

## Wesley S. Burr, PhD, A.Stat

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CONTACT INFORMATION	Department of Mathematics, Trent University, 1600 West Bank Drive, Peterborough, Ontario Canada K9L 0G2	<i>Cellular:</i> 613-331-2674  <i>E-mail:</i> wesleyburr@trentu.ca <i>Personal:</i> wesley.burr@gmail.com
CITIZENSHIP	Canadian; Australian permanent resident	
RESEARCH INTERESTS	Statistical Modeling, Environmental Health Statistics, Statistical Computing, Time Series Analysis, Spectrum Estimation	
EDUCATION	<b>Ph.D.</b> (Statistics) Dept. of Mathematics & Statistics, Queen's University, 2012. <b>M.Sc.</b> (Mathematics) Dept. of Mathematics & Statistics, Queen's University, 2007. <b>B.Sc.Eng.</b> (Engineering) School of Applied Science and Engineering, Queen's University, 2005.	
PROFESSIONAL APPOINTMENTS	<b>Assistant Professor</b> Department of Mathematics, Trent University, 2016-present. <b>Canadian Government Laboratories Visiting Fellow</b> Health Canada, Population Studies Division, 2013-2016. <b>Postdoctoral Fellow</b> Queen's University, Dept. of Mathematics & Statistics, 2013.	
PUBLICATIONS	<b>Manuscripts in Preparation</b>  Burr, W.S., Dales, R., Smith-Doiron, M., Jovic, B., Kauri, L.M., Liu, L., Stieb, D. and Shin, H.H. <i>The Oakville Refinery Closure: A Natural Experiment</i> .  Burr, W.S., Takahara, G. and Shin, H.H. <i>Synthetic Lag Models and Air Pollution</i> .  <b>Refereed Articles</b>  Szyszkowicz, M. and Burr, W.S. <i>Use of Chained Two-point Clusters to Examine Associations of Air Pollution with Health Conditions</i> . International Journal of Occupational Medicine and Environmental Health, 2016. <b>In press</b> .  Burr, W.S., Takahara, G. and Shin, H.H. <i>Bias in Estimation of Short-term Population Health Risk from Air Pollution Exposure</i> . Environmetrics, 2015, (26)4:298-311.  Szyszkowicz, M. and Burr, W.S. <i>Distributed Lag Models: An Analysis of Milan Mortality Data</i> , J Pollut Eff Contr, June 2014, 2:1. <a href="http://dx.doi.org/10.4174/jpe.1000109">http://dx.doi.org/10.4174/jpe.1000109</a> .  Burr, W.S. and Shin, H.H. <i>Accounting for Temperature when Modeling Population Health Risk Due to Air Pollution</i> . Proceedings of the 2013 AMMCS, in Springer Proceedings in Mathematics and Statistics, Vol. 117.  Burr, W.S. and Shin, H.H. <i>Discrete Prolate Spheroidal Sequences as Filters in Generalized Additive Models</i> . Proceedings of the 2013 AMMCS, in Springer Proceedings in Mathematics and Statistics, Vol. 117.	

## Additional Publications

Burr, W.S. *Air Pollution and Health: Time Series Tools and Analysis*. PhD thesis, Queen's University, Kingston, ON. 2012.

Burr, W.S. *Oscillations of Jupiter as Detected by Voyager II*. Master's thesis, Queen's University, Kingston, ON. 2007.

## Software

`multitaper` R package for computation and analysis of multitaper spectrum estimates. On CRAN.

`AHItools`, `AHIsmooth`, `AHIatm`: R packages for development and analysis of Canadian health and environmental data for the Air Health Indicator (AHI) project.

`slp` R package for extension of `gam` and `mgcv` estimators, allowing use of SLP smoothers for Generalized Additive Models. On CRAN.

`tsinterp` R package for interpolation of stationary time series through univariate (hybrid Wiener) and bivariate techniques. Available from <http://www.github.com/wesleyburr/tsinterp/>.

## AWARDS

### External

- Statistical Society of Canada Student Research Presentation Award, 2012
- Statistical Society of Canada Student Travel Award, 2012
- Statistical Society of Ottawa PhD Student Presentation Award, 2011
- Queen Elizabeth II Scholarship in Science and Technology, 2010
- Finalist, Qualcomm Cognitive Radio Competition, 2010
- Ontario Graduate Scholarship (OGS), 2006
- Queen Elizabeth II *Aiming for the Top* Scholarship, 2001-2005

### Queen's University

- Conference Travel Award, 2010 & 2011
- Keyser Prize, 2010
- Queen's Graduate Award, 2005 & 2007-2011
- Annie Bentley Lillie Award (First in Class), 2005
- Keyser Fellowship (Best Undergraduate Thesis Award), 2005
- NSERC Undergraduate Student Research Award, 2004 & 2005
- Dean's Scholar, 2001-2005
- The Marsha Lampman Alumni Association Award, 2001-2005

## GRANTS AND CONSULTING

*Investigation to Identify the Cause of an Observed Change in Mortality Risk Attributable to Ozone*. Collaborator; 2-year grant from CESI/CARA. \$120,000.

*Modern Spectral Methods in Time Series Analysis: Applications in Physical Science, Environmental Science, and Computer Modeling*. Collaborator; CANSSI Collaborative Research Team Project. \$200,000.

*Investigation of Cyclic Patterns in National and Regional Mortality Risks for the Air Health Indicator (AHI)*. Consulting contract with Health Canada, 2011-2013. \$25,000 / year.

*Investigation of Temperature Influences on Mortality for the Air Health Indicator (AHI)*. Consulting contract with Health Canada, 2013. \$10,000.

INVITED TALKS

- Burr, W.S. and Shin, H.H. *A Natural Intervention Study on an Oil Refinery Closure*. Dept. of Mathematics & Statistics, Carleton University, Jan. 15, 2015.
- Takahara, G. and Burr, W.S. *Developing an Air Health Indicator*. Dept. of Mathematics & Statistics, University of Ottawa, Dec. 6, 2012.
- Burr, W.S. *Estimation of Acute Health Effects due to Air Pollution*. Departmental colloquia for the School of Population Health, University of Queensland (Nov. 13, 2012) and the School of Population Health, University of Western Australia (Nov. 20, 2012).
- Takahara, G. and Burr, W.S. *Developing an Air Health Indicator using Spectral Decomposition of GAMs*. Health Canada weekly Seminar Series, Tunney's Pasture, Ottawa, ON, Apr. 20, 2012.
- Burr, W.S. *Modeling Health Outcomes due to Short-Term Air Pollution Exposure*. Departmental Colloquium for the Dept. of of Statistics & Actuarial Science, University of Waterloo, Nov. 10, 2011.

RECENT  
CONFERENCE  
ACTIVITY

- Burr, W.S., Dales, R., Smith-Dorion, M., Jovic, B., Kauri, L.-M., Liu, L., Stieb, D. and Shin, H.H. *Health Impacts of the Oakville Refinery Closure*. Health Canada Science Forum, January, 2015. *Talk and Poster Presentation*.
- Shin, H.H., Mahmud, M., Burr, W.S., Smith-Dorion, M., Jovic, B., Takahara, G., Stieb, D., Jessiman, B. and Burnett, R. *Air Health Indicator Update*. Health Canada Science Forum, January, 2015. *Poster Presentation*.
- Shin, H.H., Mahmud, M., Burr, W.S., Smith-Dorion, M., Jovic, B., Takahara, G., Stieb, D., Jessiman, B. and Burnett, R. *Air Health Indicator*. Statistical Society of Canada Yearly Meeting, 2014. Also presented at Health Canada Science Forum, December, 2013. *Poster Presentation*.
- Burr, W.S. and Shin, H.H. *Discrete Prolate Spheroidal Sequences as Filters in Generalized Additive Models*. SS-MSEPSW session for AMMCS-2013.
- Burr, W.S. and Shin, H.H. *Accounting for Temperature when Modeling Population Health Risk Due to Air Pollution*. SS-SAEEM session for AMMCS-2013.
- Burr, W.S. and Shin, H.H. *Temperature and Mortality: a Canadian perspective*. Statistical Society of Canada Yearly Meeting, 2013.
- Burr, W.S., Takahara, G. and Shin, H.H. *Towards Developing an Air Health Indicator through Spectral Decomposition of GAMs*. Statistical Society of Canada Yearly Meeting, 2012 (award-winning presentation)
- Riegert, D.L., Springford, A., Burr, W.S. and Thomson, D.J. *Is There Structure in High-Frequency Variation of Great Lakes Water Levels?* Statistical Society of Canada Yearly Meeting, 2012
- Burr, W.S. *Adapting Generalized Additive Models for Improved Risk Estimation in Air Health Applications*. Statistical Society of Ottawa Research Day, 2011 (award-winning presentation)
- Burr, W.S. *Cross-Spectral Method for Gapfilling Time Series*. Statistical Society of Canada Yearly Meeting, 2011

PROFESSIONAL  
MEMBERSHIPS

Member of the Statistical Society of Canada, granted **A.Stat.** certification Oct. 2012.

TEACHING  
EXPERIENCE

**Queen's University at Kingston**, Kingston, ON Canada

**Postdoctoral Fellow**

**January 2013 to June 2013**

2012-13 Instructor for APSC 171J: Calculus I (remedial).

**Graduate Teaching Fellow**

**September 2006 to April 2012**

2011-12 Instructor for STAT 464/864: Time Series Analysis and Spectrum Estimation

2009-10 Instructor for *MATH 227*: Vector Analysis

2008-09 Instructor for *APSC 174J*: Linear Algebra for Engineers (Remedial)

2007-08 Instructor for *APSC 174*: Linear Algebra for Engineers

2007-08 Instructor for *MATH 335*: Methods of Applied Mathematics II

2006-07 Interim Instructor for *APSC 174*: Linear Algebra for Engineers

SERVICE TO  
PROFESSION

**Reviewer** Environmental Science

**Organizer** *Symposium on Multitaper Spectrum Estimation, Prolate Spheroidal Wave Functions, Quadratic-Inverse, and Related Problems*, as part of *AMMCS-2013*. August, 2013.

**Organizer** 6th Annual *Canadian Solar Workshop*. October, 2009.

DEPARTMENTAL  
SERVICE

**Organizer and Founder** *Statistical Methods Seminar*, 2010-2012. Queen's University Dept. of Mathematics & Statistics weekly departmental seminar on applied statistics and methodology.

**Organizing Committee** 40<sup>th</sup> Anniversary of Jeffery Hall Conference, Queen's University, 2010.

**Tenure, Renewal, and Promotion (TRP) Committee** Graduate student representative, Dept. of Mathematics & Statistics, 2007 and 2010.

**Appointments Committee** Graduate student representative, Dept. of Mathematics & Statistics, 2009.

**Computing Committee** Graduate student representative, Dept. of Mathematics & Statistics, 2007 and 2009.