Dr. Simon Bonner

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Academic Employment

University of Western Ontario
Assistant Professor, Biology/Statistical & Actuarial Sciences — July 2015 – Present
Director, Master of Management of Applied Science — July 2016 – June 2019
Co-Director, Master of Management of Applied Science — July 2015 – July 2016

University of Kentucky
Assistant Professor, Statistics — Jan 2011 – June 2015

University of British Columbia
Post-Doctoral Fellow, Statistics — Jan 2009 – Dec 2010

Education

Ph.D. Statistics, Simon Fraser University — Sep 2004 – Dec 2008
Thesis: Heterogeneity in Capture-Recapture: Bayesian Methods to Balance Realism and Model Complexity
Supervisor: Dr. Carl Schwarz

Visiting Scholar, University of Kent at Canterbury — Jan 2006 – Apr 2006
Topic: Comparison of Methods for Incorporating Time-Dependent Covariates in Capture-Recapture Models
Supervisor: Dr. Byron Morgan

M.Sc. Statistics, Simon Fraser University — Sep 2001 – Apr 2003
Thesis: Continuous, Individual, Time-Dependent Covariates in the Cormack-Jolly-Seber Model
Supervisor: Dr. Carl Schwarz

B.Sc. (Hons.) Mathematics, McGill University — Sep 1997 – Apr 2001
Thesis: Detection of Changes in Brain Morphology using Multiple MRI
Supervisors: Dr. Keith Worsley and Dr. D. Louis Collins

Research Funding

CANSSI – Collaborative Research Team Award — May 2020 – May 2023
Simon Bonner, Laura Cowen, and Saman Muthukumarana

- Title: Addressing Spatial and Computational Issues in Integrated Analysis of Modern Ecological Data
- Role: Co-Principal Investigator
- Support: $180,000 over three years

NSERC – Discovery Accelerator Supplement May 2016 – May 2019

- Support: $40,000 per year for three years

NSERC – Discovery Grant May 2016 – May 2021

- Title: Hierarchical Modelling of Complex Ecological Data
- Support: $22,000 per year for five years

National Geographic Society May 2016 – May 2017

Steven Price (PI), Grant Connette, Jeff Lorch, and Simon Bonner

- Title: Evaluating the Impact of Snake Fungal Disease on Wild Snake Populations
- Role: Co-Investigator
- Support: $15,000

University of Western Ontario Jul 2015 – Jul 2019

- Title: Startup Funding
- Support: $40,000 over five years

Vice President for Research – Summer Fellowship (Declined) May 2015 – Aug 2015

- Title: Modeling Data from Mark-Recapture Experiments with Identification Errors
- Role: Principal Investigator
- Salary Support: $7000

National Science Foundation Jul 2013 – Jun 2016

David Westneat (PI), Matthew Schofield (Former Co-PI), and Simon Bonner (Co-PI)

- Title: Parental care and the integration of personality and plasticity at multiple levels of phenotypic variance
- Role: Co-Principal Investigator
- Total Funds: $305,000 over three years
- Salary Support: $11,850

NSF and KY Council on Postsecondary Education Jan 2011 – Jul 2013

Rodney Andrews (PI)

- Title: Transforming Kentucky's New Economy with EPSCoR
- Role: Co-Principal Investigator (Non-Applicant)
- Total Funds: $2,531,000 over three years
- Salary Support: $18,750

University of Kentucky Jan 2011 – Jul 2013

- Title: Startup Funding
- Support: $75,000 over three years

Research Contributions

Order of authors: Journal's listed below generally follow these conventions. The lead author's name is placed first. If the lead author is a student then his/her (co-)supervisor's name(s) are placed either second or last. The names of the remaining authors are listing in accordance with their contributions.
∗ Denotes a trainee under my direct supervision.
∗∗ Denotes a trainee supervised by a co-author. Names of his/her (co-)supervisors are underlined.

Submitted Articles

1) Bonner, S., ∗Kim, H.N., Westneat, D., ∗∗Mutzel, A., Wright, J., and Schofield, M. (2019). `dalmatian`: a package for fitting double hierarchical linear models in R via JAGS. *Journal of Statistical Software*. Accepted Pending Minor Revision March, 2020.

2) Colling, O.M.., Guglielmo, C.G., Bonner, S.J., and Morbey, Y. (2020). A species ranking of differential vulnerability to urban window collision mortality versus mist net capture among migratory songbirds in fal. *The Condor*. Submitted June 2020.

3) ∗Zhang, W., Price, S.J., and Bonner, S.J. (2020). Maximum likelihood inference for the band-read error model for capture-recapture data with misidentification. *Environmental and Ecological Statistics*. Submitted February, 2020.

4) Morbey, Y., ∗∗Beauchamp, A., Bonner, S., and Mitchell, G. (2020). Twilight locomotor activity during stopover differs on pre-departure and departure days in free-living songbirds. *Journal of Avian Biology*. Submitted January, 2020.

5) ∗∗McKenzie, J.M., Price, S.J., Connette, G.M., Bonner, S.J., and Lorch, J.M. (2019). Effects of snake fungal disease on short-term survival, behavior, and movement in free-ranging snakes. *Ecological Applications*. Submitted December, 2019.

Peer Reviewed Articles

1) ∗∗Hutton, J.M., Price, S.J., Bonner, S.J., Richter, S.C., and Barton, C.D. (2020). Occupancy and abundance of stream salamanders along a specific conductance gradient. *Freshwater Science*. Accepted.

2) ∗Zhang, W. and Bonner, S. (2019). On continuous-time capture-recapture in closed populations. *Biometrics*. In press.

3) ∗∗Palumbo, M.D., Petrie, S., Schummer, M., Rubin, B.D., and Bonner, S. (2018). Mallard resource selection trade-offs in a heterogeneous environment during autumn and winter. *Ecology and Evolution*, 9:1798–1808.

4) Price, S.J., ∗∗Freytag, S.B., Bonner, S.J., Drayer, A.N., ∗∗Muncy, B.L., ∗∗Hutton, J.M., and Barton, C.D. (2018). Mountaintop removal mining alters stream salamander population dynamics. *Diversity and Distributions*, 24(9):1242–1251.

5) ∗∗Kelly, T.R., Bonner, S.J., MacDougall-Shackleton, S.A., and MacDougall-Shackleton, E.A. (2018). Exposing migratory sparrows to *Plasmodium* suggests costs of resistance, not necessarily of infection itself. *Journal of Experimental Zoology, Part A*, 329(1):5–14.

6) **Whitney, T., Sitvarin, M., *Roualdes, E., Bonner, S., and Harwood, J. (2018). Selectivity underlies the dissociation between seasonal prey availability and prey consumption in a generalist predator. *Molecular Ecology*, 27(7):1739–1748.

7) Westneat, D., **Mutzel, A., Bonner, S., and Wright, J. (2017). Experimental manipulation of brood size affects several levels of phenotypic variance in offspring and parent pied flycatchers. *Behavioral Ecology and Sociobiology*, 71(6):91 – 103.

8) *Roualdes, E., Bonner, S.J., **Whitney, T., and Harwood, J.D. (2016). Formal modelling of predator preferences using molecular gut-content analysis. *Environmental and Ecological Statistics*, 23(2):317–336.

9) Bonner, S.J., Schofield, M.R., **Noren, P., and Price, S.J. (2016). Extending the latent multinomial model with complex error processes and dynamic Markov bases. *Annals of Applied Statistics*, 10(1):246–263.

10) Price, S.J., Bonner, S.J., **Muncy, B.L., and Barton, C.D. (2016). Effects of mountaintop removal mining on occurrence and abundance of stream salamanders. *Journal of Applied Ecology*, 53:459–468.

11) Schofield, M.R. and Bonner, S.J. (2015). Connecting the latent multinomial. *Biometrics*, 71(4):1070–1080.

12) **Bridger, D., Bonner, S.J., and Briffa, M. (2015). Individual quality and boldness in male hermit crabs: Risk-averse individuals are the most fecund. *Proceedings of the Royal Society B*, 282(1803).

13) *Augustine, B.C., Treddick, C.A., and Bonner, S.J. (2014). Accounting for behavioral response to capture when estimating population size from hair snare studies with missing data. *Methods in Ecology and Evolution*, 5(11).

14) **Muncy, B.L., Price, S.J., Bonner, S.J., and Barton, C.D. (2014). Mountaintop removal mining reduces stream salamander occupancy and richness in southeastern Kentucky (USA). *Biological Conservation*, 180:115–121.

15) Bonner, S.J. and Schofield, M. (2014). MC(MC)MC: Exploring Monte Carlo integration within MCMC for mark-recapture models with individual covariates. *Methods in Ecology and Evolution*, 5(12):1305–1315.

16) Bonner, S.J., Newlands, N., and Heckman, N.E. (2014). Modeling regional impacts of climate teleconnections using functional data analysis. *Environmental and Ecological Statistics*, 21:1–26.

17) Bonner, S.J. (2013). Implementing the trinomial mark-recapture-recovery model in Program MARK. *Methods in Ecology and Evolution*, 4(1):95–98.

18) Bonner, S.J. and Holmberg, J.A. (2013). Mark-recapture with multiple non-invasive marks. *Biometrics*, 69(3):766–775.

19) Bonner, S.J. (2013). Response to: A new method for estimating animal abundance with two sources of data in capture-recapture studies. *Methods in Ecology and Evolution*, 4(6):585–588.

20) Chamberlain, J.L., ∗Ness, G., Small, C.J., Bonner, S.J., and Hieber, E.B. (2013). Modeling below-ground biomass to improve sustainable management of *actaea racemosa*, a globally important medicinal forest product. *Forest Ecology and Management*, 293(1):1–8.

21) Bonner, S.J. and Schwarz, C.J. (2011). Smoothing population size estimates for time-stratified mark-recapture experiments using Bayesian p-splines. *Biometrics*, 67(4):1498–1507.

22) Bonner, S.J., Morgan, B.J.T., and King, R. (2010). Continuous, time-varying covariates in mark-recapture-recovery analyses: A comparison of methods. *Biometrics*, 65(4):1256–1265.

23) ∗∗Calvert, A., Bonner, S.J., Jonsen, I., Flemming, J., Walde, S., and Taylor, P. (2009). A hierarchical Bayesian approach to multi-state mark-recapture: Simulations and applications. *Journal of Applied Ecology*, 46:610–620.

24) Bonner, S.J., Thomson, D.L., and Schwarz, C.J. (2008). Time-varying covariates and semi-parametric regression in capture-recapture: An adaptive spline approach. In D.L. Thomson, E.G. Cooch, and M.J. Conroy (eds.), *Modelling Demographic Processes in Marked Populations*, vol. 3 of *Environmental and Ecological Statistics*, pp. 657–676. Springer, New York. Proceedings of the 8*th* EURING Technical Meeting.

25) Gimenez, O., Bonner, S.J., King, R., Parker, R.A., Brooks, S.P., Jamieson, L.E., Grosbois, V., Morgan, B.J.T., and Thomas, L. (2008). WinBUGS for population ecologists: Bayesian modeling using Markov chain Monte Carlo methods. In D.L. Thomson, E.G. Cooch, and M.J. Conroy (eds.), *Modelling Demographic Processes in Marked Populations*, vol. 3 of *Environmental and Ecological Statistics*, pp. 883–916. Springer, New York. Proceedings of the 8*th* EURING Technical Meeting.

26) Lampinen, T.M., Bonner, S.J., Rusch, M., and Hogg, R.S. (2007). High prevalence of smoking among urban-dwelling Canadian men who have sex with men. *Journal of Urban Health*, 83(6):1143–1150.

27) Dias Lima, V., Kretz, P., Palepu, A., Bonner, S., Kerr, T., Moore, D., Daniel, M., Montaner, J.S., and Hogg, R.S. (2006). Aboriginal status is a prognostic factor for mortality among antiretroviral naïve hiv-positive individuals first initiating haart. *AIDS Research and Therapy*, 3(1):1–9.

28) Bonner, S.J. and Schwarz, C.J. (2006). An extension of the Cormack-Jolly-Seber model for continuous covariates with application to Microtus pennsylvanicus. *Biometrics*, 62(1):142–149.

29) Hogg, R.S., Bangsberg, D.R., Lima, V.D., Alexander, C., Bonner, S., Yip, B., Wood, E., Dong, W.W., Montaner, J.S.G., and Harrigan, P.R. (2006). Emergence of drug resistance is associated with an increased risk of death among patients first starting HAART. *PLoS Medicine*, 3(9):e356.

30) Bonner, S.J. and Schwarz, C.J. (2004). Continuous time-dependent individual covariates and the Cormack-Jolly-Seber model. In J.C. Senar, A. Dhont, and M.J. Conroy (eds.), *Animal Biodiversity and Conservation*, vol. 27. Proceedings of the 7*th* EURING Technical Meeting.

31) Wood, E., Hogg, R.S., Bonner, S., Kerr, T., Li, K., Palepu, A., Guillemi, S., Schechter, M.T., and Montaner, J.S.G. (2004). Staging for anti-retroviral therapy among HIV-infected drug users. *Journal of the American Medical Association*, 292:1175a–1177a.

32) Ledergerber, B., Lundgren, J.D., Walker, A.S., Sabin, C., Justice, A., Reiss, P., Mussini, C., Wit, F., d'Arminio Monforte, A., Weber, R., Fusco, G., Staszewski, S., Law, M., Hogg, R., Lampe, F., Gill, M.J., Castelli, F., Phillips, A.N., and PLATO Collaboration (2004). Predictors of trend in cd4-positive t-cell count and mortality among hiv-1-infected individuals with virological failure to all three antiretroviral-drug classes. *Lancet*, 364(9428):5162.

Non Refereed Publications

1) Zala, C., Alexander, C.S., Ochoa, C., Guillemi, S., Ting, L.S., Bonner, S., Cahn, P., Harrigan, P.R., and Montaner, J.S.G. (2005). Comparable pharmacokinetics of generic Indinavir (Inhibisam) versus brand Indinavir (Crixivan) when boosted with Ritonavir. *Journal of Acquired Immune Deficiency Syndromes*, 38(1):363–364. Letter to the Editor.

Technical Reports

1) ∗Ness, G. and Bonner, S.J. (2012). Modeling the relationship between below ground and above ground biomass of black cohosh. Technical report, Dr. Jim Chamberlain, U.S. Forest Service.

2) Bonner, S.J. and Schwarz, C.J. (2011). A spline-based capture-mark-recapture model applied to estimating the number of Steelhead within the Bulkley River passing the Moricetown canyon in 2001-2010. Technical report, BC Ministry of Environment.

3) Bonner, S.J. (2010). Functional data analysis of the trends and predictors of climate in British Columbia. Technical report, Agriculture and Agri-Food Canada.

4) Bonner, S.J. and Schwarz, C.J. (2008). Analysis of variability in water quality, sediment quality, and abundance of benthic organisms in two lakes of the Koala watershed. Technical report, Rescan Environmental Services Ltd.

5) Bonner, S.J. (2008). The stratified-Petersen experiment: Effects of heterogeneity by strata on the estimate of run size and its variance. Technical report, BC Hydro.

6) Bonner, S.J. (2006). Analysis of the effects of 11 chemicals on wireworm mortality. Technical report, Pacific Agri-Food Research Centre.

Book Reviews

1) Bonner, S.J. (2011). Review of Bayesian Analysis for Population Ecology by King, R., Morgan, B.J.T., Gimenez, O., and Brooks, S. *Biometrics*, 67(4):1675–1676.

Invited Conference Presentations

1) Bonner, S. and ∗Ellis, A. (2019). Modelling score based data from photo-identification studies of wild animals. *3rd International Conference on Statistical Distributions and Applications.* Grand Rapids, Michigan.

2) Bonner, S.J. (2019). Accounting for identification uncertainty with non-invasive marks. *National Centre for Statistical Ecology (UK) Bi-Annual Meeting: Addressing Statistical Challenges of Modern Technological Advances*. Edinburgh, Scotland.

3) Bonner, S.J., Schofield, M.R., **Noren, P., and Price, S.J. (2015). Identification errors in mark-recapture: Models, MCMC, and dynamic markov bases. *SRCOS*. Wilmington, NC.

4) Bonner, S.J. and Schofield, M.R. (2013). MC(MC)MC: Inference for heterogeneous populations via MC within MCMC. *EURING Analytical Meeting & Workshop*. Athens, GA.

5) Bonner, S.J. and Holmberg, J.A. (2012). Mark-recapture of whale sharks with multiple, natural marks. *International Biometrics Conference*. Kobe, Japan.

6) *Ness, G., Bonner, S.J., and Chamberlain, J. (2011). Modeling the relationship between below ground and above ground biomass of black cohosh. *Radford University*. Radford, VA (*Presented by G Ness*).

7) Bonner, S.J. and Schwarz, C.J. (2011). Advances in modelling time-stratified mark-recapture data from salmon outmigrations via Bayesian p-splines. *39th Annual Meeting of the Statistical Society of Canada*. Wolfville, NS.

8) Bonner, S.J., Newlands, N., and Heckman, N. (2010). Functional data modelling of climate trends in British Columbia. *Functional Data Analysis: Future Directions*. Banff, AB.

Other Conference Presentations

1) Bonner, S., *Mu, J., and *Zhang, W. (2020). On the identifiability of open mark-recapture models with continuous covariates. *International Statistical Ecology Conference*. Sydney, Australia (Held virtually due to COVID-19).

2) Bonner, S., Price, S., and **Hutton, J. (2018). Combined models for counts and mark-recapture data. *International Statistical Ecology Conference*. St Andrews, Scotland.

3) Bonner, S. and *Ellis, A. (2018). Accounting for matching uncertainty in photo-identification of wild animals. *Statistical Society of Canada Annual Meeting*. Montreal, QC.

4) Bonner, S. and *Burchett, W. (2016). A simple subsampling approach to modelling big mark-recapture data sets. *International Statistical Ecology Conference*. Seattle, WA.

5) Bonner, S. (2016). Mark-recapture, misidentification, and Markov bases. *Statistical Society of Canada Annual Meeting*. St Catherines, ON.

6) Bonner, D.S., Schofield, D.M., **Noren, P., and Yoshida, D.R. (2014). Application of algebraic statistics to mark-recapture models with misidentificaton. *Algebraic Statistics*. Chicago, IL.

7) Bonner, S. and Holmberg, J. (2013). Application of the latent multinomial model to data from multiple non-invasive marks. *ENAR Spring Meeting*. Orlando, FL.

8) Bonner, S., Newlands, N., Qian, B., and Heckman, N. (2010). Functional data analysis of the trends and predictors of climate in British Columbia. *Joint Statistical Meetings*. Vancouver, British Columbia.

9) Bonner, S., Newlands, N., Qian, B., and Heckman, N. (2010). Functional data analysis of the trends and predictors of climate in British Columbia. *IMS New Researchers Conference*. Vancouver, British Columbia.

10) Bonner, S.J. and Schwarz, C.J. (2009). Bayesian estimation of abundance for open populations with covariate dependent capture and survival probabilities. *9th EURING Technical Meeting*. Pescara, Italy.

11) Bonner, S.J. and Schwarz, C.J. (2008). Hierarchical Bayesian modelling of two-stage capture-recapture experiments. *Joint Meeting of the Statistical Society of Canada and the Société Francaise de Statistique*. Ottawa, Ontario.

12) Bonner, S.J. and Schwarz, C.J. (2007). Bayesian smoothing of the stratified-Petersen model. *WNAR/IMS Annual Meeting*. Irvine, California.

13) Bonner, S.J., Thomson, D.T., and Schwarz, C.J. (2007). Time-varying covariates and semi-parametric regression in capture-recapture: an adaptive spline approach. *8th EURING Technical Meeting*. Dunedin, New Zealand.

14) Bonner, S.J. and Schwarz, C.J. (2003). Continuous individual time-dependent covariates in the Cormack-Jolly-Seber model. *7th EURING Technical Meeting*. Radolfzell, Germany.

Invited Seminars

1) Bonner, S.J. (2016). Accounting for identification errors in mark-recapture data. *Département de mathématiques et de statistique, Université Laval*. Québec, QC.

2) Bonner, S.J. (2016). Markov chains, mark-recapture, and misidentification: Why I am Bayesian and how you could be too. *Department of Applied Mathematics, University of Western Ontario*.

3) Bonner, S.J. (2013). Examples of Bayesian methods for analyzing complex mark-recapture data. *Department of Forestry, University of Kentucky*. Lexington, KY.

4) Bonner, S.J. and Holmberg, J.A. (2012). Mark-recapture of whale sharks with multiple, natural marks. *University of Louisville*. Louisville, KY.

5) Bonner, S.J. and Schwarz, C.J. (2011). Bayesian estimation of abundance for open populations with covariate dependent capture probabilities. *Dalhousie University*. Halifax, NS.

6) Ness, G., Bonner, S.J., and Chamberlain, J. (2011). Modeling the relationship between below ground and above ground biomass of black cohosh. *Radford University*. Radford, VA (*Presented by G Ness*).

7) Bonner, S.J. and Schwarz, C.J. (2009). Bayesian estimation of abundance for open populations with covariate dependent capture and survival probabilities. *University of Victoria*. Victoria, BC.

8) Bonner, S.J. and Schwarz, C.J. (2008). Application of Bayesian p-splines to the stratified two-stage capture-recapture study. *University of British Columbia*. Vancouver, BC.

Conference Posters

1) Bonner, S., Schofield, M., ∗∗Noren, P., , and Yoshida, R. (2014). Do you need ALL the moves? Improving the efficiency of the latent multinomial model. *International Statistical Ecology Conference*. Montpellier, France.

2) ∗Augustine, B.C., Tredick, C.A., and Bonner, S.J. (2013). Accounting for behavioral variation in closed population models with missing data. *EURING Analytical Meeting & Workshop*. Athens, GA.

3) ∗Ness, G., Chamberlain, J., Bonner, S., and Small, C. (2011). Modeling the relationship between below ground and above ground biomass of black cohosh. *2nd Annual University of Kentucky Environmental Research Showcase*. Lexington, Kentucky, USA.

4) Bonner, S.J., King, R., and Morgan, B.J.T. (2007). Comparison of methods for incorporating covariates in mark-recapture-recovery analysis. *8th EURING Technical Meeting*. Dunedin, New Zealand.

5) Bonner, S., Rusch, M., Lampinen, T.M., Miller, M.L., Devlin, B., and Hogg, R.S. (2004). Smoking behaviour among men who have sex with men. *13th Annual Canadian AIDS/HIV Research Conference*. Montreal, Quebec.

6) Bonner, S.J., Hogg, R.S., Geller, J., Yip, B., Gataric, N., and Montaner, J.S. (2004). Concordance between two measures of adherence to anti-retroviral therapy. *13th Annual Canadian AIDS/HIV Research Conference*. Montreal, Quebec.

7) Guillemi, S., Alexander, C.S., Bonner, S., Ting, L., Harris, M., Harrigan, P.R., and Montaner, J.S. (2004). Lopinavir through concentration remains consistent for adult patients regardless of age. *13th Annual Canadian AIDS/HIV Research Conference*. Montreal, Quebec.

8) Harris, M., Zalunardo, N., Bonner, S., Werb, R., Valyi, M., and Montaner, J.S. (2004). Use of estimated glomerular filtration rate (GFR) to predict renal toxicity in patients receiving Tenofovir DF (TDF). *11th Conference on Retroviruses and Opportunistic Infections*. San Francisco, California.

Software Packages

1) Bonner, S. and Kim, H. (2018). `dalmatian`: Automating the fitting of double linear mixed models in `JAGS`. CRAN.

2) Bonner, S. and Huang, X. (2017). `RWildbook`: Interface for the Wildbook wildlife data management framework. CRAN.

3) Schwarz, C. and Bonner, S. (2017). `BTSPAS`: Bayesian time-strat. population analysis. CRAN.

Supervision and Teaching

Student Supervision

Post-Doctoral Fellows

Claryana Aruajo (Mitacs Accelerate, UWO)) April 2018 – April 2020
Anthropogenic impacts on the population dynamics of a critically endangered marine mammal

Wei Zhang (UWO) Dec 2018 – Aug 2019
Saddle Point Approximations for Mark-Recapture Models with Identification Errors
Current Position: Post-Doctoral Fellow, Department of Environmental Science, Policy and Management, University of California, Berkeley

PhD Students

Johanna de Haan Ward (UWO) Sep 2019 – Present
Topic TBD
Co-supervised with Douglas Woolford

M. Alexandru Draghici (UWO) Sep 2018 – Present
Modelling Dependence between Individuals in Mark-Recapture Studies

Han-Na Kim (UWO) Sep 2017 – Present
h-likelihood Methods and Fast Computation for Multinomial Models with Random Effects

Amanda Ellis (UKY) May 2015 – May 2018
Probabilistic Matching Using Multiple Scoring Algorithms
Current Position: Assistant Professor, University of Eastern Kentucky

Woodrow Burchett (UKY) Jan 2014 – May 2017
Efficient Bayes Inference for Mark-Recapture Models with Continuous Covariates
Current Position: Senior Manager of Biostatistics, Pfizer Pharmaceuticals

MSc Students

Johanna de Haan Ward (UWO) Sept 2018 – Aug 2019
Plastic in our waterways: Characterizing plastic resin pellet pollution on Great Lakes beaches
Co-supervised with Douglas Woolford
Best Statistics Poster – MSc Day 2019

Jiaqi Mu (Thesis option, UWO) Sept 2017 – Aug 2018
Exploring the Estimability of Mark-Recapture Models with Individual, Time-Varying Covariates using the Scaled Logit Link Function

M. Alexandru Draghici (UWO) Sep 2017 – Aug 2017
Accounting for Dependence within Mating Pairs in the Cormack-Jolly-Seber Framework
Best Statistics Poster – MSc Day 2018

Hanna Kim (UWO) Sep 2016 – Aug 2017
Comparing MCMC Samplers for Fitting DHGLM

Ben Augustine (UKY) May 2012 – May 2014
Accounting for Behavioral Variation in Closed Population Models with Missing Data
Current Position: Postdoctoral Fellow, Cornell University

Gabrielle Ness (UKY) May 2011 – May 2012
Modeling the Relationship between Below Ground and Above Ground Biomass of Black Cohosh

Current Position: Senior Biostatistician, Roche Diagnostics

BSc Students

Philip Choi (NSERC-USRA, Statistics, UWO) April 2019 – Aug 2019
Machine Learning Methods for Complex Mark-Recapture Models via TensorFlow

Patrick Mahon (NSERC-USRA, Statistics, UWO) April 2019 – Aug 2019
Identifying Changepoints in Motus Signal Strength Data

Caillie Pritchard (Hons. Project, Biology, UWO) Sep 2017 – May 2017
Meta-analysis of the Effect of Human Impact in Protected Areas
Jointly supervised with Brian Branfireun

Siobhan Schenk (NSERC-USRA) April 2017 – Aug 2017
Testing Low Gain VHF Antennas for Monitoring Nest Visits in Barn Swallows

Research Assistants

Siobhan Schenk (Biology, UWO) Sept 2016 – Dec 2017
Assessing Small-scale Monitoring of Bird Movements with Motus

M. Alexandru Draghici (Statistics, UWO) July – Aug 2017
Modelling Mate Dependence in Mark-Recapture Studies

Xinxin Huang (Statistics, UWO) July – Oct 2016
Creating an R package to access data from the Wildbook data base framework for distributed mark-recapture data

Han-Na Kim (Statistics, UWO) May – Aug 2016
MCMC for the Latent Multinomial Model

Yinglei Li (Statistics, UKY) May – Aug 2012
Application of LASSO Model Selection to Mark-Recapture

Advisory Committees

Eric Tuzson (Hons BSc, Biology, UWO)	Sept 2019 – April 2020
Christian Buchanan-Fraser (Hons BSc, Biology, UWO)	Sept 2019 – April 2020
Jackson Kusack (PhD, Biology, UWO)	Jan 2019 – Present
Adriana Caicedo (PhD, Biology, UWO)	Sept 2018 – Present
Rebecca Howe (MSc, Biology, UWO)	Sept 2018 – Present
Alix Thoreau (PhD, Biology, UWO – Withdrawn)	Sept 2018 – April 2019
Athanasios Demetri Pananos (PhD, Epidemiology & Biostatistics)	April 2018 – Present
Meehan, Matthew (PhD, Biolgoy, UWO)	Jan 2017 – Present
Bumelis, Kaelyn (MSc, Biology, UWO)	Defended Jan 2020
Fernando, AnnMarie (Hons BSc, Biology, UWO)	Sept 2017 – May 2018
Atem, Joseph (Hons BSc, Biology, UWO)	Sept 2017 – May 2018
Evans, Dean (MSc, Biology, UWO)	Sept 2016 – Sept 2018
Therrien, Christian (MSc, Biology, UWO)	Sept 2016 – Present
Roberts, Devin (MSc, Biology, UWO – Withdrawn)	Sept 2016 – Sept 2017
Palumbo, Matthew (PhD, Biology, UWO)	March 2016 – Dec 2017
Augustine, Ben (PhD, Wildlife Conservation, VT)	Feb 2016 – Feb 2018
Roualdes, Edward (PhD Statistics, UKY)	Defended June 2015
Tzu, Yu (PhD Accounting, UKY)	Defended Apr 2015
Weyenbergy, Grady (PhD Statistics, UKY)	Defended July 2015

Zhang, Xiang (PhD Statistics, UKY)	Defended June 2013
Zhu, Shihong (PhD Statistics, UKY)	Defended Apr 2015

Teaching Awards

USC Honour Roll	2016-2017

Training and Development

Teaching Squares	2018-2019
TSC Course Design and Renovation Workshop	May 2018
TSC Teaching with Technology Drop-In	May 2018
TSC Brown Bag Lunch on Graduate Student Mental Health	Nov 2016
TSC Graduate Supervision Series: Setting Clear Expectations	Sept 2016

Teaching Experience

The numbers at the right indicate the number of times I have taught each course. * After the course number denotes courses cross-listed with another offering.

University of Western Ontario	
MMASCBIO9800B: Applied Biostatistics	1
MMASc9254B*: Data Analytics for Professional Scientists	1
BIO4259F/G: Research Hypothesis Testing	2
BIO9915A/B:* Analytical Methods and Study Design	2
MMASC9252Y: MMASc Colloquium Series	2
SS2857A: Probability and Statistics I	2
SS9055B: Generalized Linear Models	4
SS9155B:* Statistical Modelling II	1
University of Kentucky	
STA 570: Introduction to Statistics	1
STA 607: Theory of Statistical Inference II	2
STA 621: Nonparametric Inference	1
STA 630: Bayesian Inference	1
STA 665: Categorical Data Analysis	3
STA 671: Correlation and Regression	2
STA 672: Design and Analysis of Experiments	2
STA 695: Special Topics: Ecological Statistics	1
Simon Fraser University	
STAT450: Statistical Theory	1
STAT101: Introduction to Statistics	1

Recent Service Activities

ThruText Undergraduate Recruitment Campaign *University of Western Ontario*	May 2020
Co-organizer, National Seminar Series	May 2020 – Present

Canadian Statistical Science Institute (CANSSI)

Associate Director of Applied Science Stream July 2019 – Present
Master of Management of Applied Sciences, UWO

Co-Chair, Student Paper Competition Sept 2018 – Present
International Statistical Ecology Conference (2020)

Scientific Program Committee Member Sept 2018 – Present
International Statistical Ecology Conference (2020)

Co-Chair, Student Paper Competition July 2016 – July 2018
International Statistical Ecology Conference (2018)

Scientific Program Committee Member July 2016 – July 2018
International Statistical Ecology Conference (2018)

Associate Editor July 2014 – Present
Biometrics

Session Organizer July 2015
Joint Statistical Meetings, Seattle, WA (Topic Contributed Session)

Secretary Oct 2012 – July 2015
Kentucky Chapter of the American Statistical Association

Session Organizer and Co-chair March 2013
ENAR Spring Meeting, Orlando, FL

College Committees
IT Enabled Research and Scholarship Committee Sep 2014 – July 2015

Departmental Committees
DSAS Graduate Affairs Committee July 2020–Present
DSAS Social Committee July 2020 – Present
Western Data Science Solutions Committee July 2020 – Present
DSAS APE Committee (Elected) July 2019 – July 2020
DSAS Appointments Committee July 2015 – Present
While at the University of Kentucky I served on the Department of Statistics Chair Search, Computing (Chair), Colloquium , and Faculty Recruiting Committees.

On-site Coordinator Jul 2010
Institute of Mathematical Statistics New Researchers Conference 2010

Refereeing

I have reviewed articles for the following publications:

- *Annals of Applied Statistics*
- *Biometrical Journal*
- *Biometrics*
- *Canadian Journal of Statistics*
- *Encyclopedia of Environmetrics*
- *Environmental and Ecological Statistics*
- *Ecology*
- *Journal of Agricultural Biological and Enviornmental Statistics*
- *Journal of Applied Ecology*
- *Journal of Field Ornithology*
- *Journal of Ornithology*
- *Journal of Statistical Software*
- *Journal of Wildlife Management*
- *Marine Biology*
- *Methods in Ecology and Evolution*
- *North American Journal of Fisheries Management*

Professional Society Memberships

I am a member of the following organizations:

- Statistical Society of Canada
- International Biometrics Society (Eastern North American Region)
- National Centre for Statistical Ecology (United Kingdom – International Member)