TIZIANA A. GELMI CANDUSSO, PHD

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Department of Ecology and Evolution
University of Toronto

ACADEMIC EMPLOYMENT

Department of Ecology and Evolutionary Biology, University of Toronto.   Nov 2019 – present
Research fellow

German Primate Center, Göttingen, Germany   Jan 2013 – Feb 2019
Doctorate

EDUCATION

PhD *Biodiversity and Ecology.* Georg–August–Universität Göttingen, Germany (Magna c. laude)
    Institute: Deutsches Primatenzentrum, Leibniz Institute
    Committee: Prof. Dr. Eckhard W. Heymann, Dr. Oliver Schülke, Prof. Dr. Pierre–Michel Forget
    Dissertation: Frugivore behavior and plant spatial genetics

MSc *Environmental biology.* University of Trieste, Italy (110 c. laude)   Oct 2012
    Institute: Helmoltz Institut für Ozeanforschung
    Committee: Prof. Dr. Martin Wahl, Prof. Dr. Paolo Bressan
    Dissertation: The physiological adaptations to climate change

BSc *Biology,* University of Padova, Italy (101/110)   Oct 2010

ACADEMIC TRAINING

"Computer vision methods for Ecology" – Summer school, Aug 1–20, 2022
California Institute of Technology, lead by Sara Beery
"Agent–based modeling with NetLogo" – Summer school, Sep 19–23, 2017
University of Göttingen, led by Katrin Meyer
"Spatially–Explicit Modeling of Ecological Systems in R" – Summer school, May 8–12, 2017
University of Würzburg, led by Giuliano Sarmento Cabral
"GIS for ecology, and Species distribution modeling" – Workshop, February 2016
Bruxelles
"Modelling of Biogeochemical and Oxygen Dynamics in the Ocean" – Summer school, September 2012
University of Bremen and University of Kiel
"Taxonomy and Physiology of marine invertebrates" – Summer school, August 2011
Sorbonne Université

RESEARCH EXPERIENCE

Ecology and Evolutionary Biology, University of Toronto   2019 – present
Postdoctorate research
Supervisor: Prof. Marie–Josee Fortin
- Research on Urban Ecology including projects on Spatio temporal analysis of habitat selection and landscape connectivity of urban coyotes, Single species and multi species occupancy of urban mammals, Species–interactions between urban Mesopredators, Multi–city analysis of connectivity and its effect on biodiversity, Individual–based modeling of disease transmission (R, *Julia, Netlogo*)
- Data management of camera trap images, geolocation data and remote sensing (*R, GIS, PostgreSQL*)

- Organization of volunteers for data processing and mentoring of so far 14 undergrad students in fieldwork and/or data analysis.
- Training and evaluating deep learning models for object classification (Python, *Linux*, *Azure*)
- Grant writing and editing for the inclusion of undergraduate students in summer projects.
- Student mentoring (Undergraduate,
- Incorporation of the research into international urban ecology working networks and machine learning for ecology networks.

Deutsches Primatenzetrum, Göttingen, Germany   Jan 2014 – Feb 2019
Doctorate research
Advisor: Prof. Dr. Eckhard W Heymann
- Spatial analysis of animal movement from field behavioral observations using R, GIS.
- Developing spatially explicit, individual–based models for estimating seed movement range.
- Spatio–temporal assessment of population genetics

Max Planck for experimental medicine, Göttingen, Germany   Mar 2013 – Nov 2013
Research Assistant
- Genetic identification of animal individuals, Cellular culture, RNA extraction and analysis through qPCR of organ tissue. Identification of protein presence from organismal tissue using Western blot

Helmoltz Institut für Ozeanforschung, Kiel, Germany   Jan 2012 – Oct 2012
Guest researcher
- Modeling climate change conditions to understand animal resistance using mesocosms, altering environmental conditions, and evaluating physiological response

University of Victoria, BC, Canada   June 2011
Internship
- Behavioral sampling and Individual identification of Gray whales from morphological differences.

University of Trieste, Trieste, Italy   September 2010
Internship
- Ecotoxicological assessment of toxic algal blooms

WWF, Trieste, Italy   August 2010
Internship
- Sampling and taxonomic identification of fish egg images.
- Community outreach introducing elementary students into Ecology

TEACHING EXPERIENCE

Mentoring for research projects of two undergraduate students Oct 2022–Apr 2023
Mentoring for the summer research projects of three undergraduate students University of Toronto, Jun–Aug 2022
Course development assistant for Data Science for Ecology, University of Toronto, Jan–May 2022
Introduction to fieldwork and sampling design in urban ecology to undergraduate students, University of Toronto, Jan, Jul 2021
Guest lecturer on Primate seed dispersal within the Primate Ecology course for graduate students in Biodiversity, Ecology and Evolution. University of Göttingen 2019
Scientific writing and Project Management for graduate students 2018–2019
Mentoring in experimental design for one undergraduate student Feb–Apr 2014

PRESENTATIONS AND SYMPOSIUMS ORGANIZED

Presentations
"Training an object classifier for the urban ecosystem", Camtrap Ecology meets AI Workshop, Sep 2022
"Coyotes as seed dispersers in urbanized landscapes", CSEE–SCEE Vancouver Aug 2021

"Landscape connectivity for coyotes in the Toronto region" Atwood EEB, May 2021
"A review of key urban features affecting mammalian mesopredator movement across cities" International Urban Wildlife Conference, Portland, Oregon, May 2021
"Landscape connectivity for coyotes in the Toronto region" IALE, Toronto, May 2020
"How does territoriality behavior of seed dispersers affect spatial genetics of dispersed plants?" European conference of Tropical Ecology, Brussels, Belgium, Feb 2017
"The influence of animal behavior on plant population genetics" Annual Meeting of the Ecological Society of Germany, Austria and Switzerland, Marburg, Germany Sep 2016

Symposiums organized
Urban animal movement – International Urban Wildlife Conference, May 2021
Urban Seed Dispersal – Frugivores and Seed dispersal conference, Mar 2020

Conference organization committee
Woman's Career Network conference, Göttingen, Germany, 2018, 2019

COMMUNITY INVOLVEMENT AND ACADEMIC SERVICE

Peer review
> *Scientific Reports* 2019
> *Ecology and Evolution* 2019

Grant review panel
> EEB PhD research grant, University of Toronto, 2021

Award jury
> EEB Undergraduate Research Fair, University of Toronto, 2022

Community outreach
> High school students – Introduction to camera traps and urban ecology
> Elementary students – Introduction to Urban Mammals
> General public – One month of science communication posts on plant spatial genetics for the Frugivore and Seed dispersal (FSD) science communication page.

GRANTS

NSERC ufor co–advisor undergraduate (3m, 5,000CAD)	2022
DFG Research Fellowship (3y, 180,000€)	2019
PhD Completion Grant (6m, 11,000€)	2017
Erasmus placement (8m, 4,000€)	2012

PUBLICATIONS

1. *Gelmi-Candusso TA, Wheeldon TJ, Patterson BR, Fortin MJ. The impact of urbanization on coyote movement and its implications for seed dispersal. Frontiers in Ecology and the environment (in review).*
2. Gelmi-Candusso, T.A., Hämäläinen, A. (2019) Seeds and the city: the interdependence of zoochory and ecosystem dynamics in urban environments. *Frontiers in Ecology and Evolution.* *https://doi.org/10.3389/fevo.2019.00041*
3. Gelmi-Candusso, T. A., Bialozyt, R., Slana. D., Zarate–Gomez R., Heymann, E. W., and Heer, K. (2019). Estimating seed dispersal distance: a comparison of methods using animal movement and plant genetic data on two primate–dispersed Neotropical plant species. *Ecology and Evolution.* *https://doi.org/10.1002/ece3.5422*
4. Gelmi-Candusso, T. A., Heymann, E. W., and Heer, K. (2017). Effects of zoochory on the spatial genetic structure of plant populations. *Molecular Ecology*. 26, 5896–5910. https://doi:10.1111/mec.14351.
5. Gelmi–Candusso, T.A (2019) Frugivore behavior and plant spatial genetics. *Doctoral dissertation.* Georg–August–Universität, Göttingen, Germany. http://hdl.handle.net/11858/00–1735–0000–002E–E5C8–C