



Àlex Giménez Romero

Physicist



7 May 1997



Spain



+34 676176429



<https://agimenezromero.github.io/>



<https://github.com/agimenezromero>



gimenez.romero.alex@gmail.com

Interests

Physics of Complex Systems, Ecology, Computational and mathematical modelling, Artificial Intelligence, Remote Sensing

Skills

Julia

R

SQL

C++

LaTeX

Python

Education

2021-2022	M.Sc. Quantitative Finances <i>Excellent in all modules.</i>	UNED
2019-2020	M.Sc. Physics of Complex Systems <i>Excellent in 9/13 subjects.</i>	UIB
2015-2019	B.Sc. Physics <i>Honors in numerical methods I and II.</i>	UAB

PhD Thesis

Thesis Title	Complex Systems Modelling for Vector-Borne Diseases (expected) <i>Supervisor: Dr. Manuel A. Matías</i>	Fall 2024
--------------	---	-----------

Work Experience

May-Jun'23	Research stay	IFCA
2022-	Research Assistant	IFISC
2021-2022	Research Assistant <i>Competitive internal call from MdM program</i>	IFISC
2020-2021	Research Assistant	IFISC
Mar-July'19	Research Internship	ICMAB

Publications

2023	À. Giménez-Romero, E. Moralejo, M. A. Matías <i>A compartmental model for Xylella fastidiosa diseases with explicit vector seasonal dynamics</i>	Phytopathology
2023	C. Lago, À. Giménez-Romero, M. Morente, M. A. Matías, A. Moreno, and A. Fereres <i>Degree-day-based model to predict egg hatching of Philaenus spumarius (Hemiptera: Aphrophoridae), the main vector of Xylella fastidiosa in Europe</i>	Env. Ent.
2022	À. Giménez-Romero, M. Montesinos, J. Bauzá, M. Godefroid, A. Fereres, J. J. Ramasco, M. A. Matías, and E. Moralejo <i>Global predictions for the risk of establishment of Pierce's disease of grapevines</i>	Comms. Bio.
2022	À. Giménez-Romero, R. Flaquer-Galmés and M. A. Matías. <i>Vector-borne diseases with nonstationary vector populations: The case of growing and decaying populations</i>	PRE
2022	À. Giménez-Romero, F. Vázquez, C. López and M. A. Matías. <i>Spatial effects in parasite-induced marine diseases of immobile hosts</i>	R. Soc. Open Sci.
2022	S. Flecha, À. Giménez-Romero, J. Tintoré, F. F. Pérez, E. Alou-Font, M. A. Matías, and I. E. Hendriks <i>pH trends and seasonal cycle in the coastal Balearic Sea reconstructed through machine learning</i>	Sci. Rep.
2021	À. Giménez-Romero, A. Grau, I. E. Hendriks, and M. A. Matías. <i>Modelling parasite-produced marine diseases: The case of the mass mortality event of Pinna nobilis</i>	Ecol. Modell.

Preprints

- 2023 À. Giménez-Romero, M. A. Matías, C. M. Duarte under review at Science Advances
Universal spatial properties of coral reefs
- 2023 À. Giménez-Romero, M. A. Matías, C. M. Duarte under review at Scientific Data
A comprehensive dataset on global coral reefs size and geometry
- 2023 À. Giménez-Romero, M. Iturbide, E. Moralejo, J. M. Gutiérrez, M. A. Matías bioRxiv, under review at Scientific Reports
Contrasting Patterns of Pierce's Disease Risk in European Vineyards Under Global Warming
- 2023 E. Moralejo, J. A. García-Muñoz, S. Denman, À. Giménez-Romero bioRxiv, under review at European Journal of Forest Research
*Leaf susceptibility of Macaronesian laurel forest species to *Phytophthora ramorum**

Teaching & Thesis supervision

- 2023-2024 Econophysics UIB
M.Sc. in Physics of Complex Systems. *Lecturer: Dr. Pere Colet & Dr. Rosa López*
- 2023-2024 Econophysics UIB
4th year of B.Sc. in Physics. *Lecturer: Dr. Rosa López*
- 2022-2023 M.Sc. Thesis UIB
Age of infection disease modeling: from Kermack and McKendrick to multi-compartment models. *co-supervised with Dr. Manuel A. Matías*
- 2022-2023 Econophysics UIB
4th year of B.Sc. in Physics. *Lecturer: Dr. Rosa López*
- 2020-2021 M.Sc. Thesis UIB
A compartmental model for vector transmitted diseases: an application to *Xylella fastidiosa*. *co-supervised with Dr. Manuel A. Matías*

Contributed talks

- 2023 Conferencia Internacional sobre *Xylella fastidiosa* CSIC
Modeling Xf diseases: transmission dynamics, global spatiotemporal risk predictions and design of control strategies
- 2023 FisEs Joven
Vector-borne diseases with non-stationary vector populations
- 2022 Congreso de la Sociedad Española de Fitopatología UPV
Global Risk Predictions for Pierce's Disease of Grapevines
- 2022 Conference on Complex Systems IFISC
Global Risk Predictions for Pierce's Disease of Grapevines
- 2022 International Symposium of Plant Virus Epidemiology ICA-CSIC
Global Risk Predictions for Pierce's Disease of Grapevines
- 2021 3rd European conference on *Xylella fastidiosa* EFSA
Risk of establishment of Pierce's disease in main wine-producer regions worldwide

Seminars & invited talks

- 2023 Las Mañanas IFCA IFCA CSIC-UC
A climate-driven epidemiological model for Pierce's disease of grapevines
- 2022 Applied Math Seminar Utah State Univ.
Modelling Parasite-Produced Marine Diseases: spatial vs non-spatial models

Press releases

2023	IB3 Mèteo <i>Capítol 556</i>	Entrevista
2023	IB3 Notícies <i>La intel·ligència artificial, una eina al servei de la posidònia</i>	Entrevista
2023	SER Ibiza, IB3 Ràdio <i>Una nueva herramienta permite predecir la eclosión de las ninfas del insecto que transmite la Xylella</i>	Entrevista
2022	La Vanguardia, 20minutos, COPE, CSIC, EuropaPress, Última Hora, Diario de Mallorca, Ara Balears <i>Un equipo del CSIC identifica la tendencia de acidificación del Mar Balear a través de inteligencia artificial</i>	Artículo
2022	Última Hora <i>El IFISC desarrolla un modelo para entender las epidemias marinas</i>	Artículo

Referee

2023	PLoS Computational Biology	1
2022	Conservation Biology	1
2022	Ecological Modelling	1

Outreach events & activities

2023	Ciencia + Tecnología <i>Descifrando el fondo marino desde el espacio con los ojos de la inteligencia artificial</i>	The Conversation
2023	IV Scientific Dissemination Contest <i>Desxifrant el fons marí des de l'espai amb els ulls de la intel·ligència artificial</i>	UIB
2023	Ciència a tot Tren <i>Desxifrant el fons marí des de l'espai amb els ulls de la intel·ligència artificial</i>	CSIC

Certifications

2023	Ecology: Ecosystem Dynamics and Conservation	American Museum of Natural History
2021	Natural Language Processing Specialisation 4 courses: <i>Introduction to TensorFlow for Artificial Intelligence, Machine Learning, and Deep Learning; Convolutional Neural Networks in TensorFlow; Natural Language Processing in TensorFlow; Sequences, Time Series and Prediction</i>	DeepLearning.AI
2021	Tensorflow Developer 4 courses: <i>Natural Language Processing with Classification and Vector Spaces; Natural Language Processing with Probabilistic Models; Natural Language Processing with Sequence Models; Natural Language Processing with Attention Models</i>	DeepLearning.AI
2020	Scalable Machine Learning on Big Data using Apache Spark	IBM
2020	Machine Learning with Python	IBM
2020	The Data Science Course 2020: Complete Data Science Bootcamp	Udemy
2019	Fundamentals of Data Visualisation in Tableau	Udemy

Honors and Awards

2023	Finalist of the IV Scientific Dissemination Contest of the UIB
2023	Winner of the Circular Innovation Hackathon (Sampol)
2023	Winner of the Circular Innovation Hackathon (Senda Ecoway)
2021	Top 5 poster competition EFSA

Coding & Data management

Code	Python, Julia, R, C++, bash
Database	SQL
Web	Dash, jekyll, HTML, markdown
V. Control	GIT
Tabular data	CSV, Excel, JSON
Geo data	GEOjson, shapefile, geotiff
Climatic data	netCDF, GRIB

Interests

Research	Ecology, Computational Modelling, Artificial Intelligence, Climate Change, Epidemics
Other	Hiking, Scuba-diving, snorkelling