

CURRICULUM VITAE

NAME

Dr. Smith, Bruce

CONTACT INFORMATION

Address

Courier Department of Mathematics and Statistics, Dalhousie University, 4 Lord Dalhousie Dr
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Primary Affiliation Department of Mathematics and Statistics, Dalhousie University, 1459 Oxford Street,
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LANGUAGE SKILLS

English Read, Write, Speak, Understand, Peer Review

French Read

EDUCATION

Degrees

Doctorate, Biostatistics, biostatistics (Completed) Sep. 1984 - Apr. 1988
University of California, Berkeley, California, United States, Academic
Supervisors: David Brillinger (1984/9 - 1987/12)

Master's Thesis, Statistics - Masters, statistics (Completed) Sep. 1980 - Apr. 1981
The University of Calgary, Alberta, Canada, Academic
Supervisors: Ernest Enns (1979/9 - 1981/5)

Bachelor's, Statistics, statistics (Completed) Sep. 1976 - Apr. 1979
The University of Calgary, Alberta, Canada, Academic

Bachelor's, Zoology, animal biology (Completed) Sep. 1971 - Apr. 1975
The University of Calgary, Alberta, Canada, Academic
Supervisors: Jacob Duerkson (1971/9 - 1975/5)

EMPLOYMENT

Academic Work Experience

Professor, Professor (Full-time)

Jul. 2005

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October 23, 2022

Mathematics and Statistics, Dalhousie University, Nova Scotia, Canada, Academic

Associate Professor, Associate Professor (Full-time)

Jul. 1997 - Jun. 2005

Mathematics and Statistics, Dalhousie University, Nova Scotia, Canada, Academic

Assistant Professor, Assistant Professor (Full-time)

Jan. 1993 - Jun. 1995

Mathematics and Statistics, University of Victoria, British Columbia, Canada, Academic

Assistant Professor, Assistant Professor (Full-time)

Jul. 1988 - Jun. 1997

Mathematics and Statistics, Dalhousie University, Nova Scotia, Canada, Academic

Affiliations

Professor

Jul. 1988

mathematics and statistics, Dalhousie University, Nova Scotia, Canada, Academic

RESEARCH FUNDING HISTORY

Co-applicant, CIHR Influenza Research Network (Awarded)

Jun. 2017 - Dec. 2021

Other Investigators: + 90 others (Co-applicant), Scott (Principal Applicant)

Funding Sources

- Canadian Institutes of Health Research (CIHR) (2017/7 - 2021/12) Total: \$10,083,334.00 (Canadian dollar), (competitive)

Co-investigator, Implementation of a maternal pertussis immunization program: identifying barriers, factors that predict success, and interventions to improve coverage among Inuit women (Awarded) Feb. 2017 - Jan. 2019

Other Investigators: Scott Halperin (Co-investigator), Donna MacDougall (Principal Investigator)

Funding Sources

- Canadian Institutes of Health Research (CIHR): Operating grant: Improved Immunization Coverage Initiative (2017/2 - 2019/1) Total: \$199,995.00 (Canadian dollar), (competitive)

Co-applicant, Grant, PHAC/CIHR Influenza Research Network (Awarded)

Jun. 2014 - May 2017

Other Investigators: + 79 others (Co-investigator), Scott Alan Halperin (Principal Applicant)

Funding Sources

- Canadian Institutes of Health Research (CIHR): Targeted Initiatives (2014/6 - 2017/5) Total: \$6,600,000.00 (Canadian dollar) Received: \$0.00, (competitive)

Funding by Year

- 2015/4 - 2015/5: Total: \$123,667.00 Received: \$0.00 Time Commitment: 5
- 2014/4 - 2015/3: Total: \$1,484,000.00 Received: \$0.00 Time Commitment: 5
- 2013/4 - 2014/3: Total: \$1,484,000.00 Received: \$0.00 Time Commitment: 5
- 2012/4 - 2013/3: Total: \$1,360,333.00 Received: \$0.00 Time Commitment: 5

Co-applicant, Grant, Robust handling of heterogeneous data and probabilistic pedigrees in aquaculture selective breeding programs (Awarded) Apr. 2011 - Mar. 2014

Other Investigators: Chrisophe Herbinger (Principal Applicant)

Funding Sources

- Natural Sciences and Engineering Research Council of Canada (NSERC): strategic grants (2011/4 - 2014/3) Total: \$319,500.00 (Canadian dollar) Received: \$60,000.00, (competitive)

Funding by Year

- 2013/4 - 2014/3: Total: \$103,000.00 Received: \$20,000.00 Time Commitment: 8
- 2012/4 - 2013/3: Total: \$114,000.00 Received: \$20,000.00 Time Commitment: 8

- 2011/5 - 2012/4: Total: \$102,500.00 Received: \$20,000.00 Time Commitment: 8

Principal Applicant, Grant, Applied time series analysis, with environmental applications (Awarded) Apr. 2009 - Mar. 2014

Funding Sources

- Natural Sciences and Engineering Research Council of Canada (NSERC): discovery (2009/4 - 2014/3) Total: \$80,000.00 (Canadian dollar) Received: \$100.00, (competitive)

Funding by Year

- 2013/4 - 2014/3: Total: \$16,000.00 Received: \$100.00 Time Commitment: 20

- 2012/4 - 2013/3: Total: \$16,000.00 Received: \$100.00 Time Commitment: 20

- 2011/4 - 2012/3: Total: \$16,000.00 Received: \$100.00 Time Commitment: 20

- 2010/4 - 2011/3: Total: \$16,000.00 Received: \$100.00 Time Commitment: 20

- 2009/4 - 2010/3: Total: \$16,000.00 Received: \$100.00 Time Commitment: 20

ACTIVITIES

TEACHING ACTIVITIES

Courses Taught

Winter STAT 3340: Regression Analysis

mathematics and statistics, 01

Undergraduate, Number of Students: 130, Number of Credits: 3

Lecture Hours Per Week: 3

Winter ACSC 3703: Actuarial Models I

01

Undergraduate, Number of Students: 30, Number of Credits: 3

Lecture Hours Per Week: 3

SUPERVISORY ACTIVITIES

Student/Postdoctoral Supervision

Academic Advisor: mengyao wang, causal inference

Sep. 2019 - Apr. 2021

Master's Thesis, Completed (Apr. 2021)

Co-Supervisor: jiaxin luo, NOVEL STATISTICAL ANALYSES OF LONGLINE SURVEY DATA FOR IMPROVED INDICES OF ATLANTIC HALIBUT ABUNDANCE

Sep. 2018

Master's Thesis, Completed (Apr. 2021)

Student Canadian Residency Status: Study Permit

Principal Supervisor: Dong Lin, State space modeling of statin prescriptions by physicians in Nova Scotia, (research and statistics officer, dep't Health and Wellness, government of Nova Scotia)

Apr. 2013 - Aug. 2014

Master's Thesis, Completed (Sep. 2012 - Sep. 2016)

Co-Supervisor: Jing Zhang, simultaneous estimation of heritability and pedigree

Jul. 2012

Doctorate, Completed (Aug. 2021)

Co-Supervisor: Jing Zhang, Bayesian analysis of nonlinear growth models with known pedigree

Sep. 2011 - Dec. 2014

Doctorate, In Progress (Sep. 2011 - Jun. 2018)

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Co-Supervisor: Benjamin Dexter, Cyclic designs for the estimation of breeding values, (Data analyst, ResMed Inc) Sep. 2011 - Dec. 2013

Master's Thesis, Completed (Sep. 2011 - May 2016)

Co-Supervisor: Phillip Fullsack, Estimation of fuzzy pedigrees with applications to estimation of breeding values and heritability Sep. 2011 - Jul. 2013

Doctorate, In Progress (Sep. 2011 - Jun. 2018)

Co-Supervisor: Yingyun Ye, (statistical analysis, Canadian Center for Vaccinology)

Master's Thesis, Completed (Sep. 2011 - May 2012)

Dalhousie

Principal Supervisor: Benjamin Dexter, Predicting Vero neutralization results from ELISA measurements
Sep. 2010 - Apr. 2011

Bachelor's Honours, Completed (Sep. 2011)

Principal Supervisor: Christina Wang, Finite mixture models, (statistical analyst, Nova Scotia Health Authority) Sep. 2010 - Apr. 2011

Master's Thesis, Completed (Sep. 2012 - Sep. 2016)

Dalhousie University

Principal Supervisor: Lihui Liu, Some models for ELISA data, (Ph.D. student in Statistics, Dalhousie) Sep. 2009 - Apr. 2011

Master's Thesis, Completed (Sep. 2010 - May 2012)

Principal Supervisor: Wei Xie, Kalman filtering of some marine environmental data, (actuarial analyst, Montreal) Sep. 2009 - Apr. 2010

Bachelor's Honours, Completed (Sep. 2009)

Principal Supervisor: Wei Chen, Comparison of methods for estimating a binomial proportion, (statistical analysis, Department of Health and Wellness, Government of Nova Scotia) Sep. 2009 - Apr. 2010

Bachelor's Honours, Completed (Sep. 2009)

Principal Supervisor: Wei Dai, Generalized additive models, (unknown) Sep. 2009 - Apr. 2010

Bachelor's Honours, Completed (Sep. 2008)

Principal Supervisor: Jing Zhang, Nonlinear regression models for ELISA, (Ph.D. student in Statistics, Dalhousie) Sep. 2008 - Apr. 2009

Bachelor's Honours, Completed (Sep. 2009)

Co-Supervisor: Wade Blanchard, INFERENCE ON THE DIET COMPOSITION OF PREDATORS USING FATTY ACID SIGNATURES: AN APPLICATION OF BAYESIAN INFERENCE ON LINEAR MIXING MODELS, (Senior Research Statistician, College of Medicine and Biology, Australian National University)

Sep. 2007 - May 2011

Doctorate, Completed (Jul. 2005 - May 2011)

Estimation of Compositions

Principal Supervisor: Jin Yue, Relationships between point processes and binary time series, (Lecturer, Dalhousie University, Faculty of Agriculture) Sep. 2007 - Sep. 2008

Master's Thesis, Completed (Sep. 2008)

Principal Supervisor: Fara Daya, Analysis of the Hodrick-Prescott filter constant using state space model simulations, (teacher, Nova Scotia) Sep. 2007 - Apr. 2008

Bachelor's Honours, Completed (Sep. 2008)

**Principal Supervisor: Yingfei Ma, SAS implementation of methods of multiple imputation, (unknown, in China)
Sep. 2007 - Apr. 2008**

Bachelor's Honours, Completed (Sep. 2008)

ADMINISTRATIVE ACTIVITIES

Editorial Activities

associate editor, *Journal, Environmetrics*

Sep. 2009 - Jun. 2013

MEMBERSHIPS

Committee Memberships

Chair, executive+awards+elections+

statistical society of canada, Not for Profit

Jun. 2021

Chair, Awards Committee

Statistical Society of Canada, Not for Profit

CONTRIBUTIONS

PUBLICATIONS

Journal Articles

1. *Lui, Jiaxin, *McDonald, Raphael, Wringe, Brendan, den Heyer, Cornelia, Smith, Bruce, Yan, Yuan & Mills-Flemming, Joanna. (2022, September). A spatial analysis of longline survey data for improved indices of Atlantic halibut abundance. *ICES Journal of Marine Science*, 79(6), 1954-1964. <https://doi.org/10.1093/icesjms/fsac132>
Research Type: Scientific Research
2. halperin, scott, Ye, Lingyun, Mackinnon-Cameron, Donna & Smith, Bruce. (2022, January). Final efficacy analysis, interim safety analysis, and immunogenicity of a single dose of recombinant novel coronavirus vaccine (adenovirus type 5 vector) in adults 18 years and older. *the lancet*, 399(10321), 237-248.
3. Righolt, Christiaan H., Pabla, Gurpreet, Donelle, Jessy, Brna, Paula, Deeks, Shelley L., Wilson, Sarah E., . . . Hawken, Steven. (2021, March). Vaccine coverage among children with epilepsy in two Canadian provinces: A Canadian immunization research network study. *Vaccine*. <https://doi.org/10.1016/j.vaccine.2021.03.009>
4. top, karina. (2020). Adverse Events Following Immunization Among Children With Epilepsy: A Self-Controlled Case Series. *The Pediatric Infectious Disease Journal*, 39(5), 454-459.
Research Type: Clinical Research
5. Goreham, J. A., Landry, S. C., Kozey, J. W., Smith, B., & Ladouceur, M. (2020). Using principal component analysis to investigate pacing strategies in elite international canoe kayak sprint races. *Sports Biomechanics*, 1-16.
Research Type: Scientific Research
6. Stefan Kuhle, MD, Jillian H. Carter, Susan Kirkland, Joanne M. Langley, Bryan Maguire, Bruce Smith. (2017). Letter in Reply To Weber, von Cube, Sommer, Wolkewitz: Necessity of a Competing Risk Approach in Risk Factor Analysis of Central Line-Associated Bloodstream Infection. *Infection control and hospital epidemiology*, 38(4), 511-511.
7. Camfield, C., Camfield, P. and Smith, B. (2016). Poor versus rich children with epilepsy have the same clinical course and remission rates but a less favorable social outcome: A population-based study with 25

- years of follow-up. *Epilepsia*, 57(11), 1826-1833.
8. Halperin SA, Ward BJ, Dionne M, Langley JM, McNeil SA, Smith B, Mackinnon-Cameron D, Heyward WL, Martin JT. (2013). Immunogenicity of an investigational hepatitis B vaccine (hepatitis B surface antigen co-administered with an immunostimulatory phosphorothioate oligodeoxyribonucleotide) in nonresponders to licensed hepatitis B vaccine. *Human vaccines & immunotherapeutics*, 9(7).
 9. Sarhan, A.M., Hamilton, D.C. and Smith, B. (2012). Parameter estimation for a two-parameter bathtub-shaped lifetime distribution. *Applied Mathematical Modelling*, 36, 5380-5392.
 10. Greenberg, D.A., Blanchard, W., Smith, B. and Barrow, E. (2012). Climate change, mean sea level and high tides in the Bay of Fundy. *Atmosphere Ocean*, 50, 261-276. (Accepted)
 11. Halperin SA, McNeil S, Langley JM, Smith B, MacKinnon-Cameron D, McCall-Sani R, Heyward WL, Martin JT. (2012). Safety and immunogenicity of different two-dose regimens of an investigational hepatitis B vaccine (hepatitis B surface antigen co-administered with an immunostimulatory phosphorothioate oligodeoxyribonucleotide) in healthy young adults. *Vaccine*, 30(36).
 12. Langley JM, Scheifele DW, Quach C, Vanderkooi OG, Ward B, McNeil S, Dobson S, Kellner JD, Kuhn S, Kollman T, MacKinnon-Cameron D, Smith B, Li Y, Halperin SA. (2012). Safety and immunogenicity of 2010-2011 H1N12009-containing trivalent inactivated influenza vaccine in children 12-59 months of age previously given AS03-adjuvanted H1N12009 pandemic vaccine: a PHAC/CIHR Influenza Research Network (PCIRN) study. *Vaccine*, 30(23).
 13. Cooper C, Klein M, Walmsley S, Haase D, MacKinnon-Cameron D, Marty K, Li Y, Smith B, Halperin S, Law B, Scheifele D, Phac Cihr Influenza Research Network. (2012). High-level immunogenicity is achieved vaccine with adjuvanted pandemic H1N1(2009) and improved with booster dosing in a randomized trial of HIV-infected adults. *HIV clinical trials*, 13(1).
 14. Langley JM, Halperin SA, Rubin E, White C, McNeil S, Mutch J, Mackinnon-Cameron D, Smith B. (2012). Safety and immunogenicity of 2 mixed primary infant immunization schedules of pentavalent diphtheria, tetanus, acellular pertussis, inactivated poliomyelitis, and Haemophilus influenzae Type B vaccines at 2, 4, and 6 months of age: a randomized contr. *The Pediatric infectious disease journal*, 31(2).

<https://uniweb.dal.ca/members/401>