

# Lam Si Tung Ho

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CONTACT Dalhousie University  
INFORMATION Department of Mathematics and Statistics  
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CITIZENSHIP Vietnam

EDUCATION University of Wisconsin - Madison, USA  
Ph.D., Statistics, 2014 (Advisor: Cecile Ané)  
Université d'Orléans, France  
M.S., Applied Mathematics, 2009  
University of Science, Ho Chi Minh City, Vietnam  
B.S., Mathematics and Computer Science, 2008

EMPLOYMENT Assistant Professor 2017 - Present  
Department of Mathematics and Statistics  
Dalhousie University, Halifax, Nova Scotia, Canada  
Post-doctoral researcher (Mentor: Marc Suchard) 2014 - 2017  
Department of Biostatistics  
University of California, Los Angeles, USA

RESEARCH INTERESTS Statistical Theory and Methods, Stochastic Modelling, Mathematical Biology,  
Evolutionary Biology, Epidemiology, Machine Learning

PUBLICATIONS

1. **Lam Si Tung Ho**, Vu Dinh, Cuong V. Nguyen (2019). *Multi-task learning improves ancestral state reconstruction*. **Theoretical Population Biology** in press.
2. **Lam Si Tung Ho**, Forrest W. Crawford, Marc A. Suchard (2018). *Direct likelihood-based inference for discretely observed stochastic compartmental models of infectious disease*. **Annals of Applied Statistics** 12(3):1993–2021.
3. Vu Dinh\*, **Lam Si Tung Ho\***, Marc A. Suchard, Frederick A. Matsen IV (2018). *Consistency and convergence rate of phylogenetic inference via regularization*. **Annals of Statistics** 46(4):1481–1512. (\***Authors contributed equally**)

4. Binh T. Nguyen, Duy M. Nguyen, **Lam Si Tung Ho**, Vu Dinh (2018). *OASIS: An Active Framework for Set Inversion*. **International Conference on Intelligent Software Methodologies, Tools and Techniques (SoMeT)**. Granada, Spain. [Best Paper Award](#)
5. Forrest W. Crawford, **Lam Si Tung Ho**, Marc A. Suchard (2018). *Computational methods for birth-death processes*. **WIREs Computational Statistics** 10(2):e1423.
6. **Lam Si Tung Ho**, Jason Xu, Forrest W. Crawford, Vladimir V. Minin, Marc A. Suchard (2018). *Birth/birth-death processes and their computable transition probabilities with biological applications*. **Journal of Mathematical Biology** 76(4):911–944.
7. Mandev S. Gill, **Lam Si Tung Ho**, Guy Baele, Philippe Lemey, Marc A. Suchard (2017). *A Relaxed Directional Random Walk Model for Phylogenetic Trait Evolution*. **Systematic Biology** 66(3):229–319.
8. Cécile Ané\*, **Lam Si Tung Ho**\*, Sebastien Roch\* (2017). *Phase transitions on the convergence rate of parameter estimation under an Ornstein-Uhlenbeck diffusion on a tree*. **Journal of Mathematical Biology** 74(1):355–385. (\*[Authors are in alphabetical order](#))
9. Vu Dinh, **Lam Si Tung Ho**, Binh T. Nguyen, Duy Nguyen (2016). *Fast learning rates with heavy-tailed losses*. **Neural Information Processing Systems (NIPS)**. Barcelona, Spain.
10. David A. Baum, Cécile Ané, Bret Larget, Claudia Solís-Lemus, **Lam Si Tung Ho**, Peggy Boone, Chloe Drummond, Martin Bontrager, Steve Hunter, Bill Saucier (2016). *Statistical evidence for common ancestry: application to Primates*. **Evolution** 70(6):1354–1363.
11. Daniel Irving Bernstein\*, **Lam Si Tung Ho**\*, Colby Long\*, Mike Steel\*, Katherine St. John\*, Seth Sullivant\* (2015). *Bounds on the Expected Size of the Maximum Agreement Subtree*. **SIAM Journal on Discrete Mathematics** 29(4):2065–2074. (\*[Authors are in alphabetical order](#))
12. Vu Dinh\*, **Lam Si Tung Ho**\*, Nguyen Viet Cuong, Duy Nguyen, Binh T. Nguyen (2015). *Learning From Non-iid Data: Fast Rates for the One-vs-All Multiclass Plug-in Classifiers*. **Theory and Applications of Models of Computation (TAMC)**. Singapore. (\*[Authors contributed equally](#))
13. **Lam Si Tung Ho**, Cécile Ané (2014). *Intrinsic inference difficulties for trait evolution with Ornstein-Uhlenbeck models*. **Methods in Ecology and Evolution** 5(11):1133–1146.
14. **Lam Si Tung Ho**, Cécile Ané (2014). *A linear-time algorithm for Gaussian and non-Gaussian trait evolution models*. **Systematic Biology** 63(3):397–408. [Publisher’s Award](#)

15. Tran Triet, Jeb Anthony Barzen, Sansanee Choowaew, Jon Mike Engels, Duong Van Ni, Nguyen Anh Mai, Khamla Inkhavilay, Kim Soben, Rath Sethik, Bhuvadol Gomontean, Le Xuan Thuyen, Aung Kyi, Nguyen Huy Du, Richard Nordheim, **Lam Si Tung Ho**, Dorn M. Moore, Scott Wilson (2014). *Persistent Organic Pollutants in wetlands of the Mekong Basin*. **U.S. Geological Survey Scientific Investigations Report** 2013–5196, 140 p.
16. **Lam Si Tung Ho**, Cécile Ané (2013). *Asymptotic theory with hierarchical autocorrelation: Ornstein-Uhlenbeck tree models*. **Annals of Statistics** 41(2):957–981.
17. Nguyen Viet Cuong, **Lam Si Tung Ho**, Vu Dinh (2013). *Generalization and Robustness of Batched Weighted Average Algorithm with V-geometrically Ergodic Markov Data*. **Algorithmic Learning Theory (ALT)**. Singapore.
18. Nguyen Viet Cuong, Vu Dinh, **Lam Si Tung Ho** (2012). *Mel-frequency Cepstral Coefficients for Eye Movement Identification*. **IEEE International Conference on Tools with Artificial Intelligence (ICTAI)**. Athens, Greece.
19. Duong Minh Duc\*, **Ho Si Tung Lam\***, Nguyen Quang Thang\*, Dinh Cao Duy Thien Vu\* (2011). *On Harnack's inequality for non-uniformly p-Laplacian equations*. **Acta Mathematica Vietnamica** 36(2): 199–214. (\***Authors are in alphabetical order**)

FUNDING	NSERC Discovery Grant (CAD 125,000; PI)	2018 - 2023
	NSERC Discovery Launch Supplements (CAD 12,500; PI)	2018
	Canada Research Chair Tier 2 (CAD 500,000; PI)	2017 - 2022
	Start-up Grant, Dalhousie University (CAD 60,000; PI)	2017 - 2022
SELECTED	Canada Research Chair Tier 2	2017 - 2022
HONORS AND	Best Paper Award (SoMeT)	2018
AWARDS	Publisher's Award (Society of Systematic Biologists)	2014
	Second Prize, Vietnam Student Olympiad in Mathematics (Analysis)	2006
	Third Prize, Vietnam Student Olympiad in Mathematics (Algebra)	2006
	Second Prize, Vietnam Student Olympiad in IT (Informatics)	2005
TALKS	<i>Direct likelihood-based inference for stochastic compartmental models of infectious disease</i>	
	WNAR 2018 Meeting	
	Edmonton, AB Canada ( <a href="#">invited</a> )	June 2018
	<i>Stochastic models of phenotypic evolution: challenges and solutions</i>	
	SSC 2018 Annual Meeting	
	McGill University, Montréal, Québec, Canada	June 2018

- Direct likelihood-based inference for discretely observed stochastic compartmental models of infectious disease*  
61st ISI World Statistics Congress  
Marrakech, Morocco July 2017
- Direct likelihood-based Inference for Stochastic Models of Infectious Diseases*  
Analysis, Probability and their Applications Conference  
Quy Nhon, Vietnam ([invited](#)) December 2016
- Direct Inference for Stochastic Models of Disease Dynamics*  
Department of Statistics, Stanford University, USA ([invited](#)) March 2016
- Direct Inference for Stochastic Models of Disease Dynamics*  
Department of Mathematics and Statistics  
Dalhousie University, Halifax, Nova Scotia, Canada ([invited](#)) February 2016
- Direct Inference for Stochastic Models of Disease Dynamics*  
Department of Statistics, Ohio State University, USA ([invited](#)) February 2016
- Direct Inference for Stochastic Models of Disease Dynamics*  
Department of Mathematics and Statistics  
University of Massachusetts Amherst, USA ([invited](#)) December 2015
- Stochastic Models of Disease Dynamics*  
QCBio Research Lunch Series, UCLA, USA August 2015
- Birth(death)/birth-death processes and their computable transition probabilities with statistical applications*  
Joint Statistical Meetings, Seattle, USA August 2015
- Phase transition on the convergence rate of parameter estimation under an Ornstein-Uhlenbeck tree model*  
WNAR/IMS Conference, University of Hawaii - Manoa, USA June 2014
- Challenges for Trait Evolution with Ornstein-Uhlenbeck Models*  
Evolution Seminar Series, JF Crow Institute for the Study of Evolution  
University of Wisconsin - Madison, USA February 2014
- Asymptotic theory of Ornstein-Uhlenbeck tree models*  
Probability Seminar, Department of Mathematics  
University of Wisconsin - Madison, USA October 2013
- A linear-time algorithm for Gaussian and non-Gaussian trait evolution models*  
Evolution Conference, Snowbird, Utah, USA June 2013
- Eye movement identification*  
Student Seminar, Department of Statistics  
University of Wisconsin - Madison, USA December 2012
- POSTERS *Bayesian inference for the 2014-2015 Ebola outbreak in Guinea*  
Joint Academic Retreat, UCLA, USA October 2016

*Direct Bayesian Inference for Stochastic Compartmental Models of Infectious Disease*

Joint Academic Retreat, UCLA, USA

October 2015

*A linear-time algorithm for Gaussian and non-Gaussian trait evolution models*

SMBE, Chicago, Illinois, USA

July 2013

Symposium on Integration of Mathematical and Biological Sciences

University of Wisconsin - Madison, USA

October 2012

PROFESSIONAL  
SERVICE

Reviewer

- Annals of Statistics (1), Computers in Biology and Medicine (1), Journal of Theoretical Biology (1), Journal of the American Statistical Association (1), Mathematical Biosciences (1), Methods in Ecology and Evolution (2), PeerJ (2), Proceedings of the Royal Society B (1), SIAM Journal on Discrete Mathematics (1), SoMeT 2018 (2), Systematic Biology (4)
- A chapter of *Modern Phylogenetic Comparative Methods and Their Application in Evolutionary Biology*
- Postdoctoral Fellow application to the Research Foundation Flanders - FWO

Organizer

- *Bayesian inference for Markov processes: challenges and solutions*  
Special Topic Session, 61st ISI World Statistics Congress  
Marrakech, Morocco  
July 2017
- *Advanced Statistical Inference for Stochastic Models of Evolutionary Biology*  
Topic-Contributed Session, JSM 2018  
Vancouver, British Columbia, Canada  
July 28 - August 2, 2018

Administrative responsibilities

- New Investigators Committee (Statistical Society of Canada) 2018 - 2021
- Statistics Seminar Coordinator 2018 - present
- Hiring Committee 2019
- Gray-Doolittle Award Committee (CGEB) 2019

TEACHING  
EXPERIENCE

Teaching Assistant, University of Wisconsin - Madison, USA

- STAT 301: Introduction to Statistical Methods Fall 2009, Fall 2013
- STAT 310: Introduction to Probability and Math. Stat. II Fall 2013

Instructor, Dalhousie University, Canada

- STAT 2060 / ECON 2260 / MATH 2060: Introduction to Probability and Statistics Winter 2017/2018
- STAT 4370/5370: Stochastic Processes Fall 2018/2019
- MATH / STAT 3380: Sample Survey Methods Winter 2018/2019

MENTORING  
EXPERIENCE

Undergraduate Students

- Yicheng Li (Honors Thesis)  
University of Wisconsin - Madison  
Fall 2013 - Spring 2014

- Kieran Bhaskara (Summer Research)  
Dalhousie University Summer 2018

Graduate Students

- Trevor Shaddox (Research Elective)  
UCLA November 27, 2017 - January 5, 2018
- Abe Adeeb (MSc)  
Dalhousie University January 2019 - present

SOFTWARE

**phylolm**: R package for fitting phylogenetic (generalized) linear regression models  
**MultiBD**: R package for direct likelihood-based inference of multivariate birth-death processes