



## CURRICULUM VITAE

### FREDERIC BARTUMEUS FERRÉ

ICREA RESEARCH PROFESSOR

Theoretical and Computational Ecology Lab

Centre for Advanced Studies of Blanes (CEAB-CSIC, Spain)

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#### PERSONAL DATA

##### Work address:

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**Date of Birth:** 24th September 1973

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**Google Scholar:** <http://scholar.google.es/citations?user=rThVB8AAAAJ&hl=en&oi=ao>

**H-index:** 35 (Scopus), 40 (Googl.Sch.)

**Languages:** Catalan (native), Spanish (native), English (fluent), Portuguese (basic).

#### RESEARCH STATEMENT

My research is focused in the emerging fields of **computational** and **movement ecology**, which aims to reveal the causes and consequences of **animal movement and dispersal patterns** (including **humans and disease carrying mosquitoes**). Improved **tracking technology** (GPS, bio-loggers, smart-phones) demands an **integrative view, with new computational tools and modeling frameworks** to understand at an unprecedented range of scales movement in the context of **invasion, epidemics, conservation biology, and fundamental population and behavioural ecology**.

**Keywords:** *Theoretical and Computational Ecology, Movement Ecology, Animal Behaviour, Vector-borne Diseases.*

## ACADEMIC EDUCATION

**June 2005.** Doctoral degree, University of Barcelona (UB).

Title: *Lévy processes in animal movement and dispersal*. **UB Doctorate Extraordinary Award**. Finalist of the *UB Doctor's Cloister Award*.

**March 1999.** Master of Science in Experimental Biology (DEA).

Title: *Rotifera and the planktonic cosmos in an oligotrophic lake (Redó, Pyrenees)*.

**September 1996.** Biology, University of Barcelona.

Specialization: Biology of Organisms and Systems, UB.

## AWARDS

**2024** I was awarded at the World Summit Awards (WSA 2023) with the Mosquito Alert Observatory. The WSA selects and promotes outstanding digital innovations. <https://wsa-global.org/winner/mosquito-alert/>

**2023** I was awarded with an Honorary Mention for the European Union Prize for Citizen Science for excellence in the advancement of knowledge through the empowerment of civil society in the development of the future (<https://ars.electronica.art/citizenscience/en/mosquito-alert/>).

**2022** I was finalist at the European Innovation Council Horizon Prize on the topic of "Early Warning for Epidemics"

**28 Jun 2018.** I was Distinguished Researcher (period 2017-2018) at the Spanish Research Council (CSIC).

**15 Feb 2018.** I was awarded at the Premi Ciutat Barcelona 2017 en Ciències de la Terra i Ambientals.

<http://ajuntament.barcelona.cat/premisciutatbcn/>

<http://ajuntament.barcelona.cat/premisciutatbcn/edicions/2017-2/ciencias-de-la-terra-i-ambientals/>

## EMPLOYMENT

Nov 2013-onwards **ICREA Research Professor** at CEAB-CSIC. Affiliations at Centre for Advanced Studies of Blanes (CEAB-CSIC) and Centre for Ecological Research and Forestry Applications (CREAF)

Dec 2009-Nov 2013. **Ramón y Cajal Fellow**. Spanish Ministry of Science and Innovation (RyC-2009- 2014)

Apr 2008-Dec 2009. **Postdoctoral Associate Award, Juan de la Cierva**, (MEC). Institut Català de Ciències del Clima (IC3), Barcelona, Spain. Supervisor: Xavier Rodó.

Jun 2007. **Postdoctoral Santa Fe Institute Award** to attend to the Complex System Summer School at Santa Fe, New M

Apr 2006-Apr 2008. **Postdoctoral Associate Award** (MEC). Department of Ecology and Evolutionary Biology, Princeton University, USA. Supervisor: Simon A. Levin.

Jan 2006-Apr 2006. **Postdoctoral Associate**. Mediterranean Institute for Advanced Studies (IMEDEA-CSIC). Population Ecology Group. Supervisor: Daniel Oro.

Oct 2005- Dec 2005. **Postdoctoral Associate**. Department of Physics. Universidade Federal de Parana (Curitiba, Brasil). Supervisor: Marcos G.E. da Luz.

Jul 2005- Sep 2005 **Postdoctoral Associate**. Center for Advanced Studies of Blanes (CEAB-CSIC). Supervisor: Jordi Catalan.

Jan 2005- Jul 2005. **Predoctoral Associate**. Center for Advanced Studies of Blanes (CEAB-CSIC). Supervisor: Jordi Catalan.

Jan 2004-Dec 2004. **Predoctoral Research Grant**. University of Pompeu Fabra Research Grant. Supervisor: R.V.Solé.

Jan 2003-Dec 2003. **Predoctoral Research Grant**. University of Barcelona Research Grant.

Jan 2000-Dec 2002. **Predoctoral Research Grant**. EMERGE European project Research Grant.

Jan 1997-Jan 2000. **Predoctoral Research Grant (CIRIT)**. Catalan Government.

## RESEARCH PROJECTS

1. 2024-2028 *Improving fitness to face arboviral outbreaks in West Africa: development of community-led approaches for vector surveillance, control and risk prediction in Ouagadougou, Burkina Faso.*(DENGRIP) Call: NIHR. PI: David Weetman (Liverpool School of Tropical Medicine). WPLLeader: F.Bartumeus. Total: 3.000.000,00 £. CSIC: 318.814,88 £.
2. 2023-2027 *Delivering a Unified Research Alliance of Biomedical and public health Laboratories against Epidemics* (DURABLE). Call: EU4H-2021-PJ4. PI: Roberto Bruzzone (Institut Pasteur) WPLLeader: F.Bartumeus. Total: 24.970.297,29 €. CSIC: 501.145 €.
3. 2023-2027 *Research and Innovation partnership for enhancing the surveillance and control of mosquito vectors of emerging arboviruses* (INOVEC). Call: HORIZON-MSCA-2021-SE-01. PI: Vincent Corbel. WPLLeader: F.Bartumeus. Total: 1407600 €. CSIC: 32200 €.
4. 2023-2026 *Mobile Bio-Lab to support first response in Arbovirus outbreaks* (MOBVEC). Call: HORIZON-EIC-2022-PATHFINDEROPEN-01. PI: J.Encarnaçao (IRIDEON). WPLLeader: F.Bartumeus. Total: 998.500 € CSIC: 440.668 €.
5. 2023-2026 *Eco-Epidemiological Intelligence for early Warning and response to mosquito-borne disease risk in Endemic and Emergence Settings* (E4Warning). Call: HORIZON-CL6-2022-GOVERNANCE-01-09. PI: F.Bartumeus (CSIC). Total: 4.082.528,75 € CSIC: 998.428,24€.
6. 2022-2026 *Comportamiento Social en Animales Impacto en la Ecología del Movimiento y de Poblaciones* (SLEEP). Call: PID2021-122893NB-C21 (Ministerio de Ciencia y Tecnología).PI: D.Oro, co-PI: F.Bartumeus (CSIC). Total: 4.082.528,75 € CSIC: 998.428,24€.
7. 2022-2026 *Infectious Disease decision-support tools and Alert systems to build climate Resilience to emerging health Threats* (IDAlert). Call: HORIZON-HLTH-2021-ENVHLTH-02. PI: Joacim Rocklov. WPLLeader: F.Bartumeus. Total: 9.188.298,75 €. CSIC: 430.764 €.

8. 2022-2023 *Desarrollo de herramientas de vigilancia entomológica de implantación en España en base a ciencia ciudadana, validada por estudios de campo que se combine con la vigilancia y control de las enfermedades transmitidas por mosquitos*. Contratación por exclusividad. Ref: 202150PN0001. Centro de Coordinación y Alertas Sanitarias (CCAES), Ministerio de Sanidad, Gobierno de España. PI: F.Bartumeus (CSIC). Total: 1.200.000 €. CSIC: 1.200.000 €.
9. 2021-2022 *Fair Computational Epidemiology (FACE) WorkPackage 3*. Plataforma Temática Interdisciplinar PTI+ Salud Global. CSIC. PIs: Jose J Ramasco y Álvaro López. Co-PIs: Diego Ramiro, Frederic Bartumeus. 1500 k €.
10. 2020-2021 *Impacto de las medidas de distanciamiento social sobre la expansión de la epidemia de COVID-19 en España*. Referencias: 202050E089/E0297. Plataforma Temática Interdisciplinar PTI+ Salud Global. CSIC. Call COVID-19. Coordinators: Jose J Ramasco y F Bartumeus. 354k euros.
11. 2020-2025 *Human-Mosquito Interaction Project*. Call ERC-2019-STG. 2000k euros. Coordinator: John RB Palmer (Universitat Pompeu Fabra, Spain). Role FB: Additional Beneficiary, Large Facilities. 500k euros.
12. 2020-2021. *Strengthening Barcelona's Defenses Against Disease-Vector Mosquitoes: Automatically Calibrated Citizen-Based Surveillance*. Call: Barcelona Ciència. Ajuntament de Barcelona, Institut de Cultura. 150k euros.
13. 2020-2024 *VEO: Versatile Emerging infectious disease Observatory*. Call: H2020 SC1-BHC-13-2019. 16700k euros. Coordinator: Marion Koopmans (Erasmus Universitair Medisch Centrum, The Netherlands) Role FB: Work Package Leader: 692k euros.
14. 2020-2025 *Preparing for vector-borne virus outbreaks in a changing world: a One Health Approach*. Call: Dutch National Research Agenda (NWA) 8000k euros. Coordinator: Marion Koopmans (Erasmus Universitair Medisch Centrum, The Netherlands). Role FB: Work Package Leader: 330k euros.
15. 2019-2021 *Big Mosquito Bytes: Community-Driven Big Data Intelligence to Fight Mosquito-Borne Disease*. Convocatoria: Health Research 2018 "la Caixa" Banking Foundation. 1000k euros.
16. 2018. *High-throughput behavioural tracking facility*. Proyecto de Apoyo a Infraestructuras CSIC. 90k euros.
17. 2018-2019 *Modelització per a la gestió del mosquit tigre a la Província de Girona: ús dades de ciència ciutadana i de vigilància experta*. PI: F.Bartumeus. Diputació de Salut de Girona (DIPSALUT). 30k euros
18. 2018-2022 *Aedes Invasive Mosquitoes (AIM)*. COST ACTION OC-2017-1-22105. CA17108. Coordinator: Alessandra de la Torre (Universita de la Sapienza, Italy). Role FB: Deputy Management Comittee, and Task Leader.
19. 2018. *Mosquito Alert: programa para investigar y controlar mosquitos vectores de enfermedades como el Dengue, el Chikungunya y el Zika*. PI: F.Bartumeus. La Fundació Obra Social "La Caixa". 40k euros
20. 2017-2019. *Plataforma Integral per al Control de l'Arbovirosis a Catalunya (PICAT)*. Departament de Salut, Generalitat de Catalunya. Programa PERIS 2016-2020. PI: Israel Molina. 400k euros.

21. 2017-2019. *Social uses of search ecology: stochastic foundations and experimental research*. PI: F.Bartumeus. Programa Estatal I+D+i. Orientada a los Retos de la Sociedad. Ministerio de Economía y Competitividad (MINECO). CGL2016-78156-C2-1-R. 134310 euros.
22. 2016-2017 *Explorando los fundamentos físicos de la inteligencia entrópica* (ENTRINT). PI: D.Campos, co-PI: F.Bartumeus. Programa Estatal I+D+i. Proyectos Explora Ciencia / Explora Tecnología. Ministerio de Economía y Competitividad (MINECO). FIS2015-72434-EXP. 45k euros.
23. 2016. Amazon Web Services (AWS) Cloud Credits for Research Grant: 12000\$.
24. 2016. *Nuevas herramientas de participación en ciencia ciudadana: laboratorios de validación y cocreación para AtrapaelTigre.com*. PI: F.Bartumeus. Fundación Española para la Ciencia y la Tecnología (FECYT). FCT-15-9515. 24.2k euros
25. 2016-2017. *Mosquito Alert: programa para investigar y controlar mosquitos vectores de enfermedades como el Dengue, el Chikungunya y el Zika*. PI: F.Bartumeus. La Fundació Obra Social "La Caixa". 400k euros
26. 2016-2018. *Ciència ciutadana per a la millora de la gestió i els models predictius de dispersió i distribució real de mosquit tigre a la Província de Girona*. PI: F.Bartumeus. Diputació de Salut de Girona (DIPSALUT). 60k euros
27. 2015-2019. Sponsorship of *Atrapaeltigre.com*. PI: F.Bartumeus. Lokimica. 15k euros. (CREAF)
28. 2015-2016. *Citizens-based early warning systems for invasive species & disease vectors: The case of the Asian Tiger mosquito*. PI: F.Bartumeus. Convenia La Fundació "Obra Social La Caixa" with CREAF. 80k euros
29. 2014-2015. *Ampliación, Optimización, y Mantenimiento de un Clúster de Computación de Alto Rendimiento: I+D de Frontera en Ecología*. PI: F.Bartumeus. 96k euros
30. 2014-2015. Advanced Study Group Award: *Statistical Physics and Anomalous Dynamics of Foraging*. Max Planck Institute for the Physics of Complex Systems. (6 months) PI: R.Klages. Co-PI: F.Bartumeus, D.Boyer, A. Chechkin, L. Giuggioli, J.Pitchford. 78k euros. [http://www.mpiipks-dresden.mpg.de/pages/visitorsprogram/frames\\_vp\\_en.html](http://www.mpiipks-dresden.mpg.de/pages/visitorsprogram/frames_vp_en.html)
31. 2014-2015. 1/12-2014-1/06/2015. *Supporting contracting work II. ICARUS Initiative Project: Accelerometry Data Analysis. Phase II*. PI: F.Bartumeus. Max Planck Institute for Ornithology (MPIO). 23k euros. (CREAF)
32. 2014. Sponsorship of *Atrapaeltigre.com*. PI: F.Bartumeus. Spotless Group. Marca Bloom.7k euros. (CREAF)
33. 2014-2016. *Invasión del mosquito tigre en España: Salud pública y cambio global*. PI: F.Bartumeus.Co-PI: Marc Ventura. Plan Estatal I+D+i. Ministerio de Economía y Competitividad. REF: CGL2013-43139-R. 205k euros.
34. 2014. *Diseño e implementación de un sistema ciudadano de alerta y seguimiento del mosquito tigre: ciencia en sociedad (Atrapa el Tigre 2.0)*. PI: F.Bartumeus. Fundación Española para la Ciencia y la Tecnología (FECYT). FCT-13-701955. 55.2k euros.

35. 2013. 27/03-30/08. *Supporting contracting work I. ICARUS Initiative Project: Accelerometry Data Analysis.Phase I*. PI:F.Bartumeus. Max Planck Institute for Ornithology (MPIO). 23k euros.
36. 2013. *Proyecto de divulgación y participación científica de los jóvenes en el seguimiento y control del mosquito tigre: Caçant el Tigre!*”. PI: F.Bartumeus. Fundación Española para la Ciencia y la Tecnología (FECYT). REF: FCT-12-3730. 40k euros.
37. 2011-2014. *Adaptive behavior of C.elegans in complex sensory environments*. PI: W.Ryu, co-PIs: F.Bartumeus, and I.Nemenman. HFSP: Human Frontier Science Program. 300k euros (from 1500k euros).
38. 2011-2012. *Inferring stopovers from high resolution migratory trajectories: a key statistical and programming tool for Movebank*. Plan Nacional I+D+i. Acción Complementaria. Modalidad E. Ministerio de Ciencia e Innovación. 30k euros.
39. 2011-2013. *Reorientation patterns in random searches: mechanisms, causes and consequences in model organisms*. Plan Nacional I+D+i. Ministerio de Ciencia e Innovación. 126k euros.
40. 010-2011. Ramón y Cajal Program REF. 09-449-06-01. Ministerio de Ciencia e Innovación. 15K euros.

## SCOPUS PUBLICATIONS

SUMMARY (up to 2022) Information sources: Scopus & Journal of Citation Reports

Bartumeus, Frederic (1999-2022, all research): **88 publications** (first author:21 (25%); senior author:18 (20%); Q1-59 (71%), Q2-14 (17%), Q3-2 (2%), NA-8 (10%); **H-index=35**; **Citations** (last 15 years; self-excluded): **3225 total, 201.56 average per year**. **IF: avg. (5.061), percentiles [2.55-3.6-4.845]**. In addition: 5 book chapters; 1 book; 9 publications non-Scopus.

**(JIF/quartile). NA=Not Available. Citations(self-excluded):\* [>50], \*\* [> 100], \*\*\* [>200]).**

1. Treskova M, Montalvo T, Roclöv J, Hatfield C, **Bartumeus F**, Dasgupta S, Encarnação J, Lowe R, Semenza JC, Stiles P, Noya J, Valsecchi A, Bärnighausen T, Palmer J, Bunker A (2024) Effects of mosquito-proofing storm drains on adult and larvae mosquito abundance: Protocol of the IDAIert storm drain randomised controlled trial (IDEAS). *Methods X (accepted)*
2. Virgillito C, Longo E, De Marco CM, Serini P, Zucchelli MV, Montarsi F, Severini F, Rosa R, Da Re D, Filipponi F, Manica M, Palmer J, **Bartumeus F**, della Torre A, Caputo B (2024) Involving citizen scientists in monitoring arthropod vectors of human and zoonotic diseases: The case of Mosquito Alert in Italy. *Sci. Tot. Env* 948:174847. <https://doi.org/10.1016/j.scitotenv.2024.174847>
3. Pardo-Araujo M, Eritja R, Alonso D, **Bartumeus F**. 2024 Present and future suitability of invasive and urban vectors through an environmentally driven mosquito reproduction number. *Proc. R. Soc. B* 291: 20241960. <https://doi.org/10.1098/rspb.2024.1960>.
4. García-García D, Fernández-Martínez B, **Bartumeus F**, Gómez-Barroso D. 2024. Modelling the regional distribution of international travelers in Spain to estimate imported cases of dengue and malaria: statistical inference and validation study. *JMIR Public Health Surveill* 10: e51191. <https://doi.org/10.2196/51191>

5. Garriga J, **Bartumeus F**. 2024. Towards a comprehensive visualization of structure in large scale data sets. *Machine Learning: Science and Technology* 5: 030503. <https://doi.org/10.1088/2632-2153/ad6fea>
6. Abourashed A, de Best PA, Doornekamp L, Sikkema RS, van Gorp ECM, Timen A, **Bartumeus F**, Palmer JRB and Koopmans MPG. 2024. Development and validation of the MosquitoWise survey to assess perceptions towards mosquitoes and mosquito-borne viruses in Europe. *Scientific Reports* 14:1777. <https://doi.org/10.1038/s41598-024-52219-9>.
7. de Best P, Abourashed A, Doornekamp L, van Gorp ECM, Timen A, Sikkema RS, **Bartumeus F**, Palmer JRB, Koopmans M. 2024. Determinants of intended prevention behaviour against mosquitoes and mosquito-borne viruses in the Netherlands and Spain using the MosquitoWise survey: cross-sectional study. *BMC Public Health* 24:1781. <https://doi.org/10.1186/s12889-024-19293-0>
8. Lu L, Zhang F, Oude Munnink BB, Munger E, Sikkema RS, Pappa S, et al. 2024. West Nile virus spread in Europe: Phylogeographic pattern analysis and key drivers. *PLoS Pathog* 20(1): e1011880. <https://doi.org/10.1101/2022.11.10.515886>.
9. Blanco-Sierra L, Savvidou EC, Mpakovasili ED, Ioannou CS, **Bartumeus F**, Papadopoulos NT. 2024. Effect of water salinity on immature performance and the lifespan of adult Asian tiger mosquito. *Parasites & Vectors* 17:24. <https://doi.org/10.1186/s13071-023-06069-5>.
10. Blanco-Sierra L, Bellver-Arnau J, Escartin S, Mariani S, **Bartumeus F**. 2024. Human–Environment Interactions Shape Mosquito Seasonal Population Dynamics. *Insects* 15: 527. <https://doi.org/10.3390/insects15070527>.
11. Balatsos G, Blanco-Sierra L, Karras V, Puggioli A, Osório HC, Bellini R, Papachristos DP, Bouyer J, **Bartumeus F**, Papadopoulos NT, et al. Residual Longevity of Recaptured Sterile Mosquitoes as a Tool to Understand Field Performance and Reveal Quality 2024.. *Insects* 2024, 15, 826. <https://doi.org/10.3390/insects15110826>.
12. Cristín J, Fernández-López P, Lloret-Cabot R, Genovart M, Méndez V, **Bartumeus F**, Campos D 2024. Spatiotemporal organization of ant foraging from a complex systems perspective *Scientific Reports* 14:12801 <https://doi.org/10.1038/s41598-024-63307-1>.
13. Padilla-Pozo A, **Bartumeus F**, Montalvo T, Sanpera-Calbet I, Valsecchi A, Palmer JRB. 2024. Assessing and correcting neighborhood socioeconomic spatial sampling biases in citizen science mosquito data collection. *Scientific Reports* 14:22462. <https://doi.org/10.1038/s41598-024-73416-6>.
14. Badia-Boher JA, Real J, Riera JLL, **Bartumeus F**, Parés F, Bas JM, Hernández-Matías A. 2023. Joint estimation of survival and dispersal effectively corrects the permanent emigration bias in mark-recapture analyses. *Scientific Reports* 13:6970.

15. Cerecedo-Iglesias C, **Bartumeus F**, Cortés-Avizanda A, Pretus JLL, Hernández-Matías A, Real J. 2023. Resource predictability modulates spatial-use networks in an endangered scavenger species. *Movement Ecology* 11:22.
16. Dekramanjan B, **Bartumeus F**, Kampen H, Palmer JRB, Werner D, Pernat N. 2023. Demographic and motivational differences between participants in analog and digital citizen science projects for monitoring mosquitoes. *Scientific Reports* 13:12384.
17. Rocklöv, et al. 2023. Decision-support tools to build climate resilience against emerging infectious diseases in Europe and beyond. *The Lancet Regional Health-Europe* 32: 100701.
18. Sofie Lührsen D, Zavitsanou E, Cerecedo-Iglesias C, Pardo-Araujo M, Palmer JRB, **Bartumeus F**, Montalvo T, Michaelakis A, Lowe R. 2023. Adult *Aedes albopictus* in winter: implications for mosquito surveillance in southern Europe. *The Lancet Planetary Health* (7): e729-e731.
19. Albó A, Lucati F, **Bartumeus F**, Caner J, Escartin S, Mariani S, Palmer JRB, Ventura M. 2023. A fast and inexpensive genotyping system for the simultaneous analysis of human and *Aedes albopictus* short tandem repeats. *Parasites & Vectors* 16:347.
20. Carney RM, Long A, Low RD, Zohdy S, Palmer JRB, Elias P, **Bartumeus F**, Njoroge L, Muniafu M, Uelmen JA, Rahola N and Chellappan S. 2023. Citizen Science as an Approach for Responding to the Threat of *Anopheles stephensi* in Africa. *Citizen Science: Theory and Practice* 8(1): 60, pp. 1–15.
21. Pardo-Araujo M, García-García D, Alonso D, **Bartumeus F**. 2023. Epidemic thresholds and human mobility. *Scientific Reports* 13:11409.
22. Blanco-Sierra L, Mariani S, Escartin S, Eritja R, Palmer JRB, and **Bartumeus F**. 2023. Drivers of longevity of wild-caught *Aedes albopictus* populations. *Parasites & Vectors* 16:328.
23. Lucati F, Delacour S, Palmer JRB, Caner J, Oltra A, Paredes-Esquivel C, Mariani S, Escartin S, Roiz D, Collantes F, Bengoa M, Montalvo T, Delgado JA, Eritja R, Lucientes J, Albó-Timor A, **Bartumeus F**, Ventura M. 2022. Multiple invasions, Wolbachia and human-aided transport drive the genetic variability of *Aedes albopictus* in the Iberian Peninsula. *Scientific Reports* 12:20682.
24. Chen G-J, Palmer JRB, **Bartumeus F**, Alba-Casals A. 2022 Modeling the impact of surveillance activities combined with physical distancing interventions on COVID-19 epidemics at a local level. *Infectious Disease Modelling* 7:811e822.
25. Fernández-López P, Garriga J, Casas I, Yeste M, **Bartumeus F**. 2022 Predicting fertility from sperm motility landscapes. *Communications Biology* 5:1027
26. Genovart M, Klementisova K, Oro D, Fernández-López P, Bertolero A, **Bartumeus F**. 2022. Inferring the age of breeders from easily measurable variables. *Scientific Reports* 12:15851.



27. Južnič-Zonta Z, Sanpera-Calbet I, Eritja R, Palmer JRB, Escobar A, Garriga J, Oltra A, Richter-Boix A, Schaffner F, della Torre A, Miranda MA, Koopmans M, Barzon L, **Bartumeus F**, Mosquito Alert Digital Entomology Network, and Mosquito Alert Community. 2022. Mosquito Alert: leveraging citizen science to create a GBIF mosquito occurrence dataset. *Gigabyte* 1-13.
28. Scott C Edmunds and others, Publishing data to support the fight against human vector-borne diseases, *GigaScience*, Volume 11, 2022, giac114, <https://doi.org/10.1093/gigascience/giac114>.
29. Carames LGP, Matos YB, Bartumeus F, Bezerra CG, Macri T, da Luz MGE, Raposo EP, Viswanathan GM. 2022, Levy walkers inside spherical shells with absorbing boundaries: Towards settling the optimal Levy walk strategy for random searches. *Physical Review E*, 106, 5, 054147.
30. Colaço JR, Araújo HA, da Luz MGE, Viswanathan GM, **Bartumeus F**, Raposo EP. 2022. Effect of the search space dimensionality for finding close and faraway targets in random searches. *Physical Review E* 106, 034124.
31. Carney RM, Mapes C, Low RD, Long A, Bowser A, Durieux D, Rivera K, Dekramanjan B, **Bartumeus F**, Guerrero D, Seltzer CE, Azam F, Chellappan S, Palmer, JRB. 2022. Integrating global citizen science platforms to enable next-generation surveillance of invasive and vector mosquitoes. *Insects* 13,675. Best Paper Award 2022: <https://www.mdpi.com/journal/insects/awards/2397>.
32. Pagès J, **Bartumeus F**, Romero J, Alcoverro T 2021 The scent of fear make sea urchins go ballistic. *Movement Ecology* 9:50. [\(3.6/Q2\)](#)
33. Eritja R, Delacour-Estrella S, Ruiz-Arondo I, Gonzalez MA, Barcelo C, Garcia-Perez AL, Lucientes J, Miranda MA, **Bartumeus F** 2021. At the tip of an iceberg: citizen science and active surveillance collaborating to broaden the known distribution of *Aedes japonicus* in Spain. *Parasites Vectors* 14,375. [\(3.87/Q1\)](#)
34. Pataki BA, Garriga J, Eritja R, Palmer JRB, **Bartumeus F**, Csabai I 2021. Deep learning identification for citizen science surveillance of tiger mosquitoes. *Scientific Reports* 11:4718. [\(4.38/Q1\)](#)
35. Treep J, de Jager M, **Bartumeus F**, Soons M 2021 Seed dispersal as a search strategy: dynamic and fragmented landscapes select for multi-scale movement strategies in plants. *Mov Ecol* 9, 4 2021. [\(3.6/Q2\)](#)
36. Oro D, Bécares J, **Bartumeus F** Arcos JM 2021 High frequency of prospecting for informed dispersal and colonisation in a social species at large spatial scale. *Oecologia* 197, 395–409. [\(3.225/Q2\)](#)
37. Abourashed A, Doornekamp L, Escartin S, Constantianus JM Koenraad S, Schrama M, Wagener M, **Bartumeus F**, and van Gorp ECM 2021. The Potential Role of School Citizen Science Programs in Infectious Disease Surveillance: A Critical Review. *International Journal of Environmental Research and Public Health* 18, no. 13: 7019. [\(3.39/Q1\)](#)

38. Ferreira J, Raposo EP, Araujo HA, da Luz MGE, Viswanathan GM, **Bartumeus F**, Campos D 2021 Landscape-scaled strategies can outperform Lévy random searches. *Physical Review E* 103, 022105. [\(2.529/Q1\)](#)
39. Buldyrev SV, Raposo EP, **Bartumeus F**, Havlin S, Rusch FR, da Luz MGE, Viswanathan GM 2021 Comment on inverse square Lévy Walks are not optimal search strategies for  $d \geq 2$  *Physical Review Letters* 126, 048901. [\(9.161/Q1\)](#)
40. Cristín J, **Bartumeus F**, Méndez V, Campos D 2020 Occupancy patterns in superorganisms: a spin glass approach to ant exploration. *Royal Soc Open Sci* 7: 201250. [\(2.963/Q2\)](#)
41. Santana-Filho JB, EP Raposo, Macêdo AMS, Vasconcelos GL, Viswanathan GM, **Bartumeus F**, MGE da Luz 2020 A Langevin dynamics approach to the distribution of animal move lengths *J Stat Mech: Theor & Exp* 023406. [\(2.231/Q1-Q2\)](#)
42. Schunter C, Pascual M, Raventos N, Garriga J, Garza JC, **Bartumeus F**, Macpherson E 2019 A novel integrative approach elucidates fine-scale dispersal patchiness in marine populations *Scientific Reports* 9:10796. [\(3.998/Q1\)](#)
43. Aspillaga E, Safi K, Hereu B, **Bartumeus F** 2019 Modelling the three-dimensional space use of aquatic animals combining topography and Eulerian telemetry data. *Methods Ecol Evol* 00:1–7. [\(6.514/Q1\)](#)
44. Eritja R, Ruiz-Arondo I, Delacour-Estrella S, Schaffner F, Álvarez-Chachero J, Bengoa, Puig MA, Melero-Alcibar R, Oltra A, **Bartumeus F** 2019 First detection of *Aedes japonicus* in Spain: an unexpected finding triggered by citizen science. *Parasites & Vectors* 12 (53):1-9. [\(2.82/Q1\)](#)
45. Kembro JM, Lihoreau M, Garriga J, Raposo EP, **Bartumeus F** 2019 Bumblebees learn foraging routes through exploitation-exploration cycles. *J Royal Society Interface* 16(156):20190103. [\(3.748/Q1-Q2\)](#)
46. **Bartumeus F**, Costa GB, Eritja R, Kelly AH, Finda M, Lezaun J, Okumu F, Quinlan MM, Thizy DC, Toé LP, Vaughan M 2019 Sustainable innovation in vector control requires strong partnerships with communities. *PLoS Neglected Tropical Diseases* 13(4):e0007204. [\(3.885/Q1\)](#)
47. **Bartumeus F**, Oltra A, Palmer JRB 2018. Citizen Science: A Gateway for Innovation in Disease-Carrying Mosquito Management? *Trends in Parasitology* 34(9):727-729. [\(7.929/Q1\)](#)
48. Farina S, Oltra A, Boada J, **Bartumeus F**, Romero J, Alcoverro T 2018. Generation and maintenance of predation hotspots of functionally important herbivore in a patchy habitat mosaic. *Funct Ecol* 00:1-10. [\(5.037/Q1\)](#)
49. Eritja R, Palmer JRB, Roiz D, Sanpera-Calbet I, **Bartumeus F** 2017. Direct Evidence of *Aedes albopictus* Dispersal by Car. *Scientific Reports* 7:14399. [\(4.122/Q1\)](#) \*

50. Palmer JRB, Oltra A, Collantes F, Delgado JA, Lucientes J, Delacour S, Bengoa M, Eritja R, **Bartumeus F** 2017. Citizen science provides a reliable and scalable tool to track disease-carrying mosquitoes *Nat Comms* 8:916. (12.353/Q1) \*
51. Aspillaga E, **Bartumeus F**, Starr RM, López-Sanz A, Linares C, Díaz D, Garrabou J, Zabala M, Hereu B 2017. Thermal stratification drives movement of a coastal apex predator *Scientific Reports* 7:526. (4.122/Q1)
52. Campos D, **Bartumeus F**, Méndez V 2017. Nonstationary dynamics of encounters: Mean valuable territory covered by a random searcher. *Phys Rev E* 96:032111. (2.284/Q1)
53. de Grissac S, **Bartumeus F**, Cox SL, Weimerskirch H 2017 Early life foraging: Behavioural response of newly fledged albatrosses to environmental conditions. *Ecol Evol* 2017;00:1-13. (2.34/Q2)
54. Millet J-P, Montalvo T, Bueno-Marí R, Romero-Tamarit A, Prats-Urbe A, Fernández L, Camprubí E, del Baño L, Peracho V, Figuerola J, Sulleiro E, Martínez MJ, Caylà JA and Zika Working Group in Barcelona. 2017 Imported Zika Virus in a European City: How to Prevent Local Transmission? *Frontiers in Microbiology* 8:1319. (4.019/Q1)
55. Cai E, Marchuk K, Beemiller P, Beppler C, Rubashkin MG, Weaver VM, Chen B-C, Betzig E, **Bartumeus F**, Krummel MF 2017 Visualizing dynamic microvillar search and stabilization during ligand detection by T cells. *Science* 356: eaal3118. (41.058/Q1) \*\*
56. Garriga J, Piera J, **Bartumeus F** 2017 A Bayesian Framework for Reputation in Citizen Science. *Proceedings of the 2<sup>nd</sup> Workshop on Data Science for Social Good* (ECML-PKDD 2017, Skopje, Macedonia). CEUR Workshop Proceedings. <http://ceur-ws.org/Vol-1960/> (NA/NA)
57. Campos D, **Bartumeus F**, Méndez V, Soares de Andrade J & Espadaler X 2016. Variability in individual activity bursts improves ant foraging success. *Journal of the Royal Society Interface* 13:20160856. (3.579/Q1)
58. **Bartumeus F**, Campos D, Lloret-Cabot, R, Méndez V, Ryu W, Catalan J 2016. Foraging success under uncertainty: space use and search tradeoffs. *Ecology Letters* 19:1299-1313. (9.449/Q1)
59. Gutiérrez-Roig M, Sagarra O, Oltra A, Palmer JRB, **Bartumeus F**, Diaz-Guilera A, Perello J 2016. Active and reactive behaviour in human mobility: the influence of attraction points on pedestrians. *Royal Society Open Science* 3:160177. (2.243/Q2)
60. Aspillaga E, **Bartumeus F**, Linares C, Starr RM, López-Sanz À, Díaz D, Zabala M, Hereu B. 2016. Ordinary and extraordinary movement behaviour of small resident fish within a Mediterranean MPA. *PLoS ONE* 11(7): e0159813. (2.806/Q1)
61. Reynolds AM, **Bartumeus F**, Kölzsch A, van de Koppel J 2016. Signatures of chaos in animal search patterns. *Scientific Reports*: 6:23492. (4.259/Q1)

62. Garriga J, Palmer JRB, Oltra A, **Bartumeus F** 2016. Expectation-Maximization Binary Clustering for Behavioural Annotation. *PLoS ONE* 11(3):e0151984. (2.806/Q1) \*
63. Krummel M, **Bartumeus F**, Gérard A 2016. T-cell Migration, Search Strategies and Mechanisms. *Nature Reviews Immunology* 16:193–201. (39.932/Q1) \*\*
64. Rodriguez A, **Bartumeus F**, Gavaldà R 2016. Machine Learning Assists the Classification of Reports by Citizens on Disease-Carrying Mosquitoes. *Proceedings of the Workshop on Data Science for Social Good* (ECML-PKDD 2016, Riva del Garda, Italy). CEUR Workshop Proceedings. <http://ceur-ws.org/Vol-1831/>. (NA/NA)
65. Campos D, **Bartumeus F**, Raposo EP, Vicenç M 2015. First-passage times in multiscale random walks: The impact of movement scales on search efficiency. *Physical Review E - Statistical, Nonlinear, and Soft Matter Physics*, 92:052702. (2.252/Q1)
66. **Bartumeus F**. 2015. Behavioural ecology cannot turn its back on Lévy walk research Comment on "Liberating Lévy walk research from the shackles of optimal foraging" by A.M. Reynolds. *Physics of Life Reviews*, 14, pp. 84-86. (8.615/Q1)
67. Tromer RM, Barbosa MB, **Bartumeus F**, Catalan J, da Luz MGE, Raposo EP, Viswanathan GM 2015. Inferring Lévy walks from curved trajectories: A rescaling method. *Physical Review E - Statistical, Nonlinear, and Soft Matter Physics*, 92:022147. (2.252/Q1)
68. Kölzsch A, Alzate A, **Bartumeus F**, de Jager M, Weerman EJ, Hengeveld GM, Naguib M, Nolet BA, van de Koppel J. 2015. Experimental evidence for inherent Lévy search behaviour in foraging animals. *Proceedings of the Royal Society B: Biological Sciences*, 282 (1807). (4.823/Q1)
69. Kampen H, Medlock JM, Vaux AGC, Koenraadt CJM, van Vliet AJH, **Bartumeus F**, Oltra A, Sousa CA, Chouin S, Werner D. 2015 Approaches to passive mosquito surveillance in the EU. *Parasites & Vectors* 8:9. (Highly accessed category) (3.234/Q1) \*
70. **Bartumeus F**, Raposo EP, Viswanathan GM, da Luz MGE 2014. Stochastic Optimal Foraging: Tuning Intensive and Extensive Dynamics in Random Searches. *PLoS ONE* 9(9): e106373. doi:10.1371/journal.pone.0106373. (3.234/Q1) \*
71. Louzao M, Thorstend, **Bartumeus F.**, and Weimerkirsch H 2014. Coupling instantaneous energy-budget models and behavioural mode analysis to estimate optimal foraging mode: an example with foraging wandering albatrosses. *Movement Ecology* 2:8. doi:10.1186/2051-3933-2-8. (NA/NA)
72. Salvador L., **Bartumeus F.**, Levin S., and Ryu W. 2014. Mechanistic analysis of the search behavior of *Caenorhabditis elegans*. *Journal of the Royal Society Interface* 11:20131092. (3.917/Q1)
73. Kranstauber B., Safi K. and **Bartumeus F**. 2014. Bivariate Gaussian Bridges: directional factorization of diffusion in Brownian Bridge Models. *Movement Ecology* 2:5. doi:10.1186/2051-3933-2-5. (NA/NA)

74. Campos D., **Bartumeus F**, Méndez V., and Espadaler X. 2014. Reorientation patterns in central place foraging: internal clocks and klinokinesis. *Journal of the Royal Society Interface* 11, 20130859. [\(3.917/Q1\)](#)
75. de Jager M., **Bartumeus F**, Kölzsch A., Weissing F.J., Hengeveld G., Nolet B., Herman P.M.J., van de Koppel J. 2013. Emergence of Brownian motion through ecological encounters. *Proceedings of the Royal Society B* 281: 20132605. [\(5.292/Q1\)](#)
76. Pagès, J.F., **Bartumeus F**, Hereu B., López-Sanz A., Romero J., and Alcoverro T. 2013. Evaluating a key herbivore fish as a mobile link: a Brownian bridge approach. *Marine Ecology Progress Series* 492: 199–210. [\(2.640/Q1\)](#)
77. Campos D., Méndez V., and **Bartumeus F**. 2013. Search times with arbitrary detection constraints. *Physical Review E* 88, 022101. [\(2.326/Q1\)](#)
78. Bartumeus F, Raposo E.P., Viswanathan G.M., da Luz, M.G.E. 2013. Stochastic Optimal Foraging Theory. *Lecture Notes in Mathematics* 2071, pp. 3-32. [\(0.627/Q2\)](#)
79. Palmer J.R., Espenshade T.J., **Bartumeus F**, Chung C.Y., Ozgencil N.E., Li K. 2013. New Approaches to Human Mobility: Using Mobile Phones for Demographic Research. *Demography* 50:1105–1128. doi: 10.1007/s13524-012-0175-z. [\(2.631/Q1\)](#) \*\*
80. Bazazi S., **Bartumeus F**, Hale J.J., Couzin I.D. 2012. Intermittent motion in desert locusts: behavioural complexity in simple environments. *PLoS Comput Biol* 8(5): e1002498. doi:10.1371/journal.pcbi.1002498. [\(5.215/Q1\)](#) \*
81. Miramontes O., Boyer D., **Bartumeus F**. 2012. The effects of spatially heterogeneous prey distributions on detection patterns in foraging seabirds. *PLoS One* 7(4): e34317. doi:10.1371/journal.pone.0034317. [\(3.73/Q1\)](#)
82. Giuggioli L. and **Bartumeus F**. 2012. Linking animal movement to site fidelity. *J. Mathematical Biology*. doi: 10.1007/s00285-011-0431-7. [\(2.366/Q2\)](#)
83. Campos D., Méndez V., **Bartumeus F**. 2012. Optimal intermittence in search strategies under speed-selective target selection. *Physical Review Letters* 108: 028102. [\(7.943/Q1\)](#)
84. Guttal V., **Bartumeus F**, Hartvigsen G., Nevai A.L. 2011. Retention time variability as a mechanism for animal mediated long distance dispersal. *PLoS one* 6(12):e28447. [\(4.092/Q1\)](#)
85. Raposo E., **Bartumeus F**, da Luz M.G.E., Ribeiro-Neto P., Souza T., Viswanathan G.M. 2011. How landscape heterogeneity frames optimal diffusivity in searching processes. *PLoS Computational Biology* 7(11):e1002233. [\(4.867/Q1\)](#)
86. Ioannou C., **Bartumeus F**, Krause J., and Ruxton G.D. 2011. More is less: unified effects of aggregation reveal larger prey groups take longer to find. *Proceedings of the Royal Society of London series B*. doi: 10.1098/rspb.2011.0003. [\(5.415/Q1\)](#)

87. Giuggioli L. and **Bartumeus F.** 2010. Animal movement, search strategies, and behavioural ecology: a cross-disciplinary way forward. *J Animal Ecology* 79:906-909. *Highlighted by the editorial board:* <http://www.journalofanimalecology.org/view/0/highlights.html> (4.457/Q1)
88. Franks NR, Richardson TO, Keir S, Inge SJ, **Bartumeus F**, Sendova-Franks AB. 2010. Ants search strategies after interrupted tandem runs. *J Experimental Biology* 213:1697-1708. (3.04/Q1)
89. **Bartumeus F.**, Giuggioli L., Louzao M., Bretagnolle V., Oro D., and Levin S.A. 2010. Fisheries discards impact on seabird movement patterns at regional scales. *Current Biology* 20:1-8. (10.026/Q1) \*\* *Highlighted at: Science Editor's Choice, Scientific American, The New York Times, The Spanish Research Council Press, national and local newspapers (El Mundo, Diari de Girona), scientific and conservation webpages (e.g. sciencedaily, esablog, globaltalent, journalwatch, downtoearth)*
90. **Bartumeus F.**, Ventura M., and Catalan J. 2009. Factors shaping diversity patterns in pelagic rotifer assemblages of high mountain lakes (Pyrenees). *Advances in Limnology* 62:93-115. (NA/NA)
91. Catalan J., Barbieri M.G., **Bartumeus F.**, et al. 2009. Ecological thresholds in European alpine lakes. *Freshwater Biology* doi:10.1111/j.1365-2427.2009.02286.x. (2.861/Q1)
92. Reynolds A. and **Bartumeus F.** 2009. Optimizing the success of random destructive searches: Lévy walks can outperform ballistic motions. *J. Theor. Biol.*:260:98-103. (2.574/Q1)
93. **Bartumeus F.** 2009. Behavioral intermittence, Lévy patterns, and randomness in animal movement. *Oikos* 118:488-494. (3.147/Q2)
94. **Bartumeus F** and Catalan J 2009. Optimal search behaviour and classic foraging theory. *J. Phys A: Math. Theor.* 42. (1.577/Q2) \*\*
95. Pasternak Z., **Bartumeus F.**, and Grasso F. 2009. Lévy-taxis: a novel, search strategy for finding odor plumes in flow-dominated environments. *J. Phys A: Math. Theor.* 42. (1.577/Q2)
96. **Bartumeus F.** and Levin S.A. 2008. Fractal reorientation clocks. Linking animal behavior to statistical patterns of search. *Proceedings of the National Academy of Science* 150(49): 19072-19077. (9.380/Q1) \*\*
97. García J.A., **Bartumeus F.**, Roche D., Giraldo J., Stanley E.H., Casamayor E.O. 2008. Scale-dependent patterns in prokaryotic genomes revealed by statistic and genomic analyses and relationships with ecophysiological and phylogenetic traits. *Genomics.* 91: 538-543. (3.075/Q1)
98. **Bartumeus F.** and Catalan J. 2008. Niche segregation factors in an assemblage of pelagic rotifers of a deep high-mountain lake (Redon, Pyrenees). *J. Plankton Research.* 30(6): 709-721. (1.707/Q2)
99. **Bartumeus F.**, Catalan J., Viswanathan G.M., Raposo E., and da Luz M.G.E. 2008. The influence of turning angles on the success of non-oriented animal searches *J. Theor. Biol.* 252:43-55. (2.454/Q1)

100. **Bartumeus F.**, Fernández P., da Luz M.G.E., Catalan J., Sole R.V., and Levin S.A. 2008. Superdiffusion and encounter rates in diluted, low dimensional worlds. *The European Physical Journal Special Topics*. 157(2): 157-166. [\(0.689/Q3\)](#)
101. **Bartumeus F.** 2007. Lévy processes in animal movement: an evolutionary hypothesis. *Fractals-Complex Geometry patterns and scaling in nature and society*. 15(2): 151-162. [\(0.532/Q3\)](#) \*\*
102. Catalan J, Camarero L, Felip M, Pla S, Ventura M, Buchaca T, **Bartumeus F**, de Mendoza G, Miró A, Casamayor EO, Medina-Sánchez JM, Bacardit M, Altuna M, Bartrons M, Díaz de Quijano D. 2006. High mountain lakes: extreme habitats and witnesses of environmental changes. *Limnetica*, 25(1-2): 551-584. [\(NA/NA\)](#) \*\*
103. Viswanathan G.M., Raposo E.P., **Bartumeus F.**, Catalan J., and da Luz M.G.E. 2005. Necessary criterion for distinguishing true superdiffusion from correlated random walk processes. *Physical Review E*. 72: 011111(6). [\(2.418/Q1\)](#) \*
104. Solé R.V., **Bartumeus F.** and Gamarra J.G.P. 2005. Gap percolation in rainforests. *Oikos*. 110(1): 177-185. [\(3.309/Q1\)](#)
105. **Bartumeus F.**, da Luz M.G.E., Viswanathan G.M. and Catalan J. 2005. Animal search strategies: a quantitative random walk analysis. *Ecology*. 86(11): 3078-3087. [\(4.506/Q1\)](#) \*\*\*
106. **Bartumeus F.**, Peters F, Pueyo S., Marrassé C. and Catalan J. 2003. Helical Lévy Walks: Adjusting searching statistics to resource availability in microzooplankton. *Proceedings of the National Academy of Science* 100 (22): 12771-12775. [\(10.272/Q1\)](#) \*\*\*
107. Guisande C., **Bartumeus F.**, Ventura M. and Catalan J. 2003. Role of food partitioning in structuring the zooplankton community in mountain lakes. *Oecologia* 136:627-634. [\(3.128/Q1\)](#)
108. Viswanathan G.M., **Bartumeus F.**, Buldyrev S.V., Catalan J., Fulco U.L., Havlin S., da Luz M.G.E., Lyra M.L., Raposo E.P. and Stanley H. 2002. Lévy flight random searches in biological phenomena. *Physica A* 314: 208-213. [\(1.369/Q2\)](#)
109. **Bartumeus F.**, Catalan J., Fulco U.L., Lyra M.L. and Viswanathan G.M. 2002. Optimizing the encounter rate in biological interactions: Lévy vs Brownian strategies. *Physical Review Letters*: 097901-097904; [\(7.323/Q1\)](#) \*\*\* *Erratum: Physical Review Letters* 109902(E). [\(7.323/Q1\)](#)
110. Alonso D., **Bartumeus F.** and Catalan J. 2002. Mutual interference between predators may give rise to Turing spatial patterns. *Ecology* 83(1): 28-34. [\(3.918/Q1\)](#) \*\*
111. **Bartumeus F.**, Alonso D. and Catalan J. 2001. Self-organized spatial structures in a ratio-dependent predator-prey model. *Physica A* 295: 53-57. [\(1.295/Q2\)](#)

112. Ventura M., Camarero LI., Buchaca T., **Bartumeus F.**, Livingstone D.M. and Catalan J. 2000. The main features of seasonal variability in the external forcing and dynamics of a deep mountain lake (Estany Redó, Pyrenees). *J. Limnol.* 59(1): 97-108. (NA/NA)
113. Felip M., **Bartumeus F.**, Halac S. and Catalan J. 1999. Microbial plankton assemblages, composition and biomass, during two ice-free periods in a deep high-mountain lake (Estany Redó, Pyrenees). *J. Limnol.* 58(2): 193-202. (NA/NA)
114. Camarero LI., Felip M., Ventura M., **Bartumeus F.** and Catalan J. 1999. The relative importance of the pelagic microbial food webs in the carbon cycle in lake Redó (Pyrenees). *J. Limnol.* 58(2): 203-212. (NA/NA)

### BOOKS and BOOK CHAPTERS

1. Marris D, Fernández-López P, Bartumeus F, Giuggioli L (2024) Collective foraging and behavioural heterogeneity in ants: First-passage statistics with heterogeneous walkers in a honeycomb lattice. arXiv:2411.03290v1. <https://arxiv.org/abs/2411.03290>.
2. Canals S, **Bartumeus F**, Gomez-Marin A, Martinez-Otero L, Marquez C, Valverde S, Hernandez-Garcia E, Lopez C, Mirasso C, del Castillo D, Rocon E, Criado-Boado F, Palmer JRB, Castellanos N, Diex G, Maestu F (2021) Cognition, collective behaviors & consciousness. In *Brain, Mind and Behaviour*. Volume 5, pp. 41-57 (Eds. Herrera E and Esteban JA), Consejo Superior de Investigaciones Cientificas, CSIC. [http://libros.csic.es/product\\_info.php?products\\_id=1470](http://libros.csic.es/product_info.php?products_id=1470)
3. Austin T, **Bartumeus F**, Bernal S, Camarero LL, Becerro M, Cebrian E, Catalan J, Ferrer A, Garrabou J, Guasch H, Nogales A, Palmer JRB, Sorolla A, Terrados J (2021) Healthy planet: hazards, risk, management and solutions-oriented research. In: *Global Change Impacts*. Volume 7, pp: 153-172. (Eds. García MB & Jordano P; Coords. Casamayor EO, Valladares F). Desafíos Científicos del Consejo Superior de Investigaciones Cientificas, CSIC. [http://libros.csic.es/product\\_info.php?products\\_id=148.3](http://libros.csic.es/product_info.php?products_id=148.3)
4. Palmer JRB, Brocklehurst M, Tyson E, Bowser A, Pauwels E, **Bartumeus F** (2018). Global Mosquito Alert. Chapter 15, pp. 210-215. In: *Citizen Science: Innovation in open science, society and policy*. Eds. Susanne Hecker, Muki Haklay, Anne Browser, Zen Makuch, Johannes Vogel, and Aletta Bonn. UCL Press, London.
5. Oltra A, Palmer JRB, **Bartumeus F** (2016) AtrapaelTigre.com: enlisting citizens-scientists in the war on tiger mosquitoes. Chapter 22, pp. 295–308. In: *European Handbook of Crowdsourced Geographic Information*. Eds. Capineri, C. et al. Ubiquity Press.
6. Méndez V., Campos D., **Bartumeus F.** (2014) *Stochastic Foundations in Movement Ecology: anomalous diffusion, invasion fronts, and random searches*. Springer-Verlag. [BOOK ]
7. **Bartumeus F.**, Raposo E., da Luz M.G.E, Viswanathan G.M. (2013). Stochastic Optimal Foraging Theory. In: *Dispersal, individual movement and spatial ecology: A mathematical perspective*. Eds. Mark Lewis, Philip Maini and Sergei Petrovskii. Springer-Verlag. Mathematical Biosciences Subseries.



## NON-SCOPUS PUBLICATIONS

1. **Bartumeus F** & P Fernández 2021. Intel·ligència col·lectiva en formigues. *L'Atzavara* 31:59-72. <https://doi.org/10.2436/20.1502.atz31.059>.
2. Garriga J & **Bartumeus F** 2018 bigMap: Big Data Mapping with parallelized t-SNE arXiv:1812.09869v2 [cs.LG] Nov 2019.
3. Eritja R, **Bartumeus F** (2018). Mosquitos invasores a través de la mira del teléfono: contexto, retos y oportunidades. *Boletín SEEA nº3* (Sociedad Española de Entomología Aplicada).
4. Delacour-Estrella S., Collantes F, Ruiz-Arrondo I, Alarcón-Elbal PM, Delgado JA, Eritja R, **Bartumeus F**, Oltra A, Palmer JRB, Lucientes J. 2014. Primera cita de mosquito tigre, *Aedes albopictus* (Diptera, Culicidae), para Andalucía y primera corroboración de los datos de la aplicación Tigatrapp. *Anales de Biología* 36: 93-96. DOI: <http://dx.doi.org/10.6018/analesbio.36.16>.
5. Bee-Path: An experiment on human mobility. 2013. Sagarra O., Gutiérrez-Roig M., Oltra A., Canet M., Palmer J.R.B., **Bartumeus F.**, Perelló J., and Díaz-Guilera A. (Public Technical Report to Barcelona City Mayorship).
6. Palmer J.R.B., Chung C.Y., Espenshade T.J., Li K., Ozgencil N.E., and **Bartumeus F.** 2011. Using Mobile Phones to Gather Spatial Information in Social Science Research: A Pilot Study on Dynamic, Location-Based Surveys. Technical Report for the Center for Information Technology Policy (CITP) at Princeton University (Public technical Report to CITP, Princeton University).
7. de Mendoza G., **Bartumeus F.** and Catalan J. 2003. Los macroinvertebrados de los lagos del Parc Nacional d'Aigüestortes i Estany de Sant Maurici: factores ecológicos y geográficos que subyacen bajo una escala pirenaica. *VI Jornades sobre Recerca al Parc Nacional d'Aigüestortes i Estany de Sant Maurici (Espot, 8-10 Octubre)*. Generalitat de Catalunya, Departament de Medi Ambient i Habitatge. pp. 39-48.
8. **Bartumeus F.** and Catalan J. 2003. Patrons de diversitat en les comunitats pelàgiques de rotífers dels estanys dels Parc Nacional d'Aigüestortes i Estany de Sant Maurici en el context pirinenc. *VI Jornades sobre Recerca al Parc Nacional d'Aigüestortes i Estany de Sant Maurici (Espot, 8-10 Octubre)*. Generalitat de Catalunya, Departament de Medi Ambient i Habitatge. pp. 49-65.

## KNOWLEDGE TRANSFER

1. Several Authors (2022) Oficina de Ciencia y Tecnología del Congreso de los Diputados. Informe C: Inteligencia Artificial y Salud. doi:10.57952/tcsx-b678. <https://oficinac.es/informes-c/ia>
2. **Bartumeus F** & Lloret L (2020) Chap. 1.3. pp 22-26. *Apps de seguiment: llegir a temps para frenar nuevos brotes*. Una visión Global de la pandemia Covid-19: Qué sabemos y qué estamos investigando desde CSIC. Informe elaborado desde la Plataforma Temática Interdisciplinar Salud Global/Global Health del CSIC. <https://pti-saludglobal-covid19.corp.csic.es/informes-cientificos/>

3. Several Authors. (2018) Identificación del mosquito *Aedes japonicus* en Asturias. Evaluación Rápida de Riesgo. Centro de Coordinación de Alertas y Emergencias Sanitarias. Ministerio de Sanidad, Consumo y Bienestar Social (MSCBS).
4. Tyson E, Bowser A., Palmer J, Kapan D, **Bartumeus F**, Brocklehurst M, Pauwels E (2018) Global Mosquito Alert: Building citizen science capacity for surveillance and control of disease-vector mosquitoes. Workshop Report, vol. 2, Wilson Centre.
5. Equipo de Mosquito Alert (2018) Mosquito Alert ofrece herramientas gratuitas de soporte a acciones de seguimiento y control del mosquito tigre. Infoplagas 82.

## NATIONAL AND INTERNATIONAL MEETINGS.

### Conferences, Workshops, and Symposia

- 14-17 Oct 2024** ESOVE, European Society of Vector Ecology. Montpellier, France. Integrating Citizen and Authoritative Surveillance Data in Mosquito Distribution Models. Cerecedo-Iglesias C, Palmer JRB, **Bartumeus F**. Speaker: C. Cerecedo-Iglesias
- 14-17 Oct 2024** ESOVE, European Society of Vector Ecology. Montpellier, France. Tiger mosquito blood-feeding behaviour and possible implications for disease transmission. Lucati F, Caner J, **Bartumeus F**, Ventura M, Palmer JRB. Poster.
- 14-17 Oct 2024** ESOVE, European Society of Vector Ecology. Montpellier, France. On the move: tracking passive dispersal and survival of *Aedes albopictus* in northe-eastern Spain. Blanco-Sierra L, Gardela J, González MI, Escartin S, Busquets N, Palmer J, **Bartumeus F**. Poster.
- 14-17 Oct 2024** ESOVE, European Society of Vector Ecology. Montpellier, France. The spreading of *Aedes albopictus* in Spain: linking human mobility and habitat suitability. Pardo-Araujo M, Eritja R, Alonso D, **Bartumeus F**. Poster.
- 14-17 Oct 2024** ESOVE, European Society of Vector Ecology. Montpellier, France. Optimization of tiger mosquito control in Barcelona. Bellver-Arnau J, Montalvo T, Valsecchi A, **Bartumeus F**. Poster.
- 9-3 Oct 2024** E4Warning Annual Meeting (HE Project). Universitat Pompeu Fabra, Barcelona, Spain.
- 24 Sept 2024**. I Jornada de Enfermedades Transmitidas por Vectores: Virus, Mosquitos, y Garrapatas. PTI Salud Global. Casa de la Ciencia. Sevilla, Spain. Sistemas de alerta basados en Ciencia Ciudadana: retos en la innovación tecnológica para la vigilancia y prevención de mosquitos vectores de enfermedades.
- 3-4 July 2024**. MOBVEC Workshop (HE Project). UC Louvain, Brussels, Belgium.
- 17-20 April 2024**. PAA Population Association of America. Columbus, Ohio Hyatt Regency Columbus, USA. Padilla-Pozo A, Bartumeus F, Montalvo T, Sanpera-Calbet I, Valsecchi A, Palmer JRB. Assessing and Correcting Neighborhood Socioeconomic Spatial Sampling Biases in Citizen Science Mosquito Data. Speaker: A. Padilla-Pozo.

**13-18 April 2024.** WSA, World Summit Awards Global Congress. Puerto Varas, Patagonia, Chile. Mosquito-borne diseases in the era of global change.

**11-13 March 2024.** IDAlert Workshop. Faculty of Mathematics and Informatics. Heidelberg, Germany.

**2 March 2024.** VEO Symposium (H2020 Project). Technical University of Denmark, Lyngby, Denmark.

**5-8 Feb 2024** DSABNS 15th Intl. Conference. Dynamical Systems Applied to Biology and Natural Sciences. Lisbon, Portugal. Larvicidal treatment optimization at a botanical garden. Bellver-Arnau J, Blanco-Sierra L, Escartin S, Mariani S, **Bartumeus F.** Speaker: J Bellver-Arnau

**5-8 Feb 2024** DSABNS. 15th Intl. Conference. Dynamical Systems Applied to Biology and Natural Sciences. Lisbon, Portugal. Colonization dynamics of the invasive vector *Aedes albopictus* in Spain: thermal biology and human mobility. Pardo-Araujo M, **Bartumeus F,** Alonso D. Speaker: M. Pardo-Araujo

**1-2 Feb 2023.** AIM-COST Final Conference, Rome Italy. Results and lessons learned from paneuropean implementation of Mosquito Alert. Speaker: **Bartumeus F.** <https://www.aedescost.eu/sites/default/files/2023-01/AIM-COST%20AC%202023%20PROGRAMME%20per%20copynet.pdf>

**5-8 Feb 2023** DSABNS. 14th Intl. Conference. Dynamical Systems Applied to Biology and Natural Sciences. Bilbao, Spain. Epidemic thresholds and human connectivity. Pardo-Araujo M, García-García D, Alonso D, **Bartumeus F.** Speaker: García-García D

<https://sites.google.com/bcamath.org/dsabns2023/scientific-programme?authuser=0>

**7-9 Feb 2023** PAA Applied Demography Conference, Annapolis, MD, USA. Calibrating networked citizen science for public health. Palmer JRB, Padilla A, **Bartumeus F.** Speaker: JRB Palmer

<https://virtual.oxfordabstracts.com/#/event/5079/program>

**14 Feb 2023** 1st INOVEC Symposium on Research and Innovation for the Control of Vector Emerging Arboviruses. Montpellier, France. Citizen science to investigate and control disease-carrying mosquitoes. Invited Speaker: **Bartumeus F**

**28-29 Feb 2023** DURABLE Kick-off Meeting. Institut Pasteur, Paris, France. Speaker: **Bartumeus F.** <https://www.pasteur.fr/en/research-journal/news/emerging-diseases-durable-european-project-led-institut-pasteur>

**23 Mar 2023** Jornada de presentación del Plan Nacional de Prevención, Vigilancia y Control de las Enfermedades Transmitidas por Vectores. Ministerio de Sanidad, Madrid, Spain. Invited: **Bartumeus F.**

**23-25 Mar 2023** International Conference: Urban spaces and mosquitoes on a changing planet. UPF, Barcelona, Spain. Scientific Commite and Participation in 3 oral presentations: **Bartumeus F.** The spread of *Aedes albopictus* in Spain: linking human mobility and habitat suitability. Pardo-Araujo M, García-García D, Eritja R, Alonso D, Palmer JRB, Bartumeus F. Speaker: Pardo Araujo M. Seasonal variation in longevity and abundance of *Aedes albopictus* in a vegetated and an urban area in Spain. Blanco-Sierra L, Mariani S, Escartin S, Palmer JRB, Bartumeus F. Speaker: Blanco Sierra L. Unveiling tiger mosquito dispersal at urban microscales through genetic and network analyses. Ontiveiros et al. Speaker: Lucati F <https://urbanmosquito.github.io/>

**15-16 May 2023.** XIII Jornadas de Enfermedades Emergentes. FUITB, Col.legi Oficial de Metges, Barcelona, Spain. Ecología de la invasión del mosquito tigre en España. Bartumeus F, Pardo-Araujo M, Cerecedo C, Alonso D, Eritja R, Palmer JRB. Speaker: **Bartumeus F.**

<https://www.uitb.cat/wp-content/uploads/2023/05/XIII-Jornadas-Enf-Emergentes-2023-web.pdf>

**Jun 2023** Workshop GEOHealth CoP (Virtual): Special Edition of the GEO Health Community of Practice: EuroGEO. E4WARNING: Eco-Epidemiological Intelligence for early Warning and response to mosquito-borne disease risk in Endemic and Emergence settings. Keynote Speaker: **Bartumeus F**

<https://www.geohealthcop.org/workshops/2023/6/9/telecon-eurogeo>

**9-21 Jun 2023** Workshop EpiMod-2023: Epidemiological Modelling. Current Challenges. Universitat de Girona, Girona, Spain. Poster: Epidemic thresholds and human mobility. Pardo-Araujo M, García-García D, Alonso D, **Bartumeus F.**

**27-28 Jun 2023** Workshop MOOD: Monitoring Outbreaks for Disease Surveillance in a Data Science context. Helsinki, Finlandia. A citizen-based approach for a pan-european early warning system for mosquito-borne diseases. Richter-Boix A, **Bartumeus F.** Speaker: Richter-Boix A

<https://mood-h2020.eu/mood-scientific-conference-2023/>

**5-8 Sep 2023** XLI Reunión Anual de la Sociedad Española de Epidemiología (SEE) y XVIII Congresso da Associação Portuguesa de Epidemiologia (APE). Porto, Portugal. Modelización de la distribución local de casos importados de malaria y dengue en España. Gómez-Barroso D, García-García D, F. **Bartumeus F,** Fernández Martínez D. Speaker: Gómez-Barroso D.

[https://www.reunionanualsee.org/documentos/Programa\\_Preliminar\\_Epi23.pdf](https://www.reunionanualsee.org/documentos/Programa_Preliminar_Epi23.pdf)

**11-15 Sep 2023** Workshop: Measures and representations of Interactions (MMVW03). Programme: Mathematics of movement: an interdisciplinary approach to mutual challenges in animal ecology and cell biology. Isaac Newton Institute for Mathematical Sciences, Cambridge, UK. Unraveling human-mosquito interactions through citizen science. Poster: Richter-Boix A, Palmer JRB, **Bartumeus F**  
<https://www.newton.ac.uk/event/mmvw03/>

**4-6 Oct 2023** IDAlert Symposium. UPF, Barcelona, Spain. Contribution to 2 presentations: **Bartumeus F.**  
<https://idalertproject.eu/>

**19-20 Oct 2023** 2nd Intl. Conference on One Health. Col.legi Oficial de Metges, Barcelona, Spain. E4WARNING: Eco-Epidemiological Intelligence for early Warning and response to mosquito-borne disease risk in Endemic and Emergence settings. Keynote Speaker: **Bartumeus F** <https://onehealthconference.it/>

**6-10 Nov 2023.** XI International EMCA Conference. Shaping the future of vector control in Europe. Universitat Illes Balears, Palma de Mallorca, Spain. Contribution to 2 oral presentations and 1 poster: **Bartumeus F.** Drivers of the abundance of a local population of *Aedes albopictus* in Catalonia (Spain). Speaker: Laura Blanco-Sierra. Effect of water salinity on immature performance and the lifespan of adult Asian tiger mosquito. Poster: Blanco L et al. Next generation community-based surveillance of mosquitoes: Coupling citizen scientists, experts and machines. Speaker: Eritja R.

[https://www.emca2023.com/files/event/95673/editorFiles/file/Programme\\_XI%20International%20EMCA%20Conference\\_FINAL\\_practical%20information.pdf](https://www.emca2023.com/files/event/95673/editorFiles/file/Programme_XI%20International%20EMCA%20Conference_FINAL_practical%20information.pdf)

**15 Dec 2023** One Health PACT Annual Meeting. Citizen Science for Surveillance. Abourashed A, **Bartumeus F**, Escartin S, Doornekamo L, van Gorp E. Speaker: Ayat Abourashed.

<https://www.onehealthpact.org/news/one-health-pact-annual-meeting-2023/>

**22 Dec 2022** One Health Pact Annual Meeting. Rotterdam, The Netherlands. Promoting One-Health e-learning tools and citizen science at schools. Escartin S, Abourashed A, Peña A, Richter-Boix A, Zwennis W, van Gorp E, de Neeve C, **Bartumeus F**.

**Dec 7-9 2022** EuroGeo Workshop: EO for Health. Athens, Greece. Eco-Epidemiological Intelligence for Early Warning and response to mosquito-borne disease risk in Endemic and Emerging settings. **Bartumeus F**, Richter-Boix A, Hendrickx G. **Invited Speaker:** (Oral) G.Hendrickx

**Oct 31-Nov 4 2022** Geo Week 2022: Global Action for Local Impact. Accra, Ghana. FARSEER. **Invited participant: F. Bartumeus.** (Virtual). <https://www.earthobservations.org/geoweek2022.php?seid=68>

**Oct 27-28 2022** VEO (Versatile Emerging infectious disease Observatory) Arbovirus Workshop. Rotterdam, The Netherlands. **Invited participant: F. Bartumeus.**

**Oct 17-21 2022** Conference on Complex Systems. Palma de Mallorca, Spain. The role of mobility in the initial spread of diseases on random networks. Pardo M, García-García D, Alonso D, **Bartumeus F. Invited speaker** (Oral) M.Pardo.

**Oct 5-8 2022** ECSA Annual Conference (European Citizen-Science Association). Berlin, Germany. Beyond software scale-up of citizen-science apps: the challenge of data reuse and fair acknowledgement of contributions. Juznic-Zonta Z, Eritja R, Palmer JRB, **Bartumeus F. Invited Speaker** (Oral) Juznic-Zonta Z

**Oct 5-6 2022** II Jornadas Científicas PTI+ Salud Global. Valencia, Spain. The many roles of Artificial Intelligence in Mosquito Alert: Automating a citizen-based early warning system for mosquito-borne diseases. Garriga J, Guerrero D, Eritja R, Sanpera I, Richter-Boix A, Palmer JRB, **Bartumeus F. Poster.**

**Oct 5-6 2022** II Jornadas Científicas PTI+ Salud Global. Valencia, Spain. Mosquito alert: developing a citizen-based early warning system for mosquito-borne diseases. Richter-Boix A, Oltra A, Eritja R, Sanpera I, Garriga J, Juznic-Zonta Z, Escobar A, Palmer JRB, **Bartumeus F. Poster.**

**Sep 14 2022** AIM (Aedes Invasive Mosquito) COST AIM-Surveillance Workshop. Palma de Mallorca, Spain (Virtual) Current status: Mosquito Alert. **Invited speaker** (Virtual) F. Bartumeus.

**Sep 1-2 2022** XL Reunión Anual de la Sociedad Española de Epidemiología (SEE) Ciencia ciudadana. La experiencia de la red Mosquito Alert en la Vigilancia de la Salud Pública. San Sebastián, Spain. Gómez Barroso D, Fernández Martínez B, García-García D, **Bartumeus F Invited Speaker** (Oral) D.Gómez

**May 17 2022** VEO (Versatile Emerging infectious disease Observatory) Annual Symposium. Rotterdam, The Netherlands. **Bartumeus F**, Barzon L, Papa A. Work Package 5: Results from Season 2022. **Invited speaker** (Virtual) F. Bartumeus

**May 11-13 2022** 5th International Workshop on *Aedes albopictus*, the Asian tiger mosquito. **Montpellier, France.** Citizen-based surveillance of invasive mosquitoes within multi-sourced modelling. Eritja R, Palmer JRB, Sanpera-Calbet I, **Bartumeus F. Invited speaker** (Oral) R.Eritja.

- Apr 6-9 2022** PAA Annual Meeting (Population Association of America). Atlanta, Georgia (Hybrid). Changing Contact Patterns in Spain During the COVID-19 Pandemic: Evidence From a Large Web-Based Survey Using MRP. Palmer JRB, Ottow R, **Bartumeus F. Invited Speaker** (Oral) JRB Palmer
- 14-15 March 2022** AIM (Aedes Invasive Mosquito) COST AIM-Surveillance Workshop. Palma de Mallorca, Spain (Virtual). AIM CitSci Surveillance: Results and Discussion. Season 2020-2021. **Invited Speaker** (Virtual) **Bartumeus F.**
- Nov 25 2021** XVIII Jornada Anual CREAM-SCB-ICHN. De la Salut dels Ecosistemes a la Salut Global. Institut d'Estudis Catalans, Barcelona, Spain. Invasions i Salut Humana. **Invited Speaker** (Oral) **Bartumeus F.** <https://voluntariatambiental.cat/activitat/xviii-jornada-anual-creaf-scb-ichn-de-la-salut-dels-ecosistemes-a-la-salut-global/>
- 15 Oct 2021** One Health Pact Annual Meeting. Rotterdam, The Netherlands. Mosquito Alert in the Netherlands. **Invited speaker** (Virtual) **F.Bartumeus.**
- 15 August 2021** 10th EMCA Conference: new insights into mosquito and blackfly control. Session 6 - Citizen science and community involvement for mosquito surveillance and control. Citizen science on invasive mosquitoes: challenges and achievements at the European level. R.Eritja and **F.Bartumeus. Invited speaker** (Oral)  
R.Eritja. [https://akademie.ages.at/10th\\_emca\\_conference\\_new\\_insights\\_into\\_mosquito\\_and\\_blackfly\\_control/programm.html](https://akademie.ages.at/10th_emca_conference_new_insights_into_mosquito_and_blackfly_control/programm.html)
- Sep 2-3 2021** 3rd AIM COST Annual Conference. Citizen Science Across Europe: going global while keeping local. Roger Eritja, Alex Richter-Boix, Frederic Bartumeus. **Invited speaker** (Oral) R. Eritja.
- 16 June 2021** International Conference on Dynamics in Systems and Synthetic Biology (DYNS3BIO) Search behaviour in a model organism: a walk on the wild side of diffusion. Roger Lloret-Cabot, Daniel Campos, Will Ryu, Frederic Bartumeus. **Invited speaker** (virtual) F. Bartumeus
- 22-23 March 2021** VEO-Versatile Emerging Infectious Disease Observatory. 2nd Symposium. **Invited speaker** (Virtual) Development of a pan-European mosquito tracking app for citizen scientists F. Bartumeus.
- 29 Oct 2020** I Congreso Virtual de la Sociedad Española de Epidemiología (SEE) y de la Associação Portuguesa de Epidemiologia (APE). Ciencia ciudadana e innovación para la gestión de enfermedades transmitidas por mosquitos. Universidad del País Vasco. **Invited speaker** (Virtual) F. Bartumeus.
- 10 June 2020** X Jornada de Enfermedades Emergentes. *Modelos participativos y de innovación abierta para salud pública: el caso de Mosquito Alert*. Fundación de la Unidad de Investigación en Tuberculosis de Barcelona (FUITB), Barcelona. **Invited speaker** (Virtual) F. Bartumeus
- 4-5 June 2020** VEO (Versatile Emerging infectious disease Observatory) Opening Symposium. Mosquito-borne disease scenarios in Europe. Erasmus MC, The Netherlands. **Invited speaker** (Virtual) F. Bartumeus
- 10-13 February 2020** 2nd AIM-COST Annual Conference and WG meetings. Citizen science for mosquito surveillance. Instituto de Higiene e Medicina Tropical, Lisboa, Portugal. **Invited speaker** F. Bartumeus
- 10-12 October 2019** Grand Challenges Symposium. International Max Planck Research School for Organismal Biology. Sweense, Germany. Topic: "On the benefits of sharing methods across scientific fields." Movement and Behavioural Ecology: Interdisciplinarity on focus. **Invited speaker** F. Bartumeus

- 3-4 October 2019** 1<sup>st</sup> PhD Ecology Symposium, CEAB-CSIC, Blanes, Spain. Organizers: F. Bartumeus, M. Genovart, D. Oro.
- 26-28 August 2019** ASAB Summer Conference. University of Konstanz, Germany. Stochastic motor control of search behaviour in the model organism *C. elegans*. (Lloret-Cabot R, Panlilio M Ryu WS, Garriga J, Campos D, Bartumeus F). Talk by: F Bartumeus.
- 26-28 August 2019** ASAB Summer Conference. University of Konstanz, Germany. The role of memory in foraging efficiency under uncertainty: ant trajectories and beyond. Poster by: Campos D, Cristín J, Méndez V, Bartumeus F, Lloret-Cabot R, Genovart M.
- 4-5 July 2019** Workshop: "Statistical physics meets movement ecology". Bristol University, UK. Stochastic motor control of search behaviour in the model organism *C. elegans*. (Lloret-Cabot R, Panlilio M Ryu WS, Garriga J, Campos D, Bartumeus F). Talk by: F Bartumeus.
- 26 March 2019**. Jornada sobre la innovació en el control de les arbovirosis transmeses per mosquits a Catalunya: sinèrgia entre la salut pública i la recerca. Departament de Salut, Agència de Salut Pública de Catalunya. Barcelona, Spain. Ciència ciutadana I innovació en la gestió de les arbovirosis (F. Bartumeus) <http://salutpublica.gencat.cat/ca/detalls/Article/Jornada-arbovirosi>
- 25-27 March 2019**. AIM COST Workshop (COST ACTION CA17108). Blanes, Spain. Aedes Invasive Mosquitoes: Linking Citizen Science to Epidemiological Models. (Organizers: F.Bartumeus, S. Koenraad, B.Caputo)
- 4-7 February 2019**. 1st Meeting of the Iberian Ecological Society & XIV AEET Meeting. Ecology an integrative science in the Anthropocene. University of Barcelona, Barcelona, Spain. "Multiple invasion events and car mediated transport drive the genetic variability of *Aedes albopictus* in Spain" in the scientific session GS.02: "Biological invasions" Marc Ventura, Delacour S, Palmer JRB, Caner J, Oltra A, Paredes-Esquivel C, Mariani S, Escartin S, Roiz D, Collantes F, Bengoa M, Montalvo T, Delgado JA, Eritja R, Lucientes J, Bartumeus F. Talk by M.Ventura.
- 4-7 February 2019**. 1st Meeting of the Iberian Ecological Society & XIV AEET Meeting. Ecology an integrative science in the Anthropocene. University of Barcelona, Barcelona, Spain. The Movement ecology of seabirds revealed with unsupervised behavioural clustering. Poster by Zajková Z, Reyes-González JM, González-Solís J, Bartumeus F.
- 4-7 February 2019**. 1st Meeting of the Iberian Ecological Society & XIV AEET Meeting. Ecology an integrative science in the Anthropocene. University of Barcelona, Barcelona, Spain. How do seabirds prospect before establishing a new reproductive habitat? Poster by Masó-Puigdellosas A, Bartumeus F, Campos D, Becares J, Arcos JM, Méndez V, Oro D.
- 4-7 February 2019**. 1st Meeting of the Iberian Ecological Society & XIV AEET Meeting. Ecology an integrative science in the Anthropocene. University of Barcelona, Barcelona, Spain. Co-organized, coordinator and moderator of the scientific session TS.17: *Quantitative Behavioural and Movement Ecology*.
- 26-31 November 2018** COST Action CA15212 - Citizen Science to promote creativity, scientific literacy, and innovation throughout Europe. Training School Ettore Majorana Centre for Scientific Culture. Erice, Sicily. Italy. Mosquito Alert: the efficacy and challenges of citizen-science based management of invasive mosquitoes. (**Bartumeus F**)

- 21 November 2018.** Com es pot millorar la qualitat de les dades amb sistemes de validació efectius? (F.Bartumeus). XV Jornada CREAM SCB ICHN. Reptes, idees i solucions per fer ciència ciutadana útil i amb impacte. Institut d'Estudis Catalans, Barcelona, Spain.
- 4-8 June 2018** ASPEN Centre for Physics (Colorado, USA). Workshop: The Physics of Behaviour: Movement, Control and Learning (Organizers: G.Berman, S.Palmer, G.Stephens)
- 6-8 June 2018** 11th Measuring Behavior (Metropolitan University, Manchester) The Movement Ecology of Seabirds revealed with Unsupervised Behavioural Clustering. (Zajková Z, Reyes-González JM, González-Solís J, **Bartumeus F**). Talk by: Z.Zajková
- 16-18 May 2018** Isheid (HIV, Hepatitis and Emerging Infectious Diseases). (Marseille, France) A Platform for the Integrated Control of Arbovirolosis in CATalonia (PICAT): Mosquito Alert 2.0 (**Bartumeus F**, Molina I)
- 14-18 May 2018** ISESSAH-InnovSur (Montpellier, France). Mosquito Alert: three years tracking disease-vector mosquitoes in Spain with the help of citizen science. (**Bartumeus F**, Oltra A, Palmer JRB).
- 23-25 November 2017** First Italian Citizen Science Conference. National Research Council, Rome. *Mosquito Alert: lessons and results from three years of Tiger Mosquito monitoring with participatory science.* (**Bartumeus F**).
- 1-6 October 2017** 7<sup>th</sup> SOVE International Congress. Palma, Mallorca, Spain. (Organizers: Society for Vector Ecology). *Distribution and genetic studies of Aedes albopictus* (Skuse, 1894) in Spain. Delacour S, Collantes F, Bengoa M, Ventura M, Carter J, **Bartumeus F**, and Lucientes J. Talk by: Delacour S.
- 27-30 September 2017** 17<sup>th</sup> National Congress of the Spanish Society of Neuroscience. Alicante, Spain. Symposium 12: Shared principles of animal behavior across species. *Searching behavior in cognitive systems: linking theory to empirical data.* (**Bartumeus F**).
- 18-22 September 2017** ECML PKDD 2017. Skopje, Macedonia. Montenegro. A Bayesian Framework for Reputation in Citizen Science Poster by: Garriga J, Piera J, **Bartumeus F**. (Talk by: J.Garriga)
- 10-13 September 2017** Current status and future directions of Lévy walk research. Wiston House, Sussex, UK. (Organizers: Stefano Focardi, Andy Reynolds. Supported by The Company of Biologists). *Behavioural ecology and Lévy research: should we stay or should we go?* (**Bartumeus F**)
- 6-8 September 2017** XVI Congreso SESPAS Ciencia para la acción. UPF, Campus Ciutadella, Barcelona, Spain. (Organizer: Sociedad Española de Salud Pública y Administración Sanitaria). *Gestión y ciencia colaborativa para el desarrollo de una plataforma integral de control del mosquito tigre* (M Torres and **F Bartumeus**) Talk by: Marina Torres.
- 21 November 2017** *Invasions Biològiques: punt de trobada entre recerca i gestió.* XIV Jornada CREAM-SCB-ICHN. Organizers: CREAM, Societat Catalana de Biologia, Institució Catalana d'Història Natural). ICHN, Barcelona, Spain. **Bartumeus F**, member at the discussion table.
- 21-25 August 2017** *Movement: New Sensors, New Data, New Challenges.* (Organizers: Buchin K, Demsar U, Safi K, Weibel R). Lorentz Centre, The Netherlands. Poster, presented by Z.Zajková): Going beyond wet or dry: behavioural classification from temporal correlation of high-resolution geolocation-immersion data (Zajková Z, Reyes-González JM, González-Solís J, **Bartumeus F**)



- 19-23 June 2017** 4th International Conference on Fish Telemetry (ICFT). Cairns, Australia. *Fish 3D space use computation from passive acoustic telemetry data*. (Aspillaga E, Safi K, Hereu B, and **Bartumeus F**) Talk by: Eneko Aspillaga
- 21-23 June 2017** XIV Congreso de la Sociedad Española de Sanidad Ambiental (SESA). Zaragoza, Spain. *Gestión y Ciencia Colaborativa para el desarrollo de una plataforma integral de control del mosquito tigre*. (del Acebo X and **Bartumeus F**) Talk by: Xavier del Acebo
- 4-9 June 2017** 11th International Conference and Workshop on Lobster Biology and management. Portland, Maine, USA. *Hibernation of the slipper lobster *Scyllarides latus* in the Western Mediterranean*. (Díaz D, Hereu B, Aspillaga E, Muñoz A, **Bartumeus F**) Talk by: David Díaz.
- 1-2 June 2017** 11as Jornadas de SIG Libre. Universitat de Girona, Girona, Spain. *The role of geospatial technologies in disease vector surveillance aided by citizen science*. (**Bartumeus F**, Oltra A, Palmer JRB)
- 23-24 May 2017** B-DEBATE: Zika virus and other mosquito-borne viruses. Science for preparedness and response in the Mediterranean region. Cosmocaixa, Barcelona, Spain. *The Global Mosquito Alert Initiative. Are we ready?* (**Bartumeus F**)
- 16-20 May 2017**. Citizen Science Association (CSA). 2017 Annual Meeting. Twin Cities, Minnesota, USA. *Bringing people's (sensitive) data back to the people: navigating privacy, ownership, accessibility, and fitness-for-use when making volunteered geographic information public in the context of public health emergency*. Talk by: John RB Palmer
- 29-30 April 2017**. Population Association of America (PAA). 2017 Annual Meeting. Chicago, Illinois, USA. *Hitchhiking disease vectors: evaluating the role of cars in tiger mosquito dispersal*. Talk by: John RB Palmer.
- 3-4 April 2017** Workshop: Harnessing Citizen Science to Tackle Mosquito-Borne Diseases: Towards a locally based, yet Global Platform. United Nations Environmental House, Geneva. Invited Speaker. Organizers: European Citizen Science Association (ECSA), Woodrow Wilson International Center for Scholars, United Nations Environmental Programme (UNEP).
- 12-16 March 2017**. VIIIth EMCA Conference: Mosquito Control in a Changing Environment., Becici, Montenegro. *Mosquito Alert: Closing the loop between citizen scientists and mosquito control*. (Torres M, Eritja R, Oltra A, Palmer JRB, Piera J, **Bartumeus F**) Talk by: M.Torres
- 28 December 2016** Workshop: Taller de macrofotografia de mosquits i ciència ciutadana. CosmoCaixa, Barcelona, Spain. (by **Mosquito Alert Team**).
- 5-8 December 2016** Workshop: Quantitative approaches for analyzing and modelling individual and collective behaviour. Centre for Integrative Biology (CBI), Toulouse, France. Invited Talk: *Quantitative behavioural landscapes: a novel approach to the study of movement ecology* (**Bartumeus F**)
- 26 October 2016** *Predictive Analytics*. Smarter Crowdsourcing Zika - Online Conference. Organizers: Governance Lab (NYU, USA) & Inter-American Development Bank. Invited Participant.
- 24 October 2016** Taller Enfermedades Emergentes, Agencia de Salud Pública de Barcelona. Barcelona, Spain. Invited Talk: *Citizen Science Against Globalized Mosquito-Borne Diseases* (**Bartumeus F**)

- 14 October 2016** X Reunión SEMTSI (Sociedad Española de Medicina Tropical y Salud Internacional). Barcelona, Spain. “La innovación en la medicina tropical: acercando el diagnóstico a las poblaciones que lo necesitan”. Invited Talk: *Citizen Science Against Globalized Mosquito-Borne Diseases* (**Bartumeus F**)
- 9-12 October 2016** Ecobalt Conference 2016 Tartu, Estonia. Talk by: **JRB Palmer**. Mosquito Alert: Combining Mobile Positioning Data with Citizen Scientists' Observations to Better Track Disease-Vector Mosquitoes.
- 3-7 October 2016** E-SOVE Intl. Conference. Lisbon, Portugal. Invited Talk: *Citizen Science Against Globalized Mosquito-Borne Diseases* (**Bartumeus F**).
- 3-7 October 2016** E-SOVE Intl. Conference. Lisbon, Portugal. Talk by **R.Eritja**: *The hitch-hiking tiger: first experimental study on the passive transportation of Aedes albopictus by cars*.
- 28 September 2016** Information Collection/Data Governance. Smarter Crowdsourcing Zika-Online Conference. Organizers: Governance Lab (NYU, USA) & Inter-American Development Bank. Invited Participant.
- 19-25 September 2016** ECML PKDD 2016. Riva del Garda, Italy. Machine Learning Assists the Classification of Reports by Citizens on Disease-Carrying Mosquitoes (Rodriguez A, Gavaldà R, **Bartumeus F**) Talk by: A.Rodriguez
- 19–23 September 2016** IAPC6: 6th International Albatross and Petrel Conference. Universitat de Barcelona, Barcelona. Poster by Arcos JM, Bécares J, Sarzo B, Rodríguez B, García D, Garriga J, **Bartumeus F**. *Does fishing activity influence foraging patterns of Scopoli's shearwaters?*
- 19–23 September 2016** IAPC6: 6th International Albatross and Petrel Conference. Universitat de Barcelona, Barcelona. Workshop on Data Challenge on Behavioural Annotation (Organizer and Master Class by **Bartumeus F**)
- 7 September 2016** MEP-Briefing (Members of the EU Parliament Briefing) Talk by **JRB Palmer**. *EU citizens against globalised mosquito-borne diseases*
- 22 June 2016** Workshop: *Avaluació del risc d'introducció del virus de la Zika a Catalunya*. Agència de Salut Pública de Catalunya Barcelona i ISGlobal. Talk by **JRB Palmer** *Mosquito Alert: Citizens against globalised mosquito-borne diseases*
- 30 May 2016** Interdisciplinary Meeting: Motivations for motion: lessons and open questions from macro to micro scale. IMéRA, Institut d'études avancées d'Aix-Marseille, Marseille, France. Talk: *Motivations for motion: theoretical search principles* (**Bartumeus F**)
- 19-21 May 2016** First International ECSA Conference. Berlin, Germany. Talk by **J.Piera**: *Engaging citizens for social good: Drawing on behavioural models from social influence technologies to improve disease vector reporting by citizen scientists*.
- 19-21 May 2016** First International ECSA Conference. Berlin, Germany. Poster by Palmer JRB, Oltra A, **Bartumeus F**. *Mosquito Alert: citizen science vs globalized mosquito-borne diseases*.
- 14 Abril 2016** Jornada Técnica sobre vigilancia y control del mosquito tigre “*Aedes albopictus*”. Murcia, Spain. Invited Talk: Mosquito Alert: Proyecto científico de información y concienciación al ciudadano. (**Bartumeus F**)
- 2-6 April 2016** Population Association of America (PAA) 2016 Annual Meeting. Washington, DC, USA. Poster by Palmer JRB, **Bartumeus F**. *Brownian Bridge Activity Spaces*.

- 2-6 April 2016** Population Association of America (PAA) 2016 Annual Meeting. Washinton DC, USA. Talk by **Palmer JRB**: *Preparing for Chikungunya: Using ovitraps, citizen science, and human mobility data to improve epidemiological models in Northeastern Spain*
- 2-6 November 2015**: ASG-Lecture Series. Advanced Study Group Award: Statistical Physics and Anomalous Dynamics of Foraging. Max Planck Institute for the Physics of Complex Systems. Dresden, Germany. Invited Talk: Stochastic foundations of movement ecology III: Mean First Passage Times and the exploration-exploitation search tradeoff (**Bartumeus F.**)
- 28-30 October 2015**: European Citizens Science General Assembly. Barcelona, Spain. Poster: Atrapeltigre: enlisting citizens-scientists in the war on tiger mosquitoes (Palmer JRB, Oltra A, **Bartumeus F**)
- 6-13 September 2015**: ASG-Focus week. Advanced Study Group Award: Statistical Physics and Anomalous Dynamics of Foraging. Max Planck Institute for the Physics of Complex Systems. Dresden, Germany. Invited Talk: Random search principles in foraging ecology (Mendez V, Campos D, **Bartumeus F.**)
- 16 April 2015**: 2<sup>nd</sup> Barcelona Citizens Science Day Invited Talk: Enlisting citizens-scientists in the war on tiger mosquitoes (Palmer JRB, Oltra A, **Bartumeus F**)
- 23-26 February 2015**: 7<sup>th</sup> European Mosquito Control Association Workshop (EMCA 2015). Valencia, Spain. Session 4: GIS tools, modelling techniques and informatic applications for mosquito control and surveillance. Invited Talk: Enlisting citizens-scientists in the war on tiger mosquitoes: a mobile-phone-based early warning system and surveillance tool. (Palmer JRB, Oltra A, **Bartumeus F**)
- 22-27 February 2015**: Aquatic Sciences Meeting (ASLO). Granada, Spain. Ordinary and extraordinary movement behaviour of seabreams in a MPA: Implications to management. Aspillaga E, **Bartumeus F**, García-Rubies A, López-Sanz À, Díaz D, Linares C, Starr RM, Hereu B. Talk by E Aspillaga.
- 8-12 December 2014**: Spatio-temporal Dynamics in Ecology. Lorentz Center, Leiden, The Netherlands. Invited Talk: Uncertainty and search modes in foraging ecology. Poster: Search mode dynamics in *C.elegans*. (Lloret R, Padilla N, Panlilio M, Nemenman I, Ryu W, **Bartumeus F**)  
<http://www.lorentzcenter.nl/lc/web/2014/663/info.php3?wsid=663&venue=Oort>
- 8-13 November 2014**. Flies, worms and robots: combining perspectives on minibrains and behaviour. <http://minibrains.esf.org/>. Search mode dynamics in *C.elegans*. Poster: Lloret R, Padilla N, Panlilio M, Nemenman I, Ryu W, **Bartumeus F**
- 14-17 September 2014**. **Keynote speaker**. How search theory can be helpful to optimal foraging research. Movement Ecology. NIOZ Workshop. Schiermonnikoog, The Netherlands.
- 11 June 2014**. Barcelona Citizens Science Day. Invited speaker: Atrapeltigre.com: Design and implementation of a citizens-based alert and monitoring system for the Asian Tiger Mosquito (*Aedes albopictus*) in Spain. El Born Centre Cultural & Museu Picasso. Barcelona.
- 5-7 May 2014**. Symposium on Animal Movement and the Environment. <http://amovee2014.com/venue/>. Invited Talk: Multimodal Search Behaviour in a Model Organism. (Panlilio M, Ryu W, Garriga J, **Bartumeus F**)
- 3-7 March 2014**. The American Physical Society (APS) Meeting. Denver, Colorado. The dynamics of the thermal memory of *C. elegans* (Ryu W, Palanski K, **Bartumeus F**, Nemenman I)  
<http://meetings.aps.org/Meeting/MAR14/Session/W10>

- 3-7 March 2014.** The American Physical Society (APS) Meeting. Denver, Colorado. Physics of *C. elegans* search. (Panlilio M, **Bartumeus F**, Ryu W) <http://meetings.aps.org/Meeting/MAR14/Session/W10>
- 6-9 July 2014.** 14<sup>th</sup> Human Frontier Science Program Awardees Meeting. Lugano, Italy Measuring and modeling the dynamics of the thermal memory of *C.elegans*. Nemenman I., Palanski K., **Bartumeus F.**, Ryu W.S. (Poster)
- 4-9 August 2013.** ESA Annual Meeting. Minneapolis, Minnesota, USA. Self-organized patchiness in malaria. Alonso D, **Bartumeus F**. and Pascual M. (Poster) <http://f1000.com/posters/browse/summary/1094151>
- 15-19 July 2013.** X1th SCAR Biology Symposium Life in Antarctica Boundaries and Gradients in a Changing Environment. Barcelona Spain. Energetic patterns of free-ranging animals in the open ocean. Louzao M, Wiegand T, **Bartumeus F**, Weimerskirch H (Talk by: **Maite Louzao**).
- 7-10 July 2013.** 13<sup>th</sup> Human Frontier Science Program Awardees Meeting. Strasbourg (Alsace, France). The search ecology of *Caenorabdhitis elegans*. Salvador L, **Bartumeus F**, Nemenman I, Levin SA, Ryu WS. (Poster)
- 7-10 July 2013.** 13<sup>th</sup> Human Frontier Science Program Awardees Meeting. Strasbourg (Alsace, France). Multiscale dynamics of thermal memory in *C.elegans*. Palanski K., Ryu WS, **Bartumeus F**, Nemenman I. (Poster)
- 5-6 February 2013.** Netherlands Annual Ecology Meeting 2013 (NERN-NWO). Talk by J. van de Koppel. Darwin or Einstein: Who sets the scene for movement ecology? de Jager M, **Bartumeus F**, Kölzsch A, Hengeveld G, Weissing F, Nolet BA, Naguib M, and Herman PMJ.
- 3-4 October 2012.** Conferencia ESRI España 2012, Madrid, España. Talk by **A. Oltra**. Aplicación de los SIG análisis del movimiento animal en placas de Petri. (Oltra A., Salvador L, Ryu WS, **Bartumeus F**).
- 11-14 September 2012.** SIEBM XVI, Simposio Ibérico de Estudios Biología Marina. Donostia, San Sebastian, España. Talk by **E. Aspilaga**. Spatial and temporal movement patterns of *Dentex dentex* (L., 1758) in the Marine Reserve of the Medes Islands (NW.Med.). (Aspillaga E, **Bartumeus F**, Díaz D, Linares C, López-Sanz A., Starr RM, Hereu B).
- 5-10 August 2012.** ESA Annual Meeting, Portland, Oregon, USA. Talk by **A. Kolszch**. Mud snails move with fat tails. Experimental evidence for intrinsic Lévy signatures (Kolszch A, Alzate A, **Bartumeus F**, van de Koppel J).
- 1-4 July 2012.** 12<sup>th</sup> HFSP Awardees Meeting. Daegu, Korea. Talk by **W. Ryu**. Dynamics of *C.elegans* stochastic searching (Salvador L, Ryu WS, **Bartumeus F**)
- 28 May-1 June 2012.** Conference on Search and Stochastic Phenomena in Complex Physical and Biological Systems. IFISC (CSIC-UIB), Palma de Mallorca, Spain. detection Poster by Campos D, Mendez V., **Bartumeus F**. *The emergence and strength of intermittence under speed-selective target*
- 26-28 October 2011.** ESRI European User Conference, Madrid. Poster by Oltra A. and **Bartumeus F**. *Invasion of the Asian Tiger Mosquito in Catalonia (Spain): Analysis of environmental risk factors supported by GIS techniques.*
- 19-21 September 2011.** Mathematical and Theoretical Ecology: Linking models with ecological processes. Essex University, Colchester, UK. Talk by **Campos D.**: *The emergence and strength of intermittence under speed-selective target detection.*

- 19-21 September 2011.** Mathematical and Theoretical Ecology: Linking models with ecological processes. Essex University, Colchester, UK. Talk by **Salvador L.**: *Complexity of C.elegans searching strategies*.
- 12-16 September 2011.** Workshop on Animal Movement: Linking Individual Movement Data and Models to Population Processes. The Observatory, St. Andrews University, Saint Andrews, Scotland. Talk by **Salvador L.** *Behavioural intermittency of C.elegans*.
- 27 June-1 Jul 2011.** A data challenge based on GPS tracking of lesser black-backed gulls (*Larus fuscus*). Amsterdam. **Invited Talk** by **Garriga J.**: A web tool (beta version) for the visual validation of path segmentation algorithms.
- 5-8 June 2011.** Human Frontier Science Program: 11th HFSP Awardees Meeting. Montreal, Canada. **Poster** by Salvador L, **Bartumeus F**, Nemenman I, and Ryu W. *Adaptive behaviour of C.elegans in complex sensory environments*.
- 2 December 2010.** Mini-symposium: Long distance dispersal (LDD): perspectives and new directions. Centro de Investigación Forestal (CIFOR) e Instituto Nacional de Investigación y Tecnología agraria y alimentaria (INIA). **Invited Talk:** *LDD: Seed curves, kurtosis, and anomalous diffusion*.
- 1-3 September 2010.** Models in Population Dynamics and Ecology (MPDE): Animal movement, dispersal and spatial ecology (Leicester, UK). **Invited Talk:** *Search research: optimizing random encounter success in heterogeneous landscapes*.
- 26-28 April 2010.** Movement Ecology Mini-Symposia, Heteren, The Netherlands. Organizers: Movement Ecology Group at NIOO-KNAW. **Keynote speaker:** *Movement Ecology: a cross-disciplinary way forward*.
- 19-23 September 2009.** Global Waterbird Tracking Workshop. Lake Constance, Kloster Hegne. Organizers: Max Planck Institute for Ornithology and MoveBank. **Invited participant**.
- 23-25 July 2009.** Workshop on animal movement and search strategies: from empirical data to modeling. Bristol Centre for Complexity Sciences and University of Bristol, UK. **Co-organizer and invited speaker. Title:** *Optimal search behavior and classic foraging theory*.
- 17-20 February 2009.** Global Raptor Migration Workshop. Hawk Mountain Sanctuary, PA ,USA. Organizers: Acopian Center for Conservation Science and MoveBank. **Invited participant**.
- 5-6 September 2008:** International Balzan Prize Symposium on Population Biology and Evolution. **Poster:** *Stochastic foraging strategies of C.elegans*. L. Salvador, F.Bartumeus, and W. Ryu.
- 3-28 March 2008.** IAS-ISF Research Workshop. Modeling anomalous diffusion and relaxation: from single molecules to the flight of albatross. Institute for Advanced Studies, the Hebrew University of Jerusalem, Israel. Organizers: Prof. Ralf Metzler, Dr. Iddo Eliazar and Dr. Eli Barkai. **Invited speaker. Title:** *Biological insights on anomalous diffusion: linking animal behavior to statistical patterns of search*. **Poster:** *Detecting anomalous diffusion in animal movement*. L. Giuggioli, **F. Bartumeus**, and S. Levin.
- 12-13 December 2007. DARPA-FunBio.** Attending the annual meeting on the Program on Fundamental Laws of Biology by the Defense Science Office of USA. Coronado Island CA, USA.
- 24-28 September 2007.** BIOCAMP2007. Collective dynamics: topics on competition and cooperation in the biosciences. Vietri Sur Mare, Italy. Organizers: Luicci M. Ricciardi. Dipartimento di Matematica e Applicazioni, Università di Napoli Federico II. **Invited speaker. Title:** *Chance and necessity: evolutionary insights in animal search strategies*.

- 5-10 August 2007.** Ecological Society of America (ESA) International Meeting. San Jose, California. USA.  
**Invited speaker. Title:** *Evolutionary insights for a statistical mechanics in movement ecology.*
- 4-6 December 2006.** Active motion and Swarming. Wissenschaftsstandort Berlin-Adlershof. Organizers: Bernd Blasius, Udo Erdmann, Lutz Schimansky-Geier. **Invited speaker. Title:** *Lévy walks as adaptive search strategies.*
- October 28 - November 1 2006.** International Conference on Marine Genomics-Session Environmental Genomics. Sorrento (Italy). Poster: *Scale-dependent patterns in prokaryotic genomes revealed by statistic and genomic analyses along nucleotide correlations.* (García JA, **Bartumeus F**, Roche D, Giraldo J, Stanley HE, Casamayor EO).
- 2-7 July 2006.** XIII Congreso de la Asociación Española de Limnología. Universidad de Barcelona, Barcelona. Oral Communications: *Niche segregation factors in an assemblage of pelagic rotifers of a deep high-mountain lake (Redon, Pyrenees).*
- 16-18 November 2005.** Congreso-Homenaje a R. Margalef. La unidad de la diversidad. Museo de la Ciencia de Barcelona, Barcelona. Oral communication made by J.J.Camarero: *La detección de fronteras mediante espectros de diversidad: ejemplos con patrones de plantas vasculares a lo largo de ecotonos del límite del bosque en los Pirineos.* (Camarero JJ, **Bartumeus F** and Gutierrez E).
- 23-28 October 2005.** IX Latin American Workshop in Non Linear Phenomena. San Carlos de Bariloche. (Argentina). Poster: *Animal search strategies: a quantitative random walk analysis.* (**Bartumeus F**, da Luz MGE., Viswanathan GM, and Catalan J).
- 19-24 June 2005:** ASLO Summer meeting. Oral Communication: *Levy walk strategies in planktonic interactions: Optimal searches in a jungle of randomness.*
- 8-10 October 2003.** VI Meeting on research in the Aiguestortes and Estany de Sant Maurici National Park. Boi (Spain). Oral Communication: *Diversity patterns in lake rotifera pelagic communities in the Aiguestortes and Estany de Sant Maurici National Park within a Pyrenean context.*
- 17-22 September 2001.** 36th EMBS: European Marine Biology Symposium. A Marine Odyssey into the 21st Century. Menorca, Spain. Poster: *Foraging Movement Analysis of a Phagotrophic Plankter under different Turbulence and Prey Density Conditions.* (**Bartumeus F**, Pueyo S, Catalan J, and Peters F).
- 16-20 October 2000.** IUPAP Internacional Conference: New trends in Fractal Aspects of Complex Systems" (FACS 2000). Maceió (Brasil). Oral communication: *Self-organized spatial structures in a ratio-dependent predator-prey model.* (**Bartumeus F**, Alonso D, Catalan J).
- September 2000.** Symposium High Mountain Lakes and Streams: Indicators of a Changing World. Innsbruck (Austria). Oral communication: *Mutual interference between predators may give raise to Turing spatial patterns.* (Alonso D, **Bartumeus F**).

### Invited Seminars

1. **2 Oct 2024** Jornada de Recerca Aplicada al Parc Natural dels Aiguamolls de l'Empordà (PNAE). Castelló d'Empuries, PNAE, Spain. Ecologia dels mosquits i risc de transmissió de malalties al Parc Natural dels Aiguamolls de l'Empordà

2. **6 June 2024.** XI Jornada Complexitat.cat. Campus UOC, Barcelona, Spain. Behavioural ecology through the lens of complexity.
3. **3 April 2024 EcoCafès UB.** Ecology, novel technologies, and mosquito-borne diseases: essential linkages. Department of Ecology. Universitat de Barcelona, Spain.
4. **21-22 Sep 2023** CaixaResearch Health Meeting: Open to the future of health research. Fundació Bancaria la Caixa. Cap Roig, Girona, Spain. Participation in a debate: **Bartumeus F.** <https://caixaresearch.org/es/caixaresearch-meeting-health-2023-programme>
5. **21 Jun 2023** Debates CaixaResearch. Enfermedades infecciosas transmitidas por mosquitos: ¿cómo podemos prevenir posibles brotes en España?. Speakers: Bartumeus F and Figuerola J <https://caixaresearch.org/es/debates-caixaresearch-enfermedades-infecciosas-mosquitos>
6. **6 Jun 2023** PTI+ SALUD GLOBAL, CSIC. Virtual Webinar: Monográfico Enfermedades Infecciosas Transmitidas por Vectores. Vigilancia de mosquitos transmisores de enfermedades: una aproximación Big Data. <https://pti-saludglobal-covid19.corp.csic.es/>
7. **22 Feb 2023** III Biennial Ciutat i Ciència: Dia de la Ciència Ciutadana. La ciència ciutadana passa a l'acció. Participació en Taula Rodona. <https://www.biennialciutatciencia.barcelona/ca>
8. **13 Dec 2022** Search and Foraging: Model Organisms and Statistical Physics. Complex Systems Seminars. School of Mathematical Sciences. Queen Mary University of London.
9. **Jun 13-14 2022** Jornadas de Cultura Científica y Ciencia Ciudadana del CSIC. Madrid, Spain. Round Table: Bartumeus F.
10. **17 Nov 2021** Pandemics: overcoming covid-19 and preparing for the future. Organizers: BioCat and “la Caixa” Foundation. (Virtual). Participation in the Pitches Session. <https://event.meetmaps.com/caixaresearchconference/en/landing>
11. **7 Octubre 2021** *Les formigues com a model de complexitat: unint teoria i experimentació. Cicle Contemporània i Ciència: Un món complex.* Càtedra Lluís Santaló d'Aplicacions de la Matemàtica, Universitat de Girona. Casa de la Cultura, Girona, Spain. <https://www.udg.edu/ca/udg/detall-activitats/eventid/17006>
12. **13 June 2021** Biennial Ciutat i Ciència, Barcelona. Computació contra el canvi climàtic. CCCB, Barcelona. Participants: Asun Lera St. Clair, Francisco Doblas-Reyes, Frederic Bartumeus. Moderador: José Ramón Calvo Fernández. <https://www.biennialciutatciencia.barcelona/ca/programa/computacio-contra-el-canvi-climatic>
13. **9 June 2021** Biennial Ciutat i Ciència, Barcelona. Vespres de recerca - Emergència climàtica i models productius. Centre Cívic Vil·la Urània, Barcelona. Participants: Carme Barba, Estanislao Pujades, Marta Domènech, Mariona Ferrandiz, Marc Torrell, Frederic Bartumeus, María Jesús. Moderadora: Elisa Rodríguez Lucas. <https://www.biennialciutatciencia.barcelona/ca/programa/vespres-de-recerca-emergencia-climatica-i-models-productius>
14. **31 March 2021** WHO Community-centred approaches to health emergencies: progress, gaps and research priorities. Session: *Early Disease Detection*. Participants: Amrish Bajioe, Gladys Kalema-Zikusoka,

Frederic Bartumeus, Pierre Echaubard. Moderator: Arnold Bosman. (Virtual)  
[https://cdn.who.int/media/docs/default-source/blue-print/ad-hoc-consultation\\_community-centred-approaches\\_summaryv1.3\\_final.pdf?sfvrsn=c64b82f9\\_5&download=true](https://cdn.who.int/media/docs/default-source/blue-print/ad-hoc-consultation_community-centred-approaches_summaryv1.3_final.pdf?sfvrsn=c64b82f9_5&download=true)

15. **17 March 2021** CosmoACCIÓN *No es sólo un cambio en el clima*. Fundación Forum Ambiental. CosmoCaixa, Barcelona. Sesión *Talents por el Clima*. [https://cosmoaixa.org/es/p/cosmoaccion-no-es-solo-un-cambio-en-el-clima\\_c12655949](https://cosmoaixa.org/es/p/cosmoaccion-no-es-solo-un-cambio-en-el-clima_c12655949)
16. **13 Oct 2020** Intel·ligència col·lectiva en formigues. (F.Bartumeus). Cicle 2020: "...i els artròpodes dominarem la Terra". Departament de Cultura, Ajuntament de Mataró. Biblioteca Pompeu Fabra, Mataró, Spain. <http://www.dslc-ichn.cat/activitats/seminaris/seminari-2020/>
17. **10 Jun 2020** LES VEUS CIENTÍFIQUES: La traçabilitat de la pandèmia amb les dades, possibilitats i riscos. (Frederic Bartumeus i Karma Peiró). Cicles Cafès Científics. Associació Cultural Casa Orlandai, Barcelona, Spain. <https://casaorlandai.cat/activitat/cafes-cientifics-la-tracabilitat-de-la-pandemia-amb-les-dades-possibilitats-i-riscos/>
18. **29 Oct 2019**. R. Margalef Tribute at Museu de Ciències Naturals de Barcelona, Barcelona, Spain. Participation in a debate: La desigualtat humana com a principal problema ecològic?
19. **21 May 2019**. F. Bartumeus. Ciència ciutadana i innovació en la gestió de les arbovirosis. IDIAP Jordi Gol, Barcelona, Spain.
20. **13 May 2019**. R. Margalef Tribute at Reial Acadèmia de Ciències i Arts de Barcelona (RACAB), Teatre Poliorama, Barcelona, Spain. Talk: Ramon Margalef: Dual thinking in Ecological Theory (F. Bartumeus).
21. **9 November 2018**. El paper de la ciència en l'era de la postveritat i el "Big Data" (F.Bartumeus). Xerrada Setmana de la Ciència. Biblioteca Comarcal de Blanes, Girona, Spain.
22. **1-2 March 2018**. Movement ecology: from cells to humans, from fundamental principles to application" Institut de Biologia Evolutiva (IBE, Sant Feliu de Guixols retreat) (F.Bartumeus)
23. **14 November 2017** Debats ICREA-CCCB. Planeta 2050: Nou clima, noves malalties? (F Bartumeus and X Rodó)  
<http://www.cccb.org/ca/activitats/fitxa/nou-clima-noves-malalties/227558>
24. **19 October 2017** Mosquito Alert. Seminaris CEAB. CEAB-CSIC, Blanes, Spain.
25. **18 October 2017** Mosquito Alert. Cafè Científic. Casa Orlandai, Sarrià, Barcelona Spain.
26. **30 May 2017** Mosquito Alert. Barcelona Cicle del Aigua S.A. Barcelona, Spain.
27. **27-28 May 2017** Festa de la Ciència Ciutadana, Barcelona. Taller/Workshop Mosquito Alert (Bartumeus F, Marina T, Escartin S)
28. **25 May 2017** Taller de dades de ciència ciutadana: Mosquito Alert i Xarxa d'Observadors Meteorològics. Dia de la Ciència Ciutadana. Museu Blau, Barcelona. (Bartumeus F, Marina T, del Amo X., Ripoll R)
29. **15 May 2017** Globalització i Mobilitat Humana: factors de risc en la transmissió de malalties per mosquits. Dilluns de Ciència al CSIC. ICHN, Barcelona, Spain.
30. **21 April 2017**. Harnessing Citizen Science to Tackle Mosquito-Borne Diseases: Towards a locally based, yet Global Platform. Hospital General de la Vall d'Hebron. Institut de Recerca.



31. **8 June 2015.** *Atrapa el Tigre.com*. Anual Meeting of the Comissió Interinstitucional per a la Prevenció i Control del Mosquit Tigre a Catalunya. Agència de Salut Pública de Catalunya, Generalitat de Catalunya, Barcelona, Spain.
32. **20 May 2015.** *The Movement Ecology Laboratory*. Institut de Biologia Evolutiva (IBE), Barcelona, Spain.
33. **4 April 2014.** *Search behaviour. Optimal Foraging Revisited*. Research Center on Animal Cognition. CNRS - UPS Research Institute n°5169. University of Toulouse III, France.
34. **14 February 2014.** *Invited Movement Ecology*. Departament d'Ecologia. Universitat de Barcelona. Spain.
35. **28 January 2014.** *Movement Ecology*. Centre de Recerca i Estudis Forestals. Universitat Autònoma de Barcelona. Spain.
36. **15 May 2013.** *Caçant el Mosquit Tigre*. Cicle Visions de la Ciència: Ciutadans+Investigadors=Ciència. Bibliotèques de Barcelona. Biblioteca Vilapicina i la Torre Llobeta, Barcelona, Spain.
37. **30 April 2013.** *Estratègies de cerca: Com trobar allò que busques?* Centre Salesià Sant Josep, Barcelona, Spain.
38. **30 October 2012.** *La ciència de les estratègies de cerca: Com trobar allò que busques?* Aula Blanes Biblioteca Comarcal de Blanes. Blanes, Spain. (<http://www.aulablanes.cat/>).
39. **20 June 2012.** Max Planck Institute for Ornithology. Radolfzell, Germany. *Behavioural modes: from trajectory analysis to movement ecology*.
40. **13 April 2012.** Departament d'Ecologia. Universitat de Barcelona. Barcelona, Spain. Department Research Seminars: *Random animal motility: the use of model organisms to study stochastic search strategies*.
41. **19 March 2012.** School of Biological Sciences. Bristol University, Bristol UK. Department Research Seminars: *Random animal motility: the use of model organisms to study stochastic search strategies*.
42. **16 June 2010.** Institute of Evolutionary Biology (CSIC-UPF). Barcelona, Spain. *Anomalous diffusion and stochastic search strategies in animal movement: an evolutionary perspective*.
43. **15 June 2010.** Department of Physics, Complex Systems Group, University of Barcelona, Barcelona, Spain. *Anomalous diffusion and stochastic search strategies in animal movement: an evolutionary perspective*.
44. **8-9 July 2009.** Estación Biológica de Doñana, CSIC, Sevilla, Spain. *Statistical patterns of animal movement and dispersal: a mechanistic and evolutionary view*.
45. **17-19 November 2008.** Department of Ecology and Evolutionary Biology. Cornell University, NY, USA, and Laboratory of Ornithology (David Winkler). *Fisheries discards distort seabirds search patterns*.
46. **22 February 2007.** Department of Civil and Environmental Engineering. Massachusetts Institute of Technology (MIT, Boston, MA). Environmental Microfluidics Group (Roman Stocker). *Lévy walks as adaptive search strategies*.
47. **14 April 2003:** Institut Mediterrani d'Estudis Avançats (IMEDEA, CSIC-UIB). Mallorca, Esporles (Spain). *Encounter rates: The Jungle of Randomness*.
48. **15 November 2002:** I Sessions in Ecological Advances. (CEAB, Centre d'Estudis Avançats de Blanes). Blanes, Spain. *Optimizing the encounter rate in biological interactions: the statistical physics of random searches*.

## RESEARCH VISITS TO INTERNATIONAL SCIENTIFIC INSTITUTIONS

1. **6-15 Sep 2023** Program: Mathematics of movement: an interdisciplinary approach to mutual challenges in animal ecology and cell biology. Isaac Newton Institute for Mathematical Sciences, Cambridge, UK. (Organizers: R. Nathan, H. Byrne, L. Giuggioli, G. Abramson)
2. **4-8 June 2018** ASPEN Centre for Physics (Colorado, USA). Workshop: The Physics of Behaviour: Movement, Control and Learning (Organizers: G.Berman, S.Palmer, G.Stephens)
3. **September-December 2015 (one week per month, total 25 days)**. Meetings in the context of the Advanced Study Group Award: *Statistical Physics and Anomalous Dynamics of Foraging*. Max Planck Institute for the Physics of Complex Systems. [http://www.mpiPKS-dresden.mpg.de/pages/visitorsprogram/frames\\_vp\\_en.html](http://www.mpiPKS-dresden.mpg.de/pages/visitorsprogram/frames_vp_en.html)
4. **3-4 April 2014**. Meeting with Vincent Fourcassie. Complex Dynamics and Interaction Networks in Animal Societies. Research Center on Animal Cognition (CNRS - UPS Research Institute n°5169. University of Toulouse III, France.
5. **28-30 January 2013**. Meeting with K.Safi and M.Wikelski. Max Planck Institute for Ornithology. Radolfzell, Germany. 2 days.
6. **June 2012**. Meeting with K.Safi and M.Wikelski. Max Planck Institute for Ornithology. Radolfzell, Germany. 4 days.
7. **October 2013**. Meeting HFSP Project with Prof. I.Nemenman and Prof. W.Ryu. Department of Physics, Emory University, Atlanta, USA. 6 days (21-25 Oct.).
8. **October-November 2011**. Meeting HFSP Project with Prof. W.Ryu and Prof. I.Nemenman. Cellular and Biomolecular Research Department, University of Toronto, Canada. 6 days.
9. **May 2008-December 2009**. Postdoctoral Research Fellow at the Institut Català de Ciències del Clima (IC3). Barcelona, Spain. 1.5 years.
10. **November 2008**. Postdoctoral Research Visit with Prof. D.Winkler at the Department of Ecology and Evolutionary Biology and Laboratory of Ornithology. Cornell University, NY, USA. 3 days.
11. **June 2007**. Attendance to the *Complex System Summer School*. Santa Fe Institute. Santa Fe, NM. USA. 1 month.
12. **February 2007**. Postdoctoral Research Visit with Prof. R. Stocker at the Civil and Environmental Engineering & Media Lab. Massachusetts Institute of Technology, Boston, MA. 4 days.
13. **April 2006-March 2009**. Postdoctoral Research Fellow at the Department of Ecology and Evolutionary Biology. Princeton University, USA. 2+1 years.

14. **January-May 2006.** Postdoctoral Research Fellow at the Population Ecology Group (head of the group Daniel Oro) at the Institut Mediterrani d'Estudis Avançats (IMEDEA, CSIC-UIB). Mallorca (Esporles). 5 months.
15. **October-December 2005.** Postdoctoral Research Fellow with Prof. M.G.E. da Luz at the Department of Physics. Federal University of Parana (UFPR). Curitiba (Brasil). 3 months.
16. **May-June 2003.** PhD. research visit to the Santa Fe Institute (NM, USA) together with R.V. Solé. 2 weeks.
17. **October-December 2000.** PhD. research visit to collaborate with Prof. G.M. Viswanathan at the Department of Physics. Federal University of Alagoas (UFAL). Maceió (Brasil). 3 months.
18. **June 1999.** Attendance to the course entitled: *Physical Structures in the Pelagic Zone and their Biological Consequences*. Institut für Zoologie und Limnologie. Innsbruck (Austria). 10 days.

## TEACHING AND ACADEMIC COURSES

1. **17-28 Jul 2023** XI Escola d'Estiu de Física Estadística de Sistemes Complexos. 2 Seminars.
2. **20 Mar 2023** Curs de Ciència de Dades (Ciencia de Datos), Aplicacions en Biologia y Medicina amb Python i R. Seminar: Big Behavioural Data analysis. ciudadana para la salud pública (Mosquito Alert).
3. **13 Dec 2022** Complex Systems Seminars. Search and Foraging: Model Organisms and Statistical Physics. (Virtual Seminar). School of Mathematical Sciences. Queen Mary University of London.
4. **14 Jun 2022** Jornadas de Cultura Científica y Ciencia Ciudadana del CSIC.
5. **6 Nov 2021** Curso de Monitorización de Fauna Silvestre: aplicaciones de la ciencia ciudadana. (Virtual) Ciencia ciudadana: ¿una puerta para la innovación en la gestión de los vectores portadores de enfermedades. Universidad de Castilla-La Mancha (UCLM), Castilla, Spain.
6. **29 Oct 2021** Master Class I. Mosquito Alert. Technasium Schools. Leystad, The Netherlands. (Oral&Webinar)
7. **9 June 2021** Curso de epidemiología de campo, la experiencia de la COVID-19 (Barcelona School of Management, Universitat Pompeu Fabra). Mosquito Alert
8. **28 Sept- 18 Dec 2020** Postgraduate Course on Complexity Science. Master on Computational Biomedical Engineering (Universitat Pompeu Fabra). 4Lectures. Exam preparation.
9. **14 Sept- 1 Oct 2020** Curso de epidemiología de campo, la experiencia de la COVID-19 (Barcelona School of Management, Universitat Pompeu Fabra).
10. **Jul-Dec 2020** Postgraduate Course Data Science (Ciencia de datos): Aplicaciones a la biología y la medicina con Python y R (Universitat de Barcelona, 2<sup>a</sup> edición).
11. **13-17 Jan 2020.** AIM COST Training School (COST ACTION CA17108). Harmonising Aedes invasive mosquito (AIM) surveillance across Europe. Akrotiri Environmental Education Centre, Akrotiri, Cyprus.
12. **1 Oct- 28 Dec 2019** Postgraduate Course on Complexity Science. Master on Computational Biomedical

- Engineering (Universitat Pompeu Fabra). 2 Lectures. Exam preparation.
13. **16 Oct- 7 Nov 2018** Postgraduate Course on Complexity Science. Master on Computational Biomedical Engineering (Universitat Pompeu Fabra). 2 Lectures. Exam preparation.
  14. **24 May 2018** Postgraduate Course on Data Science (Universitat de Barcelona). Lecture: Big Data con ciencia ciudadana.
  15. **19–23 September 2016** IAPC6: 6th International Albatross and Petrel Conference. Universitat de Barcelona, Barcelona. Workshop #1: Data Challenge on Behavioural Annotation. Organizers: Frederic Bartumeus, Zuzana Zajkova and José M. Reyes-González
  16. **8 June 2015. Invited Speaker:** *Atrapa el Tigre.com*. Anual Meeting of the Comissio Interinstitucional per a la Prevencio i Control del Mosquit Tigre a Catalunya. Agencia de Salut Publica de Catalunya, Generalitat de Catalunya, Barcelona, Spain.
  17. **25 October 2014.** IV Jornades sobre l'Ensenyament de la Biologia i Geologia. Cosmocaixa, Barcelona. Taller. Ciència participativa: projecte per combatre el mosquit tigre.
  18. **29 September 2014.** Master en Ecologia Terrestre I gestió de la Biodiversitat. Universitat Autònoma de Barcelona, Cerdanyola del Vallès, Spain. Keynote speaker: Movement ecology: new methods to answer old questions.
  19. **7-18 July 2014.** International Summer School Barcelona (Catalonia, Spain). What ecology can learn from natural and human-induced disturbances- A cross-system view. Talk: Search Behaviour: when complexity trumps uncertainty
  20. **16-20 March 2014.** Postgraduate Course: *Spatial Ecology*. Doorweth, The Netherlands. Statistical modelling of animal movement and dispersal. <http://www.pec.nl/database/Courses%20and%20Activities/PERC%20postgraduate%20courses/Spatial%20Ecology.htm>
  21. **30 April 2013.** Master Class: *Search strategies. How to find what you look for?* Centre Salesià Sant Josep, Barcelona
  22. **18-22 February 2013.** Postgraduate Course: *Ciencias del Mar: Oceanografía y Gestión del Medio Marino. Dispersión y acoplamiento plácton-bentos en el medio oceánico*. Facultad de Biología. Universidad de Barcelona.
  23. **10-11 February 2012.** Postgraduate Course: *Ciencias del Mar: Oceanografía y Gestión del Medio Marino. Dispersión y acoplamiento plácton-bentos en el medio oceánico*. Facultad de Biología. Universidad de Barcelona.
  24. **27-3 February-March 2011.** Postgraduate Course: *Spatial Ecology*. Veluwe, The Netherlands.
  25. **10-11 February 2011.** Postgraduate Course: *Ciencias del Mar: Oceanografía y Gestión del Medio Marino. Dispersión y acoplamiento plácton-bentos en el medio oceánico*. Facultad de Biología. Universidad de Barcelona.

26. **9 December 2010.** Master Class: *Science and the scientific method.* Escola Garbí. Esplugues de Llobregat, Barcelona.

## VISITORS

1<sup>st</sup> Jan 2024- 28 Feb 2025. Senior Researcher. Jesús Dario. Department of Biology. CONICET, Argentina.

25-26th Jan 2023. Senior Researcher. Jenny Hesson. Department of Medical Biochemistry and Microbiology, Infections and Immunity. Uppsala University, Sweden.

7 Nov 2022-12 March 2023. Postdoctoral Researcher. Arturo Hernández-Colina. Uppsala University, Sweden.

10 Oct 22- June 2023 Professor Sheldon B. Opps. Department of Physics. University of Prince Edward Island, Canada.

10-14 Oct 2022 Professor Beniamino Caputo. Department of Public Health and Infectious Diseases. Sapienza University, Rome.

3-4 March 2022 Professor Jonathan Liria Salazar. Medical Entomology, Amazonas University IKIAM.

30 May-3 June 2023 Lusine Paronyan. Head of Zoonotic and Parasitic Diseases Epidemiology Department. National Centers for Disease Control and Prevention (Ministry of Health, Armenia).

22 June-13<sup>th</sup> July 2022 Student Internship, Elsa Krummel. The Bay School of San Francisco, California, USA.

15 Sep 21 – 15 June 2022. Student (University) Internship. Julianne Pickard. Cardiff University, School of Biosciences, UK. BIOSI\_PTY program.

25 Feb 2020- 30th June 2020 Prof. Dr. Ernesto Raposo. Dep. Physics. Universidade de Pernambuco, Brazil.

15 March 2017-15 October 2017- Jackelyn Kembro. Associate Researcher from the Instituto de Investigaciones Biológicas y Tecnológicas (IIByT CONICET), and Instituto de Ciencia y Tecnología de los Alimentos, Cátedra de Química Biológica, Facultad de Ciencias Exactas, Físicas y Naturales, Universidad Nacional de Córdoba. 1611 Vélez Sarsfield, X5016GCA Córdoba, Córdoba, Argentina.

29 April 2016 - 15 July 2016. Prof. Dr. M.B. Soons, professor in Plant Dispersal Ecology and Conservation Ecology and Biodiversity group. Institute of Environmental Biology, Biology Department, Utrecht University Padualaan 8, 3584 CH Utrecht, The Netherlands

## ACADEMIC TUITION

### **Postdoctoral Researchers**

2020-onwards Zivko Zujnic

2020-2023 Simone Mariani

2014-2015 John RB Palmer (Social Sciences)

Currently, a Marie Curie Research Fellow and tenure-track faculty member in the Interdisciplinary Research Group on Immigration and the Sociodemography Research Group at Pompeu Fabra University, Barcelona (Spain).

2012-2013 L. Salvador (Computer Sciences)

Currently: Assistant Professor at the College of Veterinary Medicine. Department of Infectious Disease. University of Georgia, USA.

### **PhD Students**

2023-2026 Júlia Rodriguez (ongoing)

Director: F.Bartumeus

Universitat de Barcelona (UB)

2023-2026 Nina Bogdanovic (ongoing)

Director: F.Bartumeus

Universitat de Barcelona (UB)

2022-2025 Pol Fernandez (ongoing)

Director: F.Bartumeus & D. Oro

Universitat de Girona (UdG)

2020-2024 Marta Pardo (ongoing)

Directors: F.Bartumeus & D. Alonso

Universitat Politècnica de Catalunya (UPC)

2020-2024 Laura Blanco

Demography and Population Dynamics of *Aedes albopictus*: an Ecological Perspective

Directors: F.Bartumeus & JR Palmer

Universidad de Zaragoza.

Lecture: 30 Sep 2024. Excellent. Cum Laude.

2018-2024 Roger Lloret-Cabot

Anomalous Diffusion and Search Behaviour in *Caenorhabditis elegans*

Director: F.Bartumeus

Universitat de Barcelona (UB)

Lecture: 20 Jun 2024. Excellent.

2014-2020 Zuzana Zajkova

Movement ecology in pelagic seabirds

Directors: Jacob Gonzalez-Solis & F.Bartumeus

Universitat de Barcelona, UB.

Lecture: 20 Jan 2019. Excellent.

2015-2017 Eneko Aspillaga Cuevas

Movement ecology of coastal fishes in a marine protected area: implications for management and conservation.

Directors: Bernat Hereu & F. Bartumeus

Universitat de Barcelona, UB. (2013-2016).

Lecture: 26 Jul 2017

2013 John RB Palmer

Activity-space segregation: understanding social divisions in space and time

Directors: M. Tienda.

External Advisor and Principal Examiner: F. Bartumeus

Office of Population Research, Princeton University. (2013).

2010-2013 L. Salvador

Searching without information: A quantitative analysis of *Caenorhabditis elegans* locomotion

Directors: S.A. Levin & F. Dionísio

External Advisor: F. Bartumeus

Unviersidad de Lisboa and Princeton University. (2012).

2015 M. Barbosa

Fractional Brownian Motions and Search Efficiency

Directors: GM Viswanathan

External Advisor: F. Bartumeus

Unviersidade Federal do Natal. (2015).

### **Master Thesis**

Júlia Rodríguez Grabalosa

Assessment of WNV transmission in the wetland area of Parc Natural dels Aiguamolls de l'Empordà

Zoonoses and One Health, Universitat Autònoma de Barcelona (Oct 2022-Jul 2023). Lecture 7 Jul 2023.

Lecture 3 Jul 2023

Jose Daniel Guerrero (Deceased 4th April 2022)

Universitat Pompeu Fabra (UPF) (Jan-April 2022)

Narcís Font

Collective and Distributed Intelligence: Modeling the Foraging Strategies of Ant Colonies.

Universitat Autònoma de Barcelona (UAB) (Jan-Jul 2021). Lecture 7 Jul 2021.

Katarina Klementisova

Statistical Modelling for Conservation Biology –Audouin's Gulls

Co-Director: Meritxell Genovart

University of St Andrews, Glasgow. (Jan-Sep 2018). Lecture 3 Sep 2018.

Pol Fernández López

Kinematic features of boar sperm under different capacitating conditions as revealed through a novel statistical approach.

Co-Director: Isabel Casas Roqueta

Universitat de Girona (Jan-Sep 2018). Lecture 3 Sep 2018.

Jordana Sainz-Rozas Velilla

Analysis of the movement patterns of a social species, the Alpine marmot (*Marmota marmota*).

Co-Director: Bernat Claramunt López

Universitat Autònoma de Barcelona (Jan-Sep 2017). Lecture 18 Sep 2017.

Javier Hernando Sánchez

Analysis of heterogeneous random walks in T-cells

Universitat Autònoma de Barcelona (Jan-Sep 2017). Lecture 5 Sep 2017.

Antonio Rodriguez

Data classification system for the citizens science platform Mosquito Alert.

Co-Director: Ricard Gavaldà

Universitat Politècnica de Catalunya (UPC), Jan-Sep 2016.

Jorge Marco

Understanding success predictors in human searches.

Co-Director: Daniel Campos

Universitat Autònoma de Barcelona (UAB). Jan-Sep 2014

Joan Olivet Vila

Spreading pattern and risk factors for the presence of *Aedes albopictus* in Catalonia.

Universitat de Barcelona (UB) and Universitat de Girona (UdG). Jan-Sep 2011.

Jordi Garcia Darocas

Inferring behavioural modes in high resolution migratory pathways.

Universitat de Barcelona (UB). Jan-Sep 2011.

### **End of Course projects-TFG**

Sandra Serrano (UAB, 2016). Caracterización del control de la curvatura (loops) como comportamiento de búsqueda en *C. elegans*

Yolanda (UdG, 2015). Estrategia de búsqueda del *Caenorhabditis elegans*: análisis del comportamiento postural

Eva Lara (UdG, 2015). Estudi de les tendències de participació i els perfils d'usuaris dins del projecte AtrapaelTigre.com sobre el monitoratge del mosquit tigre (*Aedes albopictus*)

Sandra Serra (UdG, 2015). Anàlisi biològic i genètic del potencial invasor d'*Aedes albopictus* (*Diptera: Culicidae*)



Victor Ojeda. (UdG, 2013). La colonització del mosquit tigre a Catalunya: una visió a partir d'eines moleculars

### **Practicum**

Sergi Vila (UPF, 2015). Scientific communication and divulgation on Atrapaeltigre.com. (6 months). January-June 2015

Maria Solé (UB). Management of the Citizens Science Project Atrapaeltigre.com. (3 months). July-September 2014.

Natàlia Padilla. Universitat Pompeu Fabra. Hidden Markov Models for Animal Movement Trajectory Analysis. (3 months). July-September 2014.

Alex Simeon Vallbé, Behavioural segmentation of animal trajectories. Universitat Autònoma de Barcelona (UAB). (3 months). July-September 2012.

### **Evaluation Committees: Thesis, Master Thesis, TFG**

26th May 2021 **PhD Thesis**. José Manuel de los Reyes. Spatial Ecology and migration of *Calonectris* shearwaters: new insights from Spanish populations revealed by biologging. Universitat de Barcelona, Barcelona, Spain. Director: J. González-Solís

30th June 2021 **Master Thesis**. June Monge Lorenzo. Population dynamics of tumor-tumor interactions underlying surgically triggered relapse. Universitat Pompeu Fabra, Barcelona, Spain. Advisors: Rv Solé and Guim Aguadé

30th June 2021. **Master Thesis**. Quim Martí Baena. The role of whole genome doubling in cancer evolution. Universitat Pompeu Fabra, Barcelona, Spain. Advisors: Rv Solé and Guim Aguadé.

22 June 2021. **PhD Thesis**. Saurabh Gupta. Hierarchy and flexibility in *Caenorhabditis elegans* foraging. Instituto de Neurociencia de Alicante, Alicante, Spain. Advisor: Alejandro Gómez-Marin

Santi Guallar. **Master Thesis**. Universitat Autònoma de Barcelona (UAB). Advisor: J.González-Solís.

### **Followup Comitees of the Ph.D. candidates:**

Jose Maria de los Reyes (Universitat de Barcelona, UB)

Danilo Buñay (Universitat de Barcelona, UB)

Patricia G. Martínez Gutiérrez (Universitat Autònoma de Barcelona, UAB)

Joan Maspons Ventura (Universitat Autònoma de Barcelona, UAB)

Miguel Lurgi Rivera (Universitat Autònoma de Barcelona, UAB)

Anna Torné Noguera (Universitat Autònoma de Barcelona, UAB)

## ACADEMIC SERVICES

### At CEAB-CSIC:

- **Head of the Freshwater Department.** April 2015-September 2021.
- **Executive Board.** April 2015-September 2021.
- **Head of the Theoretical and Computational Ecology Group.** Jan 2016-onwards.
- **Scientific responsible for the Computational Biology Lab.** Jan 2016-onwards.

**Editorial Board.** *Theoretical Ecology* (since 2012).

<http://www.springer.com/life+sciences/ecology/journal/12080?detailsPage=editorialBoard>

**Editorial Board:** *Movement Ecology* (since 2013).

<http://www.movementecologyjournal.com/>

### International Masters (external professor, since 2016):

- "Modelling and quantitative skills in Ecology and Evolution (hold by the Centre for Doctoral Training, NERC, UK).
- "Neurosciences, Comportment, Cognition" (hold by the Université Toulouse III-Paul Sabatier).

Evaluation Comitee of the **Premi Ciutat Barcelona 2018,2019,2020. Categoria: Ciències de la Terra i del Medi Ambient.**

### International Workshop Organization:

**9-10 Oct 2024** E4Warning Annual Meeting. Universitat Pompeu Fabra, Barcelona, Spain.  
<https://www.e4warning.eu/blog/>

**27-28 Feb 2023** E4Warning Kick-off Meeting. Centre d'Estudis Avançats de Blanes, CEAB-CSIC. Blanes, Spain. <https://www.e4warning.eu/blog/>

**16-18 Oct 2023. INOVEC Workshop:** Leveraging Participatory and App-based Mosquito-Borne Surveillance Systems in Endemic Regions: Mosquito Alert in Burkina Faso, a collaborative case study. Organizer: **Bartumeus F.**

**22-23 March 2022 Workshop.** (Virtual) Strengthening the role of citizen science and digital entomology in mosquito-borne disease surveillance in Europe. **Co-organizers** Koenraadt S & **Bartumeus F.**

**6-7 October 2022** 2<sup>nd</sup> PhD Ecology Symposium, CEAB-CSIC, Blanes, Spain. Co-organizers: M. Genovart, D. Oro.

**3-4 October 2019** 1<sup>st</sup> PhD Ecology Symposium, CEAB-CSIC, Blanes, Spain. Co-organizers: M. Genovart, D. Oro.

**25-27 March 2019** Co-organizers: Beniamino Caputo (U.Sapienza, Italy), Sander Koenraadt (WU, The Netherlands). *Aedes Invasive Mosquitoes: Linking Citizen Science to Epidemiological Models*. COST ACTION Aedes Invasive Mosquitoes CA17108. Blanes, Spain.

**7-11 October 2018**. Co-organizers: Daniel Oro, David Alonso, Xell Genovart, Vicenç Méndez, Daniel Campos. *Physics and Ecology: challenges at the frontier*. XXXIV Scientific Meetings in the Mediterranean. Menorca, Spain. [www.theelab.net/news-and-events](http://www.theelab.net/news-and-events)

**19-20 September 2016** Co-organizers: Zuzana Zajkova and José M. Reyes-González. *Workshop #1: Data Challenge on Behavioural Annotation*. 6th International Albatross and Petrel Conference (IAPC 2016), Barcelona, Spain. <http://www.iapc6.info/>

**23-25 July 2009**. (Co-organizer Dr. Luca Giuggioli) of an International Workshop on Animal Movement and Search Strategies: from Empirical Data to Modelling. Bristol University, UK. <http://www.enm.bris.ac.uk/anm/amss/>.

#### **Other services:**

Nominator of the prestigious **Kyoto Prize 2017 Basic Sciences** in the field of Biological Sciences. (Inamori Foundation, Japan)

Reviewer of **National Geographic** I+D Research Projects.

Reviewer of research position candidates at the **Smithsonian Institution**, Washington DC, USA. <https://www.si.edu/>

I have been asked as **expert on the matter** of Lévy random walks and animal movement in Nature (Buchanan M., Nature 453:714, 2008) and ScienceNow (Travis J., 2008; <http://sciencenow.sciencemag.org/cgi/content/full/2008/227/1>). Comment on “Cells take on traveling salesman problem” by A.Reynolds in ScienceNews

<http://www.sciencenews.org/view/generic/id/72472>

I have written **referee reports** for international top journals including: Nature, Science, Proceedings of the National Academy Sciences, USA, Ecology Letters, Phys.Rev.Lett , Current Biology, PLoS ONE, PLoS Computational Biology, PLoS Biology, Am. Nat., Ecol. Letters, Ecology, Proceedings of the Royal Society of London Ser. B, Oikos, J. Anim. Ecol., Anim. Behav., Methods in Ecology and Evolution, Theoretical Ecology, J Theor. Biology, Ecological Modeling, Physica A.

#### **LIST OF INTERNATIONAL COLLABORATORS**

G.M. Viswanathan, Univ. Alagoas, Brasil; M.G.E. da Luz, Univ. Curitiba, Brasil; E.P. Raposo, Univ. Recife, Brasil; L. Giuggioli, Univ.Bristol, UK, I. Couzin, Princeton University; S.Levin, Univ. Princeton, USA; K. Safi, Max Planck

for Ornithology, Germany; M. Wikelski, Max Planck Institute for Ornithology, Germany; W. Ryu, Princeton University; V.Guttal, Indian Institute of Science, Bangalore, India; J. van de Koppel, NIOO-KNAW, The Netherlands. The Movement Ecology Group (NIOO-KNAW).

**PROFESIONAL AFFILIATIONS** European Citizen Science Association (ECSA); Societat Catalana de Biologia (SCB); Sociedad Ibérica de Ecología (SIBECOL)