

Tanjona H. Ramiadantsoa

CONTACT INFORMATION	Honorary Fellow, University of Wisconsin-Madison Department of Integrative Biology 458 Lincoln Dr, Madison, WI 53706 USA ramiadantsoa@wisc.edu
EDUCATION	University of Helsinki , Helsinki, Finland Ph.D., Ecology and Evolutionary Biology, November 2015 <ul style="list-style-type: none">Title: “Spatial processes in ecology and evolution, and implications for conservation.”Advisors: Otso Ovaskainen, Prof. and Ilkka Hanski, Prof. University of Antananarivo , Madagascar M.Sc., Combinatorics, April 2010 <ul style="list-style-type: none">Topic: <i>Flag major index on colored permutation group</i>Advisor: Arthur Randrianarivony, Prof. B.Sc., Numerical Analysis, Decembre 2007
APPOINTMENTS	University of Wisconsin-Madison , Madison, WI, USA Postdoc., Department of Integrative Biology, 2016-2019 <ul style="list-style-type: none">Topics: <i>Abrupt Changes in Ecological Systems (ACES)</i>Advisors: Monica Turner, Prof. Anthony Ives, Prof. University of Minnesota , Twin Cities, MN, USA Postdoc. Department of Ecology, Evolution, and Behavior, 2014-2016 <ul style="list-style-type: none">Topics: <i>Energy budget models and phylogenetic comparative methods</i>Advisor: Emma Goldberg, Assistant Professor
RESEARCH INTERESTS	Mathematical ecology, theoretical ecology, statistics, landscape ecology, conservation biology, energy budget, macroevolution, abrupt change, disturbance, stochastic processes
REFEREED JOURNAL PUBLICATIONS	<ol style="list-style-type: none">Ramiadantsoa, T., Stegner, M.A, Williams, J.W., Ives, A.R., in press. “The potential role of intrinsic processes in generating abrupt and quasi-synchronous tree declines during the Holocene.” <i>Ecology</i>, 100(2): e02579Ramiadantsoa, T., Hanski, I., Ovaskainen, O., 2018. “Responses of generalist and specialist species to fragmented landscapes.” <i>Theoretical Population Biology</i>, 124:31-40Ratajczak, Z., Carpenter, S.R., Ives, A.R., Kucharik, C.J., Ramiadantsoa, T., Stegner, M.A., Williams, J.W., Zhang, J. and Turner, M.G., 2018. “Abrupt change in ecological systems: inference and diagnosis.” <i>Trends in ecology and evolution</i>, 33(7): 513-526Ihantamalala, F.A., Rakotoarimanana, F.M., Ramiadantsoa, T., Rakotondramanga, J.M., Pennober, G., Rakotomanana, F., Cauchemez, S., Metcalf, C.J., Herbreteau, V. and Wesolowski, A., 2018. “Spatial and temporal dynamics of malaria in Madagascar.” <i>Malaria journal</i>, 17(1): 58Ramiadantsoa, T., Sirén, J., Hanski, I. 2017 “Phylogenetic comparative method for geographical radiation.” <i>Annales Zoologica Fennici</i>, 54:237-257Ramiadantsoa, T., Ovaskainen, O., Rybicki J., Hanski, I., 2015 “Large-scale habitat corridors for biodiversity conservation: a forest corridor in Madagascar.” <i>PLoS ONE</i>, 10(7): e0132126

IN PREPARATION

1. Kucharik, C.J., **Ramiadantsoa, T.**, Zhang, J., and Ives, A.R., “Spatiotemporal trends in crop yields, yield variability, and yield gaps across the USA.” Under review in Crop Science.
2. **Ramiadantsoa, T.**, Ratajzak, Z., and Turner, M.G., “A Goldilocks model for the response of fire-prone forests to changing fire regime: a case study of Yellowstone Nation Park.” (for Journal of Ecology)
3. **Ramiadantsoa, T.** and Ives, A.R., “Consequences of the structure of environmental variability on population and community stability.” (for Ecology Letters)
4. **Ramiadantsoa, T.** and Goldberg, E.E., “Exploring the role of body size in shaping thermal performance of insects.”
5. McCary, M.A., Phillips, J., **Ramiadantsoa, T.**, Nell, L.A., McCormick, A.R., Botsch, J.C., “Transient top-down and bottom-up effects on resources pulsed to multiple trophic levels.” (for Oikos)
6. Perrotti, A.G., Traschel, M., **Ramiadantsoa, T.**, ..., Williams, J.W., “Optimal counting methods for coprophilous fungal spore analysis.”
7. **Ramiadantsoa, T.**, Metcalf, C.J.E., “Selection of extreme life-history traits under hypervariable environments: a theoretical perspective.”
8. **Ramiadantsoa, T.**, Fritsch, C., “Modeling the transient dynamics of orphaned plants.”
9. **Ramiadantsoa, T.**, Temba, E.M., Rakouth, H., Rakotoniriana, H.J., “Evidence of biodiversity loss in Madagascar? A multi-taxa review.”
10. Rakotoarivelo, O., **Ramiadantsoa, T.**, “Economic impacts of political instability in Madagascar.”

TEACHING AND MENTORING	Original ideas and main organizer	
	• Mathematics, Statistics, Computer Sciences: Applications to Ecology and Conservation Biology	September 2019
	University of Fianarantsoa, Madagascar	
	• E^2M^2 : Ecological and Epidemiological Modeling in Madagascar	2016 & 2018
	Centre ValBio, Ranomafana, Madagascar	
	• Introduction to Mathematical Ecology	January 2014
	Université d’Antananarivo, Madagascar	

Lecturer

- Data manipulation and visualization with R August 2019
Instructors: Finaritra Randimbiarison, Veronarindra Ramananjato University of Antananarivo, Madagascar
- Reserve Planning in the Tropics. Finnish study abroad Fall 2011 & 2012
Instructor: Mar Cabeza, Prof.
Centre ValBio, Ranomafana, Madagascar
- Conservation Biology in Fragmented Landscapes Fall 2011–2013
Topics: Extinction, Spatially Realistic Metapopulation Models
University of Helsinki, Finland

PROFESSIONAL ACTIVITIES

Organizing committee

- Workshop, ATBC, Antananarivo, Madagascar August 2019
Theme: “E2M3: Ecological and Epidemiological Mini Modeling in Madagascar”

- Inspire session, ESA, New Orleans August 2018
Theme: “Understanding extreme events: linking empirical observation to concepts and theory”
- Spring Symposium March 2012
University of Helsinki, Finland

Field assistant

- Grand Teton and Yellowstone National Parks, USA Summer 2017
Post fire forest regeneration (Monica Turner, Prof.)
- Mulu National Park, Borneo Spring 2013
Dung beetles survey (Ilkka Hanski, Prof.)
- Sundsvall, Sweden Fall 2010
Wood-decaying fungi survey (Otso Ovaskainen, Prof.)

PROFESSIONAL SERVICES

- Member of the Association for the Tropical Biology and Conservation (ATBC)
- Student judge award, theory section ESA
- Member of Ecological Society of America (ESA)
- President of Finland-Madagascar Association 2012–2015

CONFERENCES AND PRESENTATIONS

2019

Association for Tropical Biology and Conservation conference

Antananarivo, Madagascar, 30 July–3 August 2018

Title: “Community dynamics in stochastic environments and implications for biodiversity conservation”

2018

Ecological Society of America annual meeting

New Orleans, LO, USA, 5–10 August 2018

Title: “Developing Goldilocks models to understand ecological responses to extreme events: fire and trees in Yellowstone National Park”

Institut Pasteur de Madagascar

Antananarivo, Madagascar, 22 January 2018

Title: “Importance of large scale habitat corridor for biodiversity conservation”

2017

Ecological Society of America annual meeting

Portland, OR, USA. 5–11 August 2017

Title: “Community-level modeling of abrupt changes in paleoforests”

Biological Colloquium, University of Wisconsin-Madison

Madison, WI, USA. 2 March 2017

Title: “A generalist approach to niche specialization”

2016

Kellog Biological Station

Kellog, MI, USA. 15 August 2016

Title: “Species’ responses to habitat destruction”

Ecological Society of America annual meeting

Fort Lauderdale, FL, USA. 7–12 August 2016
Title: “Exploring the potential of energy budget models and body size in determining species’ niche”

Midwest Mathematical Biology Conference

La Crosse, WI, USA. 21–22 May 2016
Title: “Exploring the potential of energy budget models and body size in determining species’ niche”

2014

Evolution seminar, University of Minnesota

Twin cities, MN, USA. 21 April 2014
Title: “Phylogenetic inference of geographical radiation”

Spring Symposium, University of Helsinki

Helsinki, Finland. 3–5 March 2014
Title: “The efficiency of a habitat corridor between two large national parks in Madagascar”

2013

Spring Symposium, University of Helsinki

Helsinki, Finland. 4–6 March 2013
Title: “Geographical radiation in Malagasy dung beetles”

Biomathematics day, University of Helsinki

Helsinki, Finland. 23 October 2013
Title: “Model of evolutionary radiation and geographical range dynamics applied to Malagasy dung beetles”

International Prosimian Congress

Ranomafana, Madagascar. 5–9 August 2013
Attendee

2012

Biomathematics day, University of Helsinki

Helsinki, Finland. 18 April 2012
Title: “Parsimonious mechanisms behind community- level patterns”

2011

Spring Symposium, University of Helsinki

Helsinki, Finland. 7–9 March 2011
Title: “Competitive species communities in spatially heterogeneous habitats”

2007

Study abroad seminar US embassy, Antananarivo

Antananarivo, Madagascar. November 2007
Title: “Deforestation in Ambodiaviavy community forest”

WORKSHOPS
ATTENDED

Dynamics and Differential Equations

Minneapolis, MN, USA. 22–25 June 2016
Organizers: Michael Jolly (Indiana U), Peter Polacik (U of Minnesota, Twin Cities), Geneviève Raugel (U de Paris XI), Roger Temam (Indiana U), Edriss Titi (Texas A

& M U), Yingfei Yi (U of Alberta)

Mathematics for an Evolving Biodiversity

Montréal, Canada. 16–20 September 2013

Organizers: Jonathan Davies (McGill), Amaury Lambert (UMPC Paris 6), Nicolas Lartillot (Montréal)

Qualitative Behaviour of Stochastic Systems and Applications

Bielefeld, Germany. 18–20 June 2012

Organizers: Leonid Bogachev (Leeds, GBR), Benjamin Bolker (Hamilton, CAN), Yuri Kondratiev (Bielefeld, GER), Otso Ovaskainen (Helsinki, FIN)

Stochastic Demography in Fluctuating Environments: Theory and Empirical Patterns

Lovund, Norway. 23–27 April 2012

Organizers: Norwegian University of Science and Technology, Centre for Conservation Biology

Assessing the Impacts of Climate Change on Madagascar’s Biodiversity and Livelihoods

Antananarivo, Madagascar. 28–31 January 2008

Organizers: Conservation International, WWF, WCS and USAID

Species Distribution Modeling: Methods for Conservation Biologists

Antananarivo, Madagascar. 21–25 January 2008

Organizers: ReBioMa and University of Berkeley, California

EXTERNAL
COURSES

Issues in Diversity

Oulu, Finland. 3–7 September 2012

Organizer: University of Oulu

Theory of Speciation: Helsinki Summer School 2012

Turku, Finland. 19–26 August 2012

Organizers: Biomathematics Group, University of Helsinki

Markov Chain Stability and Applications: 22nd Jyväskylä Summer School

Jyväskylä, Finland. 13–17 August 2012

Organizer: Faculty of Mathematics and Science and the Faculty of Information Technology at the University of Jyväskylä

Stochastic Differential Equations

Lammi, Finland. 25–27 September 2010

Organizers: Finnish Doctoral Programme in Computational Sciences and National Graduate School in Materials Physics

Study abroad Madagascar

Ranomafana, Madagascar. September–November 2007

Organizers: SUNY Stony Brook University

GRANTS

HiLIFE BIORESILIENCE, University of Helsinki 2019

Beyond the species-area relationship: theoretical advances and empirical testing (€12,000)

Institute on the Environment (IonE), University of Minnesota 2015

Using experiments to root mathematical models of environmental niches (\$2,000)

PEER REVIEWING	Bioscience, Conservation Letters, Global Ecology and Biogeography, Journal of Applied Ecology, Nature, Oikos, Plos ONE, Population Ecology, National Science Foundation, The American Naturalist	
OUTREACH	<ul style="list-style-type: none"> • Interview and appearance in the UW-Madison news By Kelly April Tyrell, UW-Madison From Helsinki to Minneapolis to Madison, scientist gives back in Madagascar June 2019 • The life of a scientist and researcher January 2018 Organizers: T. Ramiadantsoa, N. Ratsimbason Ecole B.I.R.D. Antananarivo, Madagascar • Girl solve It! With Mathematical Biology June 2017 University of Minnesota-Twin Cities, USA • UW Science Expeditions, scientific open-house April 2017 Organizers: University of Wisconsin-Madison • What is theoretical ecology? January 2013 Organizers: T. Ramiadantsoa, N. Ratsimbason Ecole B.I.R.D. Antananarivo, Madagascar • Introduction to Madagascar November 2011 High school, Helsinki, Finland • Fundraising to helping underprivileged students in Madagascar May 2010 Organizers: Madagascar-Finland Association Helsinki, Finland • Interview and appearance in the journal Finlands natur 2010 	
COMPUTER SKILL	C++, R, Mathematica, L ^A T _E X, GitHub, ArcMap.	
LANGUAGE SKILL	Malagasy: Native French: Fluent English: Fluent	