

CONTACT INFORMATION	Department of Economics Queen's University 94 University Ave. Kingston, ON, K7L 4A5	Citizenship: Canadian (613) 572-7442 rhinelaj@econ.queensu.ca <a href="https://imaginary.ca">https://imaginary.ca</a>
RESEARCH INTERESTS	Agent-based modelling; computational economics; intellectual property; microeconomics; law and economics; behavioural economics; industrial organization.	
EDUCATION	Ph.D., Economics, Queen's University, Kingston, ON M.A., Economics, Queen's University B.A., Economics (Hon.), Computer Science (Maj.), Mathematics (Min.), Mount Allison University, Sackville, NB	2011–present 2010–2012 2006–2010
RESEARCH PAPERS	Creativity amid piracy: an agent-based model of the incentives to create in a piratic digital world ( <i>job market paper</i> ) Computationally efficient sampling from truncated multivariate normal and $t$ distributions ( <i>working paper</i> ) Voting simulation: an Eris application Critique and reimplementations of <i>Plümper and Martin</i> , “Multi-party competition: <i>A computational model with abstention and memory</i> Usage- versus cost-based pricing: lessons from the CRTC's Internet regulations. <i>Master's essay, Queen's University</i>	2016 2016 2013 2013 2012
PRESENTATIONS & WORKSHOPS	“Creativity under piracy: an agent-based modelling approach” Canadian Economics Association Annual Conference, Toronto, ON Institute for New Economic Thinking, Complexity Workshop, Toronto, ON Queen's Microeconomics Workshop Institute for New Economic Thinking, Young Scholars Initiative workshop “Creativity Amid Piracy”, Atlantic Canada Economics Association Meetings	2016 2016 2016 2014 2009
RESEARCH SOFTWARE	Eris library for agent-based economic modelling. Open-source C++ library for modelling and simulating complex economic models. <a href="https://git.imaginary.ca/eris/eris">https://git.imaginary.ca/eris/eris</a> Creativity and piracy modelling software. Eris-based software implementation of “Creativity amid piracy: an agent-based model of the incentives to create in a piratic digital world” working paper. <a href="https://git.imaginary.ca/eris/creativity">https://git.imaginary.ca/eris/creativity</a> pyeris, a Python interface to Eris. <a href="https://git.imaginary.ca/eris/pyeris">https://git.imaginary.ca/eris/pyeris</a> Core developer of “pybind11: Seamless operability between C++11 and Python” <a href="https://github.com/pybind/pybind11">https://github.com/pybind/pybind11</a> Contributed Ziggurat-algorithm implementation of Exponential random number generator and enhanced Ziggurat normal random number generator to the Boost C++ software library. (Included as of Boost 1.62.0). <a href="https://github.com/boostorg/random/pull/23">https://github.com/boostorg/random/ pull/23</a>	2013– 2014– 2016– 2016– 2016

fracdist unit roots and cointegration critical value calculator. 2014  
 C++ reimplementa-tion of Fortran companion software to James G. MacKinnon and Morten Ø. Nielsen, “Numerical Distribution Functions of Fractional Unit Root and Cointegration Tests,” Journal of Applied Econometrics, Vol. 29, No. 1, 2014, pp. 161–171.  
<https://git.imaginary.ca/jagerman/fracdist>

Voting simulation software. 2013  
 Eris-based voting model software implementation of “Voting simulation: an Eris application” working paper. <https://git.imaginary.ca/eris/voting>

EASIK v2.0, an Entity Attribute sketch and database implementation. 2008–2009  
 (Contributor). Summer undergraduate Computer Science research project.  
<http://www.mta.ca/~rrosebru/project/Easik>

AWARDS AND  
 DISTINCTIONS

Ontario Graduate Scholarship 2011, 2012, 2014  
 E.G. Bauman Fellowship 2013  
 Queen’s University nomination for SSHRC Doctoral Award 2011, 2013  
 Duncan & Urlla Carmichael Graduate Fellowship 2010  
 Governor General’s Academic Medal (Silver) 2010  
 Harold W. Simpson Memorial Prize, Mount Allison University 2010  
 Mount Allison University Alumni Association Academic Achievement Award 2010  
 Best Student Paper, Atlantic Canada Economics Association Conference,  
 Saint John, NB, Canada 2009  
 Association for Computing Machinery, International Collegiate Programming  
 Contest participant. (*2<sup>nd</sup>-place Atlantic Canada; 10<sup>th</sup>-place northeast North America*) 2009  
 Marjorie Young Bell Fellowship for summer undergraduate research,  
 Economics Department, Mount Allison University; supervisor Dr. Stephen Law 2009  
 Petrocan Summer Undergraduate Award, Mathematics and Computer Science  
 Department, Mount Allison University; supervisor Dr. Robert Rosebrugh 2008  
 Dean’s List, Mount Allison University 2007–2010  
 University Scholarship, Mount Allison University 2008–2010

SOFTWARE  
 SKILLS

*Extensive programming experience:*  
 C++, C, GNU R, Python, Perl, Java, SQL, HTML, CSS, JavaScript, Shell scripting.

*Moderate programming experience:*  
 MATLAB, PHP, Ox.

*Statistical analysis:*  
 gretl, R, STATA.

*Operating systems:*  
 GNU/Linux, Mac OS X, Windows.

TEACHING  
 EXPERIENCE

**Instructor (Teaching Fellow), Queen’s University, Economics Department:**  
 Introductory Statistics (ECON 250; 2<sup>nd</sup>-year undergraduate) Fall 2016  
 Introductory Statistics (ECON 250) Winter 2015  
 Introductory Statistics (ECON 250) Fall 2013

**Teaching Assistant, Queen’s University, Economics Department:**  
 Quantitative Methods (ECON 852; M.A. econometrics), Dr. Morten Nielsen Fall 2014  
 Economic Analysis of Law (ECON 848; M.A.), Dr. Roger Ware Winter 2014  
 Industrial Organization & Policy (ECON 445; 4<sup>th</sup>-year), Dr. Roger Ware Winter 2014

Econometrics II (ECON 851; Ph.D.), Dr. Morten Nielsen	Winter 2013
Econometrics I, (ECON 850; Ph.D.), Dr. James MacKinnon	Fall 2012
Microeconomics I (ECON 811; Ph.D.), Dr. James Bergin	Fall 2012
Mathematical Economics (ECON 255; 2 <sup>nd</sup> -year) Dr. Jan Zabojnik	Winter 2012
Microeconomic Theory II (ECON 310; 3 <sup>rd</sup> -year), Dr. Sumon Majumdar	Fall 2011
Microeconomic Theory I (ECON 212; 2 <sup>nd</sup> -year), Prof. Arthur Stewart	2010–2011

**Teaching Assistant, Mount Allison University:**

Introductory Micro/macroeconomics (ECON 1001/1011), Drs. Stephen Law and Frank Strain	2008–2010
Data Structures and Algorithms I (COMP 2611; 2 <sup>nd</sup> -year core Computer Science course), Dr. Liam Keliher	Fall 2007, Fall 2009
Data Structures and Algorithms II (COMP 2631; 2 <sup>nd</sup> -year core Computer Science course), Dr. Liam Keliher	Winter 2008, Winter 2009

PROFESSIONAL  
ACTIVITIES

Queen’s University Copyright Working Group, graduate student representative	2012–
Queen’s Community Housing Board, John Orr Tower representative	2010–2013

PROFESSIONAL  
EXPERIENCE

<i>Lead Product Developer</i> , Gossamer Threads, Inc., Vancouver, BC <a href="http://www.gossamer-threads.com">http://www.gossamer-threads.com</a> .	2003–2006
<ul style="list-style-type: none"> <li>• Head of development team for all product software development.</li> <li>• Maintenance of existing products and software libraries</li> <li>• Development of new products.</li> <li>• Developed major new versions of Gossamer Threads’ main software products, including a major redesign of all main products.</li> <li>• Assisted in the initial development and launch of Gossamer Threads’ web hosting division (now GT.net).</li> </ul>	
<i>Web Application Developer</i> , Gossamer Threads, Inc.	2000–2003
<ul style="list-style-type: none"> <li>• Designed, developed, and launched Gossamer Forum, an advanced web-based forum application sold to webmasters.</li> <li>• Created and maintained various components of other Gossamer Threads products and shared underlying product libraries.</li> </ul>	

REFERENCES

**Dr. James Bergin**  
 Department of Economics  
 Queen’s University  
 Kingston, ON, K7L 3N6, Canada  
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**Dr. James MacKinnon**  
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*E-mail:* jgm@econ.queensu.ca

**Dr. Gregor W. Smith** (*teaching reference*)  
 Department of Economics  
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*E-mail:* smithgw@econ.queensu.ca