Kevin Cazelles

Nationality: French

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French: Native Speaker
English: Fluent
Portugese: Conversational
German: Beginner
Chinese: Beginner

Phd in theoretical ecology
Agricultural Engineer

Scientific Programming

■■■■■ R
■■■□□ C++
■■■□□ C
■■■□□ Matlab/Octave
■■□□□ Julia
■■□□□ Python
■□□□□ Java
■■■□□ Sage
■■■□□ Bash
■■■■□ Git
■■■■□ UNIX

Web and Document Preparation

■■■□□ HTML/CSS
■■□□□ Javascript
■■■■■ Markdown
■■■■□ Jekyll/Hugo
■■■■□ Latex
■■■□□ Inkscape
■■■■■ Microsoft Office
■■■■■ LibreOffice

Education

2012-2016 Phd Thesis. *Influence of biotic interactions on the geographic distribution of species.*
Université du Québec À Rimouski, Canada / Université de Montpellier, France (Joint PhD).
Doctor of Philosophy in Ecology (grade: Excellent)

2008–2012 Studies in Agricultural Engineering and M.Sc, Ecology and Evolution
AgroParisTech, Paris, France
Diploma of Agronomy Engineer and Master of Science in Ecology and Evolution

Experience

June 2017 - McCann Lab, University of Guelph
Guelph ON, Canada
Post-doctoral fellow: working on the impact of human activities on fish communities and on building a framework that uses biotracers to create spatial fingerprints to determine the provenance of species.

Summer 2012 Laboratoire Ecologie et Evolution, Ecole Normale Supérieure
Paris, France
Research Professional, working on wavelets: statistical testing, code in C and application to time series of dengue in Southern Asia.

Early 2012 Institut des Sciences de l'Evolution, Université de Montpellier
Paris, France
Four months' training period, working on species distribution model and biotic interactions.

2011 Laboratório de Ecologia Evolutiva e Biodiversidade, Universidade Federal de Minas Gerais
Belo Horizonte, Brazil
Six months' training period, working on herbaceous plant communities in Cerrado: phenology and germination.

2009 SIMBIOS Centre, Abertay University
Dundee, United Kingdom
Six months' training period, working on modeling fungal growth dynamics in a realistic soil environment.

Grants and awards

2017	ACFAS award for the best joint PhD France-Canada (French laureate) CA$1,500
2016	Grant from the FRQNT (Fonds de Recherche du Québec Nature et Technologies) CA$20,000
2016	Excellence awards of the Quebec Centre for Biodiversity Science (QCBS) CA$1,500
2015	Award for the second best oral presentation of the QCBS annual meeting CA$150
2015–2016	Grant from the Frontenac program (mobility program for joint Phd between France and Québec) CA$6,000/year
2012–2015	Grant from the Ministry of Higher Education and Research of France €24 000/year
2012–2015	Grant from the FRQNT CA$4,000/year

Teaching

2019	Université du Québec à Montréal, Montreal, Canada (2 days) *An Introduction to R*
2018	Institut de recherche en biologie végétale, Montreal, Canada (3h) *Use R as a geographic information system*
2017	Centre de la Science de la Biodiversité du Québec (CSBQ), Canada (3 days) *Instructor in a meta-analyses workshop.*
2017	University of Sherbrooke, Canada (5 days) *Instructor in the summer school "Bayesian Statistics for Ecologists".*
2016	Quebec Centre For Biodiversity Science, Canada (2 days) *Organizing a two-days event on data visualization in biodiversity science for graduate students.*
2015	Université du Québec à Rimouski, Canada (3h) *An introduction to Markov chains*
2014–2016	Université du Québec à Rimouski, Canada (16h/year) *Presenter for the QCBS R workshop series.*
2014–2015	Université du Québec à Rimouski, Canada (1 day/year) *Advanced R course on data visualization and graphics editing.*
2013–2015	Université de Monpellier, France (64h/year) *Practical course for first year undergraduates in developmental biology (TA).*
2014	Universidade Federal de Minas Gerais, Brazil (1 day) *Advanced R course on map editing.*

Articles published in peer-reviewed journal

1. Brice M., **Cazelles K**., Legendre P., Fortin M., 2019. Disturbances amplify tree community responses to climate change in the temperateboreal ecotone. *Global Ecology and Biogeography* **28**(11):1668-1681.
https://doi.org/10.1111%2Fgeb.12971

2. Solarik K., **Cazelles K**., Messier C., Bergeron Y., Gravel D., 2019. Priority effects will impede range shifts of temperate tree species into the boreal forest. *Journal of Ecology* .
https://doi.org/10.1111%2F1365-2745.13311

3. **Cazelles K**., Bartley T., Guzzo M., Brice M., MacDougall A., Bennett J., Esch E., Kadoya T., Kelly J., Matsuzaki S., Nilsson K., McCann K., 2019. Homogenization of freshwater lakes: Recent compositional shifts in fish communities are explained by gamefish movement and not climate change. *Global Change Biology* .
https://doi.org/10.1111%2Fgcb.14829

4. Albouy C., Archambault P., Appeltans W., Araújo M., Beauchesne D., **Cazelles K**., Cirtwill A., Fortin M., Galiana N., Leroux S., Pellissier L., Poisot T., Stouffer D., Wood S., Gravel D., 2019. The marine fish food web is globally connected. *Nature Ecology & Evolution* **3**(8):1153-1161.
https://doi.org/10.1038%2Fs41559-019-0950-y

5. **Cazelles K**., McCann K., 2019. Diversity-stability and the structure of perturbations. *Peer Community In Ecology* :100017.
https://doi.org/10.24072%2Fpci.ecology.100017

6. Bartley T., McCann K., Bieg C., **Cazelles K**., Granados M., Guzzo M., MacDougall A., Tunney T., McMeans B., 2019. Food web rewiring in a changing world. *Nature Ecology & Evolution* **3**(3):345-354.
https://doi.org/10.1038%2Fs41559-018-0772-3

7. Geschke J., **Cazelles K**., Bartomeus I., 2018. Rcites: An r package to access the CITES species-plus database. *Journal of Open Source Software* **3**(31):1091.
https://doi.org/10.21105%2Fjoss.01091

8. Wheeler H., Berteaux D., Furgal C., **Cazelles K**., Yoccoz N., Grémillet D., 2019. Identifying key needs for the integration of socialecological outcomes in arctic wildlife monitoring. *Conservation Biology* **33**(4):861-872.
https://doi.org/10.1111%2Fcobi.13257

9. Galiana N., Lurgi M., Claramunt-López B., Fortin M., Leroux S., **Cazelles K**., Gravel D., Montoya J., 2018. The spatial scaling of species interaction networks. *Nature Ecology & Evolution* **2**(5):782-790.
https://doi.org/10.1038%2Fs41559-018-0517-3

10. MacDougall A., Harvey E., McCune J., Nilsson K., Bennett J., Firn J., Bartley T., Grace J., Kelly J., Tunney T., McMeans B., Matsuzaki S., Kadoya T., Esch E., **Cazelles K**., Lester N., McCann K., 2018. Context-dependent interactions and the regulation of species richness in freshwater fish. *Nature Communications* **9**(1).
https://doi.org/10.1038%2Fs41467-018-03419-1

11. Legagneux P., Casajus N., **Cazelles K**., Chevallier C., Chevrinais M., Guéry L., Jacquet C., Jaffré M., Naud M., Noisette F., Ropars P., Vissault S., Archambault P., Bêty J., Berteaux D., Gravel D., 2018. Our house is burning: Discrepancy in climate change vs. Biodiversity coverage in the media as compared to scientific literature. *Frontiers in Ecology and Evolution* **5**.
https://doi.org/10.3389%2Ffevo.2017.00175

12. Kopelke J., Nyman T., **Cazelles K**., Gravel D., Vissault S., Roslin T., 2017. Food-web structure of willow-galling sawflies and their natural enemies across europe. *Ecology* **98**(6):1730-1730.
https://doi.org/10.1002%2Fecy.1832

13. **Cazelles K**., Mouquet N., Mouillot D., Gravel D., 2016. On the integration of biotic interaction and environmental constraints at the biogeographical scale. *Ecography* **39**(10):921-931.
https://doi.org/10.1111%2Fecog.01714

14. **Cazelles K**., Araújo M., Mouquet N., Gravel D., 2015. A theory for species co-occurrence in interaction networks. *Theoretical Ecology* **9**(1):39-48.
https://doi.org/10.1007%2Fs12080-015-0281-9

15. Poisot T., Cirtwill A., **Cazelles K**., Gravel D., Fortin M., Stouffer D., 2015. The structure of probabilistic networks. *Methods in Ecology and Evolution* **7**(3):303-312.
https://doi.org/10.1111%2F2041-210x.12468

16. Stradic S., Silveira F., Buisson E., **Cazelles K**., Carvalho V., Fernandes G., 2015. Diversity of germination strategies and seed dormancy in herbaceous species ofcampo rupestregrasslands. *Austral Ecology* **40**(5):537-546. https://doi.org/10.1111%2Faec.12221

17. Cazelles B., **Cazelles K**., 2014. Major urban centers have weak influence on the timing of dengue epidemics in southeast asia. *International Journal of Infectious Diseases* **21**:217. https://doi.org/10.1016%2Fj.ijid.2014.03.873

18. Cazelles B., **Cazelles K**., Chavez M., 2014. Wavelet analysis in ecology and epidemiology: Impact of statistical tests. *Journal of The Royal Society Interface* **11**(91):20130585. https://doi.org/10.1098%2Frsif.2013.0585

19. **Cazelles K**., Otten W., Baveye P., Falconer R., 2013. Soil fungal dynamics: Parameterisation and sensitivity analysis of modelled physiological processes, soil architecture and carbon distribution. *Ecological Modelling* **248**:165-173. https://doi.org/10.1016%2Fj.ecolmodel.2012.08.008

In review

1. Blanchet F., **Cazelles K**., Gravel D., 2019. Co-occurrence is not evidence of ecological interactions? *Ecology Letters*. Note: all authors contributed equally.

2. Bartley T., Guzzo M., **Cazelles K**., Verville A., McMeans B., McCann K., 2019. Thermal preferences drive behavioural responses but not biomass responses of predatory fishes to lake morphometry *Oecologia*. Note: the three first authors contributed equally.

3. Warn P. K. C., McCann K., Rooney N., **Cazelles K**., Guzzo M., 2019. Geography and morphology affect the ice duration dynamics of northern hemisphere lakes worldwide *Geophysical Research Letters*.

4. Poisot T., Gabriel B., **Cazelles K**., Dallas T., Gravel D., MacDonald A., Mercier B., Violet C., Vissault S., 2019. Environmental biases in the study of ecological networks at the planetary scale *2Bdetermined*.

Reviewer for the following peer-reviewed journals

American Naturalist, Biodiversity data journal, Canadian Journal of Fisheries and Aquatic Sciences, Diversity and Distributions, Ecography, Ecological Applications, Ecology, Ecology Letters, Entropy, Environment, Development and Sustainability, Global Ecology and Biogeography, Journal of Animal Ecology, Journal of Vegetation Science, Methods in Ecology and Evolution, Nature Ecology and Evolution, Oikos, PeerJ, Population Ecology, Proceedings of the Royal Society B, Theoretical Ecology.
Recommander for PCI ecology.

Code

graphicsutils (R package) – a set of miscellenous graphical functions.
https://github.com/inSileco/graphicsutils

inSilecoMisc (R package) – a set of miscellenous functions.
inSileco/inSilecoMisc

rcites (R package) – an R client for the CITES Species+ API.
ropensci/rcites ; CRAN: rcites ; DOI: 10.5281/zenodo.1490219

rmangal (R package) – an R client for Mangal API (Mangal is a collection of published ecological networks).
ropensci/rmangal ; CRAN: rmangal

HomogenFishOntario (Research compendium) – Reproducible analysis pipeline for 'Cazelles et

al. (2019) DOI:10.1111/gcb.14829'.
McCannLab/HomogenFishOntario ; DOI: 10.5281/zenodo.3383237

monitoringOutcomes (Research compendium) – Reproducible analysis pipeline for 'Wheeler et al. (2019) DOI:10.1111/cobi.13257'.
KevCaz/monitoringOutcomes ; DOI: 10.5281/zenodo.1652737

burningHouse (Research compendium) – Reproducible analysis pipeline for 'Legagneux et al. (2018) DOI:10.3389/fevo.2017.00175'.
KevCaz/burningHouse ; DOI: 10.5281/zenodo.1134897

QCBSRworkshops (continuous integration) – Set up continuous deployment for the QCBS R workshops
QCBSRworkshops

Science popularization

1. **Cazelles K.**, 2014. La Biodiversité en territoire isolée. *Accromath*. http://accromath.uqam.ca/2014/02/la-biodiversite-en-territoires-isoles/
2. Legagneux P., **Cazelles K.**, Gravel D., 2019. Sommes-nous bien informés ? : écarts entre la couverture du changement climatique et de la biodiversité par les médias et la littérature scientifique. *Climatoscope*.

Media

Québec Science (2020, fr).
https://www.quebecscience.qc.ca/sciences/les-10-decouvertes-de-2019/carte-interactions-entre-poissons/

Science (2019, en).
https://science.sciencemag.org/content/366/6472/1468.1/tab-pdf

la Presse (2018, FR).
http://www.lapresse.ca/environnement/climat/201803/06/01-5156225-la-biodiversite-dans-lombre-des-changements-climatiques.php

Anthropocenemagazine (2018, ENG).
http://www.anthropocenemagazine.org/2018/02/biodiversity-ignored-by-press/

Greenreport (2018, IT).
http://www.greenreport.it/news/aree-protette-e-biodiversita/la-crisi-della-biodiversita-non-interessa-media/

20 minutes (2018, FR).
https://www.20minutes.fr/planete/2234443-20180308-pourquoi-parle-bien-plus-changement-climatique-erosion-biodiversite

RFI (2018, FR).
http://www.rfi.fr/emission/20180218-2-chaos-climatique-financier-jouzel-larrouturou

le Devoir (2018, FR).
http://www.ledevoir.com/socie dpkg-reconfigure locales te/education/518374/les-deux-derniers-laureats-de-l-acfas-reviennent-sur-leur-experience

Presentations and posters

- Conference Presentations

- Seminar

- Posters