individual and the actor, stakeholders and relevant public

Hypothesis: environmentally sensitive and non-sensitive

Stat: difference with toxic and non-toxic

America Toxic's 100

Kamran Siddiqui [Siddiqui@ercs.concordia.ca]

He is looking at sustainable energy systems and environmental fluids dynamics.

Sustainable energy systems are solar energy, wind energy, harnessing sound and environment flow dynamics: flow over land topographies.

Solar energy: 15000 times the energy utilised worldwide.

Solar water heating system, concentrated solar energy system (high temperature application: 400-5000 degree Celsius.

Research is focused it flow behaviour of wind turbines environmental impacts on wind farms,

Harnessing sounds (thermacoustics) deals with heat energy in to sound and vice versa. It can be used for regeneration.

Environment fluids dynamic

Lynn Miller [mbeland@securenet.net]

Department of Communications

Sub acute study to evaluate the use of acute phase proteins: PhD study.

Oil bird's story

Current approach capture, rehydrate stabilise and washed and let them go in sustainable environment.

Acute phase response, link between liver, brain, xenobiotics, she was exploring these...

Changes in behaviour and physiology of the birds: liver, brains...

Goal is to add new tool because the birds' population are decreasing.

Warren Linds [w.linds@sasktel.net]

Assistant Professor; Applied human sciences; w.linds@sasktel.net

Keywords: Global education, community development, human relations.

He is working with five teachers and one elementary school in Montreal. They look at the urban global and local inequities. They are integrating students for creating part of social changes; they link schools with communities.

They do the participant research methods. They look at the food: how do we feed ourselves, what are we eating, the tracing, and the global food system. They are looking at how it affects themselves at the individual and collective levels. They are doing participant research with collective gardens: empowerment.

They work with three organisations: local and or international. They look more precisely at: food security and sovereignty, collective teaching, learning relationship They seek to find a model for elementary grades: school becomes part of the community.

They provide framework of naming, understanding sustainability, the impacts of humans.

Catherine Mulligan: Presentation by Eshan Moslemi Zadch [mulligan@civil.concordia.ca]

BCEE; Have to go to Ottawa but would like to present something on her research so she sent her students to do a short presentation.; mulligan@civil.concordia.ca

Environmental engineering lab: suspended solids, absorb contaminants:

Sample on Huron River. Divided the stream in 7 stations,

Suspended solids: 90 percent removed and COD 70 percent removed.

Prag Pillay [pillay@ece.concordia.ca]

Hydro Quebec Senior Chair; biomass waste to energy; pillay@encs.concordia.ca

Renewal energy and energy efficiency; Dairy Farm Heat and Power from agricultural Waste. Can work with power optimisation, but for it to be practical we have to determine the farmer's

attitudes towards this form of technology and perhaps changing this attitude. Restrictions regarding the spreading of manure on land can be problematic. On the economic side there are policy issues related to how one can integrate these technologies into society; tariffs can be used to encourage farmers to accept new technology. Great technology, but it has to make its way into society.

Satoshi Ikeda [sikededa@alcor.concordia.ca]

Sustainable agriculture; sikeda@alcor.concordia.ca

Political sociology of global future: sustainable agriculture: find out what are emerging that are ecologically sustainable: meaning a process of reducing footprint of how can we measure the impact of human activity. Ex: re-introducing buffalo: chemical free, and energy free: just eat: no need to harvest, natural processes, conducted and experimented by ?:

Vehicles: technology improvement how can we converted: business do we have faith in major corporations: ex of communities which are implementing these: social entrepreneurship: social causes, looking combining social responsibility and social consistency

Method: visual images: videos: show them what they do.... get their responses to that: will be able to find sustainable energy: expand research to QC: wants to interview researches, practices: better dissemination:

Michelle Rodrigue [Mi_rodr@jmsb.concordia.ca]

Doctorante, Université Concordia; Ph.D. Student, Concordia University;

Accounting Ph.D. Student, Concordia University; mi_rodr@jmsb.concordia.ca

Research interests: Environmental performance measurement (specifically, the choice of internal environmental performance indicators) and environmental disclosure (specifically, the characteristics of the environmental information firms voluntarily disclose in terms comprehensiveness and institutionalization).

Peter C. van Wyck [pvanwyck@alcor.concordia.ca]

Associate Professor, Department of Communication Studies; pvanwyck@gmail.com
(<http://artsandscience.concordia.ca/comm/faculty/vanwyck.html>)

Working on contemporary cultural and theoretical relations between culture and nature. Current book project, entitled "The Highway of the Atom: Memory, Witness, Archive," is an interdisciplinary and theoretical monograph centered on the cultural history of uranium production on Great Bear Lake, NT.

Keywords: Environments. Memory. Trauma. Ecological humanities, and humanities-based field work. Ecological threat. Threat and risk. Toxicity. Story. Witness. Landscape. Northern Studies. Indexical imaginary. Disaster and accident. Archive. Route.

Rae Staseson [Rae.staseson@sympatico.ca]

Department of communication studies; rae.staseson@sympatico.ca

Communication studies – performance and sound artist. *Between Sand and Snow* – bridges through video photography and sound. Examination of landscape to memory and home; temporal exploration of the natural world. Began as a biography of place. Home and the construction of identity. Performance videos – walks and crawls through the environment; tragic encounters of man and environment; domestic arch.

Meli Stylianou [mstylian@solarbuildings.ca]

Network Manager/Directeur du réseau; mstylian@solarbuildings.ca

Solar Buildings Research Network – aims at developing buildings and houses using as much solar energy as possible. Funded by NSERC, with support from Hydro Qc. Looking at different aspects of buildings thermal, electricity, etc. Technologies are not necessarily only applicable to residential urban homes, can also be used in rural spaces in terms of rural communities to optimise its energy consumption. Quebec has more sun than Germany, but Germany leads in solar power. The issue is more perception and how we perceive what is available to us.

David Secko [dsecko@alcor.concordia.ca]

Department of Journalism; dsecko@alcor.concordia.ca

http://journalism.concordia.ca/faculty/ftf_secko.php

Journalism and Public Engagement: Aims to explore how journalism can be used to help efforts toward engaging “publics” over scientific and environmental issues. Draws on the field of Deliberative Democracy for theoretical and practical guidance, and utilizes GE³Ls approaches, to seek out varied perspectives and explore as many dimensions of a problem as possible. Currently conducting a project entitled *New Models and in Science Journalism* and collaborating with the UBC’s Centre for Applied Ethics GE³Ls Arch project.

Sujit Sur [S_sur@jmsb.concordia.ca]

Dept. of Management, John Molson School of Business

<http://www.ulb.ac.be/ceese/meta/sustvl.html>

<http://www.sustainabilityresearch.org/>

Bill Reimer [Bill.Reimer@concordia.ca]

The New Rural Economy Project (<http://nre.concordia.ca>)

Environment Theme Team focused on management of natural resources, environmental behaviour in rural and urban regions. Sara Teitlebaum has produced a thesis on community-based forestry in Canada.

Conducted a national survey on perception and behaviour regarding environment. Found – not a large difference in perception, but lack of recycling services in rural areas meant that environmental action was manifested differently. Identified numerous innovations for sustainability

Policy focus has shifted to potential alliances between rural and urban people and organizations. Strategic issues of common interest are food, water, natural amenities.

Research projects examining community and local responses to climate change: changing crops, increased risks Includes a project on community resiliency to forest fires (comparative case study).

Future plans for environment-related issues are to continue the work on impacts and strategic options related to climate change, innovations for environmental management, rural urban interdependencies, policy options.

Jenn Davis [jenn.davis@concordia.ca]

Sustainable Concordia; would like to publish people's names for students.