

# RenR 603

## Graduate Research Skills

Lead Instructor:  
Andreas Hamann

### Agenda for today

- Introduction, Syllabus, Website
- Course Objectives
- Speaker introductions
- Some random thoughts on being a graduate researcher

### RenR 603 Course Website

<http://tinyurl.com/6x5eg7>

Date	Lecturer	Topic	Reading Materials & Class Notes
Sep 11	Andreas Hamann	Introduction, welcome & thoughts on being a graduate researcher	Class Notes #1: <a href="#">492</a>
Sep 18	Peter Blenis	Graduate Coordination, Supervision, Theses, Candidacies & Defenses	Class Notes #2:
Sep 25	Ellen MacDonald	Resume's, grants and scholarships: What it takes to win	Class Notes #3:
Oct 2	Andreas Hamann	Showcase yourself as a researcher: On-line & off-line	Class Notes #4: Reading Material #4: <a href="#">492</a>
Oct 9	Andreas Hamann	Communicating Science at Conferences: Talks & Posters	Class Notes #5: Reading Material #4: <a href="#">492</a>
Oct 16	Vic Adamowicz	Working in multi-disciplinary teams	Class Notes #6:
Oct 23	Lee Foote	Newspapers, television and radio interviews: dealing with the media	Class Notes #7:
Oct 30	Glen Armstrong	Presentation of quantitative data	Class Notes #8:
Nov 6	Vic Loeffers	The publication process: dealing with editors, reviews and reviewers	Class Notes #9:
Oct 9		[Fall term break, no classes]	
Nov 20	Rick Pelletier	Ethics Primer: (Required component of NSERC/SSHRC ethics training in Ren R.)	Class Notes #10:
Nov 27	TBA / Craig Wilkinson	Human ethics and animal care (Required component of NSERC/SSHRC ethics training)	Class Notes #11:
Dec 4	TBA	Panel Discussion on career choices	Class Notes #12:
?		Final Exam	

### Syllabus

#### RenR 603 – Graduate Research Skills – Fall Term 2007

Lead Instructor: Andreas Hamann ([andreas.hamann@ualberta.ca](mailto:andreas.hamann@ualberta.ca), 492-6429)  
Time: Tue 12:30 to 1:50pm – Dates: 09/11/2007 to 12/04/2007 – Location: ESB 2-36  
Course website: <http://www.rr.ualberta.ca/people/hamann/teaching/renr603>

#### Dear Graduate Students:

Renewable Resources 603 is a required course for all RR graduate students. It is generally most beneficial if taken early in one's degree because it introduces a broad cross section of faculty expertise and treats topics useful to students during their graduate program. **This course is for 1 credit and is graded pass/fail on a single final exam.** Attendance is not taken. Students from all AFHE faculties are welcomed to sit in on any or all components. Of particular usefulness are the 3-hours of **Ethics training (November) that count toward NSERC & SSHRC's graduate ethics training.**

#### September

- 11 [Andreas Hamann](#) – Introduction, welcome & thoughts on being a graduate researcher.
- 18 [Peter Blenis](#) – Graduate Coordination, Supervision, Theses, Candidacies & Defenses.
- 25 [Ellen MacDonald](#) – Resume's, grants and scholarships: What it takes to win.

#### October

- 2 [Andreas Hamann](#) – Showcase yourself as a researcher: On-line & off-line.

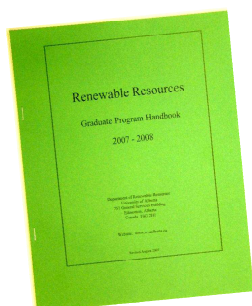
### Course Objectives

- Plan your graduate studies and avoid getting in trouble over technicalities
- Learn survival skills in academia: getting grants, scholarships, publishing, etc.
- Communicate your work effectively to various audiences
- Be competent in making choices on matters of principle & research ethics
- Have fun collaborating and doing science !!!

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### Peter Blenis



#### Sep 15:

Graduate Coordination, Supervision, Theses, Candidacies & Defenses

### Ellen MacDonald



#### Sep 22:

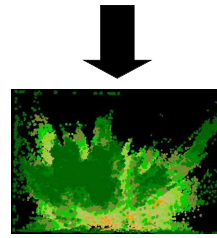
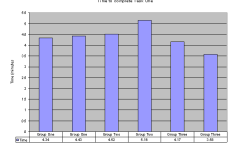
Resume's, grants and scholarships: What it takes to be successful

Vic Adamowicz



Oct 29:  
Working in multi-disciplinary teams

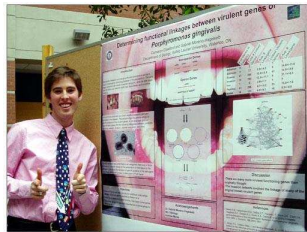
Glen Armstrong



Oct 6:  
Presentation of quantitative data

Nadir Erbelgin

October 13  
Communicating Science:  
Talks & Posters



Vic Lieffers



Nov 27:

The publication process: dealing with editors, reviews and reviewers



Oct 27 & Nov 3:  
• Newspapers, television and radio interviews: dealing with the media  
• Public speaking

Rick Pelletier, Craig Wilkinson, AH



Nov 20 & 27:

Ethics primer, human ethics, & animal care  
**(Required component of NSERC/SSHRC ethics training)**

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### 1. Asking the right question

## The right question is ...

- But why, daddy? (answer, repeat question)
  - 40% of the time I have to admit that I'm doing something irrelevant
  - 10% I can explain that I'm doing something useful
  - 40% We arrive at an interesting question that I have no clue how to answer
  - 10% There is an interesting question that I know how to answer / look up / figure out

## The danger:

- You are in the field or lab, slaving away ...
- You are working hard, you get results, thinking you make good progress ...
- But you never ask "But why ...?"
- This is **the question #1** at your thesis defense!

## Applied/empirical research

- Do your results really make a difference?
- Can the results be used to decide between two or more management options?
- Are these important, critical choices? options that managers will really consider?
- Does your result provide a clear answer or are there endless caveats why they don't apply?
- If you do applied research, do something real. Otherwise your results will be dismissed.

## Strong scientific inference

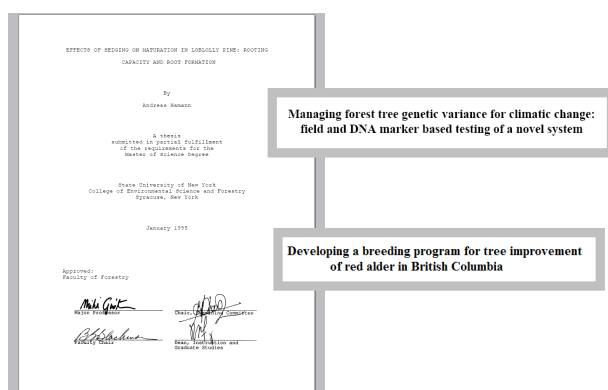
- Do your results really make a difference?
- Can the results be used to decide between two or more scientific hypotheses?
- Are these important, critical hypotheses? Questions of general scientific interest?
- Does your result provide a clear exclusion of one or more hypotheses on how the world works?
- It's very hard to do this type of research (applied, empirical research is the staple for most).

## Reading

- John R. Platt (1964). Strong inference *Science* **146**: 347-353.
- Link on course website

## Planning Thesis Research

## Interesting vs. Feasible



## Backup Plan

- Try to build your thesis out of related but independent sub-projects
  - Some "safe" & maybe "not so interesting" project (incremental research with proven methods)
  - Some "novel" & "high risk" research

Don't worry too much about research topics "sounding great and interesting"

Take it as an intellectual exercise. If you can show your capabilities, the "big questions" will come to you ...





## Websites

They can make the difference if you want to:

- Get colleagues to take interest in your research
- Engage external collaborators
- Get better quality media reports
- Apply for jobs

## Advantages for you

- No peer review
- Fast publication process (usually <100 ms)
- Prestigious URL with 1GB of free space:  
<http://www.ualberta.ca/~YourName>

## Engage Colleagues

UNIVERSITY OF ALBERTA  
DEPARTMENT OF RENEWABLE RESOURCES

### Climate Change in Western Canada

Western Canada offers particular challenges and opportunities for natural resource managers. It is quite extensive, rich in natural resources and sits over an area with wide variation in elevation, temperature, precipitation and several other climate variables. Climate impact studies in western Canada, like in many other locations, require the availability of high quality spatial climate data. The most common method of providing spatial climate data is interpolation of data available from weather stations or from climate models. This study provides an evaluation of a new interpolation technique for providing scale-free climate data for British Columbia, Yukon Territory, Alberta, Saskatchewan and Manitoba in western Canada. Climate

Location of weather stations used for Observed Climate data

\* Temperature  
\* Precipitation  
\* Temp & Precipitation

2005

Michael S. Hogg, Department of Renewable Resources, University of Alberta  
301 Gerson Science Building, Edmonton, AB, T6G 2G1

## Engage External Collaborators

Home | Student Information | People | Research | Intranet | Contact Us

Location: Home >> People >> Hamann >> Conservation

General Information | Climate Change | **Renewable Resources** | Ecological Genetics | Breeding & Deployment | Tropical Ecology

### Coastal Douglas Fir: Images & Species

[ Go to: AT | BG | RWBS | CDF | CWN | ESSE | ICH | JDF | MH | MS | PD | SBBS | SBS | SWB ]

You can explore British Columbia's ecosystems using "Immersive Imagery" software below. Follow a link above the image to launch a Java 3D-viewer. Low resolution is recommended for dial up connections, high resolution for broadband. Scroll further down to view the species composition of this ecosystem. You can also view [images & statistics](#) for this ecosystem.

### 3D Images

Ecosystem [CDF mm]. Click to launch [high resolution](#) | [low resolution](#) 3D Viewer.

Species composition

Click [here](#) for an overview of species composition in subzones and [here](#) for a corresponding overview of climatic conditions for each subzone. With these charts you can visually explore how species composition varies as climatic conditions change. Scroll to the bottom of this page for species codes.

CDF (1 wetland) - CDF mm

TRIFOLIUM, TRIFOLIUM, JACARANDA, JACARANDA, JACARANDA

2005

Michael S. Hogg, Department of Renewable Resources, University of Alberta  
301 Gerson Science Building, Edmonton, AB, T6G 2G1

Preliminary results based on partial data

## Support your job application

Nancy Bray - Mozilla Firefox

File Edit View History Bookmarks Tools Help

http://www3.teelus.net

RENR 501 RENR 603

Home [résumé] [portfolio] [contact me]

### Media Spokesperson

Communications Officer with Public Works and Government Services Canada in Edmonton.

I am interested in finding a position as a Senior Communications Advisor in Edmonton.

I would bring the following skills to any position:

- Media relations and media analysis;
- Strategic communications planning;
- Crisis communications planning;
- Management of VIP visits and special events planning;
- Web design and site management;
- Writing for the web;
- Evaluation skills such as survey and focus group design;

Done

## Dangers of web publishing

- Posting half-baked stuff that you regret later (Web archives save at least all text that you post)
- Inadvertent (or intentional) copyright violations
- Inadvertent publication of restricted data and results (MoA, LA)
- Generation of controversy over results
- Somebody might steal your unpublished ideas