

# Arnald Marcer

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## Education

2009–2013	Ph D. in Terrestrial Ecology (Special prize award) Universitat Autònoma de Barcelona, Spain
2008–2009	Master in Environmental Studies Universitat Autònoma de Barcelona, Spain
1989–1991	Master in Environmental Sciences Yale University, New Haven, CT., USA
1984–1989	Bachelor's degree in Biology Universitat Autònoma de Barcelona, Spain

## Professional Experience

2010–today	Researcher CREAF, Universitat Autònoma de Barcelona, Spain
2003–2009	Project manager CREAF, Universitat Autònoma de Barcelona, Spain
1995–2003	Technical staff CREAF, Universitat Autònoma de Barcelona, Spain
1993–1995	Environmental planner Department of the Environment, Generalitat de Catalunya, Spain
1992–1993	Freelance environmental consultant Sant Cugat del Vallès, Spain
1991–1992	Environmental writer Fundació Enciclopèdia Catalana, Barcelona, Spain

## SCI publications

- 2023 Bruno, A. B., Picó, F. X., Mateo, R. G., Torices, R., and Álvarez, I. (2023). Unravelling plant diversification: intraspecific genetic differentiation in hybridizing anacyclus species in the western mediterranean basin. *American Journal of Botany*, page In Press
- 2022 Marcer, A., Chapman, A. D., Wieczorek, J. R., Picó, F. X., Uribe, F., Waller, J., and Ariño, A. H. (2022a). Uncertainty matters: ascertaining where specimens in natural 61 history collections come from and its implications for predicting species distributions. *Ecography*, page e06025
- 2022 Marcer, A., Escobar, A., Garcia-Font, V., and Uribe, F. (2022b). Ali-bey - an open collaborative georeferencing web application. *Biodiversity Data Journal*, 10:e81282
- 2021 Sanchez-Martinez, P., Marcer, A., Mayol, M., and Riba, M. (2021). Shaping the niche of *Taxus baccata*, a modelling exercise using biologically meaningful information. *Forest Ecology and Management*, 501:119688
- 2020 Marcer, A., Haston, E., Groom, Q., Ariño, A. H., Chapman, A. D., Bakken, T., Braun, P., Dillen, M., Ernst, M., Escobar, A., Fichtmüller, D., Livermore, L., Nicolson, N., Paragamian, K., Paul, D., Pettersson, L. B., Phillips, S., Plummer, J., Rainer, H., Rey, I., Robertson, T., Röpert, D., Santos, J., Uribe, F., Waller, J., and Wieczorek, J. R. (2020c). Quality issues in georeferencing: From physical collections to digital data repositories for ecological research. *Diversity and Distributions*, 00:1–4
- 2020 Castilla, A. R., Méndez-Vigo, B., Marcer, A., Martínez-Minaya, J., Conesa, D., Picó, F. X., and Alonso-Blanco, C. (2020). Ecological, genetic and evolutionary drivers of regional genetic differentiation in *Arabidopsis thaliana*. *BMC Evolutionary Biology*, 20(1):71
- 2020 Toledo, B., Marcer, A., Méndez-Vigo, B., Alonso-Blanco, C., and Picó, F. X. (2020). An ecological history of the relict genetic lineage of *arabidopsis thaliana*. *Environmental and Experimental Botany*, 170:103800. The climatic challenge: learning from past survivors and present outliers
- 2019 J., M.-M., D., C., M.J., F., C., A.-B., F.X., P., and A., M. (2019). A hierarchical bayesian beta regression approach to study the effects of geographical genetic structure and spatial autocorrelation on species distribution range shifts. *Molecular Ecology Resources*, 19:929–943
- 2018 R., G., B., M.-V., A., M., C., A.-B., and F.X., P. (2018). Quantifying temporal change in plant population attributes: insights from a resurrection approach. *AoB Plants*, 10:ply063
- 2018 D., T.-M., B., M.-V., N., A., A., M., A., P.-M., D., W., F.X., P., and C., A.-B. (2018). Genome-wide signatures of flowering adaptation to climate temperature: Regional analyses in a highly diverse native range of *Arabidopsis thaliana*. *Plant, Cell & Environment*, 41:1806–1820
- 2018 Marcer, A., Vidigal, D. S., James, P. M. A., Fortin, M. J., Méndez-Vigo, B., Hilhorst, H. W. M., Bentsink, L., Alonso-Blanco, C., and Picó, F. X. (2018). Temperature fine-tunes Mediterranean *Arabidopsis thaliana* life-cycle phenology geographically. *Plant Biology*, 20(Issue Supplement S1):148–156
- 2016 Marcer, A., Méndez-Vigo, B., Alonso-Blanco, C., and Picó, F. (2016c). Tackling intraspecific genetic structure in distribution models better reflects species geographical range. *Ecology and Evolution*, 6(7):2084–2097

- 2014 Manzano-Piedras, E., Marcer, A., Alonso-Blanco, C., and Picó, F. X. (2014). Deciphering the Adjustment between Environment and Life History in Annuals: Lessons from a Geographically-Explicit Approach in *Arabidopsis thaliana*. *PLoS ONE*, 9:e87836
- 2013 Marcer, A., Sáez, L., Molowny-Horas, R., Pons, X., and Pino, J. (2013b). Using species distribution modelling to disentangle realised versus potential distributions for rare species conservation. *Biological Conservation*, 166:221–230
- 2012 Marcer, A., Pino, J., Pons, X., and Brotons, L. (2012b). Modelling invasive alien species distributions from digital biodiversity atlases. Model upscaling as a means of reconciling data at different scales. *Diversity and Distributions*, 18(12):1177–1189
- 2010 Marcer, A., Garcia, V., Escobar, A., and Pons, X. (2010). Handling historical information on protected-area systems and coverage. An information system for the Natura 2000 European context. *Environmental Modelling & Software*, 25(8):956–964
- 2010 Vilà, M., Basnou, C., Pyšek, P., Josefsson, M., Genovesi, P., Gollasch, S., Nentwig, W., Olenin, S., Roques, A., Roy, D., P.E., H., P., A., M., A., S., A., S., B., I., B., F., B., F., C., P., C., P.O., C., C., C., d’Acier A., C., M., D., P., D., M.L., D.-L., V., D., Dorkeld F., E. F., B.S., G., J., G., K., G., Z., G., O., H., M., H., V., J., S., K., I., K., I., K., P.W., L., C., L.-V., A., M., A., M., M., M., D., M., M., N., V.E., P., M., P., J., P., I., P., J., P., K., P., W., R., J.Y., R., D., S., R., S., Sedlá, S. S., M., W., A., Y., A., Y., P., Z., A., Z., and Partners, D. (2010). How well do we understand the impacts of alien species on ecosystem services? a pan-European, cross-taxa assessment. *Frontiers in Ecology and the Environment*, 8(3):135–144

## Organization of scientific and technical events

### **International workshop**

Title: How to digitise a Natural History Collection

Funding: EU MOBILISE COST Action CA17106

Organizers: Laurence Livermore (NHM, London), Elspeth Haston (Royal Botanic Garden Edinburgh, Scotland, UK), Joaquim Santos (Universidade de Coimbra, Coimbra, Portugal) and Arnald Marcer (CREAF, Catalonia, Spain)

Duration: 12 and 13 January 2023

Location: Natural History Museum, London, United Kingdom

### **International workshop**

Title: SYM05 Standardizing Biodiversity Data Quality

Funding: Biodiversity Information Standards (TDWG)

Organizers: Arhtur D. Chapman (Australian Biodiversity Information Services, Melbourne, Australia) and Arnald Marcer (CREAF, Catalonia, Spain)

Duration: 17 and 21 October 2022

Location: Sofia, Bulgaria

### **International workshop**

Title: Digitisation in Italy, WG2-WG5 MOBILISE Cost Action Joint Workshop

Funding: EU MOBILISE COST Action CA17106

Organizers: Stefano Martellos (University of Trieste, Trieste, Italy), Elspeth Haston (Royal Botanic Garden Edinburgh, Scotland, UK), Joaquim Santos (Universidade de Coimbra, Coimbra, Portugal) and Arnald Marcer (CREAF, Catalonia, Spain)

Duration: 12 and 13 September 2022

Location: University of Padova, Padova, Italy

### **International workshop**

Title: Image capture standards and guidelines

Funding: EU MOBILISE COST Action CA17106

Organizers: Elspeth Haston (Royal Botanic Garden Edinburgh, Scotland, UK), Arnald Marcer (CREAF, Catalonia, Spain) and Joaquim Santos (Universidade de Coimbra, Coimbra, Portugal)

Duration: 18 and 19 May 2022

Location: Natural History Museum of Crete, Heraklion, Crete, Greece

### **International workshop**

Title: Crowdsourcing for Natural Science Collections - closing the circle of data flow

Funding: EU MOBILISE COST Action CA17106

Organizers: Joaquim Santos (Universidade de Coimbra, Coimbra, Portugal), Arnald Marcer (CREAF, Catalonia, Spain) and Elspeth Haston (Royal Botanic Garden Edinburgh, Scotland, UK)

Duration: 2 and 9 November 2020

Location: Virtual workshop

### **International workshop**

Title: Quality issues in georeferencing: From physical collections to digital data repositories for ecological research

Funding: EU MOBILISE COST Action CA17106

Organizers: Arnald Marcer (CREAF, Catalonia, Spain), Quentin Groom (Meise Botanic Garden, Belgium) and Elspeth Haston (Royal Botanic Garden Edinburgh, Scotland, UK)

Duration: 10-13 February 2020

Location: The Biological and Chemical Research Centre, University of Warsaw, Warsaw, Poland

### **International workshop**

Title: Studying spatiotemporal patterns of genetic variation with species distribution models (SDM)  
– potential, caveats and challenges

Funding: Acreditación de Excelencia Severo Ochoa

Organizers: F. Xavier Picó (EBD-CSIC) and Arnald Marcer (CREAF) Duration: 22-24 October 2014

Location: Estación Biológica de Doñana, CSIC, Sevilla, Spain

## **Stages abroad**

### **Département de Sciences Biologiques, Université de Montréal, Montréal, Québec, Canada**

Invited by Dr. Patrick M. A. James to collaborate on the analysis of co-evolutionary patterns between seed dormancy and flowering time of the annual plant *Arabidopsis thaliana* across the Iberian Peninsula.

Funding: NewForests Project (IRSES Project, 7th EU Framework Programme)

Grant agreement: PIRSES-GA-2013-612645

Coordinator: Dr. Lluís Brotons

Duration: 5 weeks (June-July 2016)

Location: Montréal, Québec, Canada

### **Department of Ecology & Evolutionary Biology, University of Toronto**

Invited by Dr. Marie-Josée Fortin to collaborate on conceptual and methodological aspects in landscape genetics to study spatio-temporal patterns of genetic variation.

Funding: NewForests Project (IRSES Project, 7th EU Framework Programme)

Grant agreement: PIRSES-GA-2013-612645

Coordinator: Dr. Lluís Brotons

Duration: 1 month (July 2014)

Location: Toronto, Canada

### **School of Forestry & Environmental Studies, Yale University, USA**

Master in Environmental Management

Funding: "La Caixa" – Indiana University Fellowship

Duration: 2 years (July 1989 – June 1991)

Location: New Haven, Connecticut, USA

## Technical developments

### **GeoPick**

Georeferencing Made Easy: Enhancing georeferencing efficiency through best practices

Project direction and coordination: Arnald Marcer

Conceptual design: Arnald Marcer, Agustí Escobar, Arthur D. Chapman and John R. Wieczorek

Developers: Agustí Escobar, Arnald Marcer

GitHub: <https://github.com/aescobarr/GeoPick>

URL: <https://geopick.gbif.org>

### **Ali-Bey**

Georeferencing Tool for Biological Specimens at the Natural History Museum of Barcelona

Project direction: Arnald Marcer and Francesc Uribe

Project coordination: Arnald Marcer

Development manager: Arnald Marcer

Developers: Agustí Escobar, Víctor Garcia

GitHub: <https://github.com/aescobarr/nhc-georef>

### **IberiAt**

Information system on the natural genetic variation of the annual plant *Arabidopsis thaliana* in the Iberian Peninsula

Project direction and coordination: Arnald Marcer and Xavier Picó

Development manager: Arnald Marcer

Developers: Agustí Escobar and Víctor Garcia

### **HistHab – Historical Habitats**

A tool to digitise historical habitats from orthoimages

Project direction and coordination: Arnald Marcer and Xavier Picó

Developer: Arnald Marcer

GitHub: <https://github.com/arnaldmarcer/HistHab>

### **SIPAN**

Natural Heritage Information System of Catalonia

(Protected areas, Habitats, Forests, Species, Legislation)

Project direction: Arnald Marcer and Salvador Grau

Project coordination: Arnald Marcer, Pau Sainz and Francesc Diego

Development manager: Arnald Marcer

Development: Agustí Escobar and Víctor Garcia

### **SIPARC**

Protected Areas Information System of Catalonia

(Works, Reports, Boundaries, Legislation)

Project direction and coordination: Arnald Marcer and Francesc Diego

Development manager: Arnald Marcer

Development: Agustí Escobar and Víctor Garcia

### **AfectacioBosc**

Information system to keep track of events of forest damage

(*Thaumetopoea pityocampa*, Snow events, Wind events)

Project direction and coordination: Arnald Marcer and Jordi Vayreda  
Development manager: Arnald Marcer  
Development: Agustí Escobar and Víctor Garcia

**ExoAqua**

Information System of Alien Invasive Species in Water Ecosystems of Catalonia  
Project direction: Arnald Marcer and Joan Pino  
Project coordination: Arnald Marcer  
Development manager: Arnald Marcer  
Development: Agustí Escobar and Víctor Garcia

**ExoCat**

Information System of Alien Invasive Species of Catalonia  
Direction: Arnald Marcer and Joan Pino  
Coordination: Arnald Marcer  
Development manager: Arnald Marcer  
Development: Agustí Escobar and Víctor Garcia

**MONTES–Metadata**

Information System of ecological datasets  
Direction: Javier Retana and Arnald Marcer  
Coordination: Arnald Marcer  
Development manager: Arnald Marcer  
Development: Agustí Escobar and Víctor Garcia

**MONTES–Clima**

Information System of climatic datasets  
Direction: Jordi Vayreda and Arnald Marcer  
Coordination: Arnald Marcer  
Development manager: Arnald Marcer  
Development: Agustí Escobar and Víctor Garcia

## Proceedings, technical reports and others

- 2023 Marcer, A., Agustí, E., Chapman, A. D., and Wieczorek, J. R. (2023). Geopick: Georeferencing made easy. *Biodiversity Information Science and Standards*, 7:e111036
- 2021 Marcer, A., Groom, Q., Haston, E., and Uribe, F. (2021). Natural History Collections Georeferencing Survey Report. Current georeferencing practices across institutions worldwide. Technical report, MOBILISE EU Cost Action CA17106
- 2020 Marcer, A., Haston, E., Groom, Q., Ariño, A., Chapman, A. D., Bakken, T., Braun, P., Dillen, M., Ernst, M., Escobar, A., Fichtmüller, D., Livermore, L., Nicolson, N., Paragamian, K., Paul, D., Petterson, L. B., Phillips, S., Plummer, J., Rainer, H., Rey, I., Robertson, T., Röpert, D., Santos, J., Uribe, F., Waller, J., and Wieczorek, J. R. (2020b). Quality issues in georeferencing: From physical collections to digital data repositories for ecological research. Technical report, MOBILISE EU Cost Action CA17106
- 2016 Marcer, A., M.J., F., and F.X., P. (2016b). Geographical restructuring of *Arabidopsis thaliana*'s genetic makeup in the iberian peninsula due to climate change based on genetic cluster membership. *bioRxiv*, page 091686
- 2016 Koureas, D., Arvanitidis, C., Belbin, L., Berendsohn, W., Damgaard, C., Groom, Q., Güntsch, A., Hagedorn, G., Hardisty, A., Hobern, D., Marcer, A., Mietchen, D., Morse, D., Obst, M., Penev, L., Pettersson, L., Sierra, S., Smith, V., and R, V. (2016a). Community engagement: The 'last mile' challenge for european research e-infrastructures. *Research Ideas and Outcomes*, 2:e9933
- 2016 Koureas, D., Hardisty, A., Vos, R., Agosti, D., Arvanitidis, C., Bogatencov, P., P, B., de Jong, Y., Horvath, F., Gkoutos, G., Groom, Q., Kliment, T., Köljalg, U., Manakos, I., Marcer, A., Marhold, K., Morse, D., Mergen, P., Penev, L., Pettersson, L., Svenning, J., van de Putte, A., and V, S. (2016b). Unifying european biodiversity informatics (biounify). *Research Ideas and Outcomes*, 2:e7787
- 2004 Uribe, F., Garcia, E., and Marcer, A. (2004). Georeferenciació dels registres de la base de dades de col·leccions: una experiència amb mostres zoològiques. Technical report, Museu de Ciències Naturals, Institut de Cultura, Ajuntament de Barcelona, Barcelona
- Pons, X., Dalmases, C., Pesquer, L., Marcer, A., and Masó, J. (2004). ISOMDE: Una nueva aproximación a la generación de Modelos Digitales del Terreno. In Conesa, C. and Martínez-Guevara, J., editors, *Territorio y Medio Ambiente. Métodos cuantitativos y Técnicas de Información Geográfica*, pages 27–38, Múrcia
- 2002 Clark, T. W., Schuyler, P., Donnay, T., Curlee, P., Sullivan, T., Cymerys, M., Sheeline, L., Reading, R., Wallace, R., Kennedy Jr, T., Marcer, A., and de Fretes, Y. (2002). Conserving biodiversity in the real world: professional practice using a policy orientation (Applications). *Endangered Species Update*, 19(4):156–160
- 2001 Ibàñez, J. J., Marcer, A., Àngel Burriel, J., Vayreda, J., Mata, T., and Gràcia, C. (2001). Aportacions del sistema d'informació dels boscos de catalunya i les tècniques sig al coneixement dels sistemes naturals del parc nacional d'aigüestortes i estany de sant maurici. In *Cinquenes Jornades sobre Recerca al Parc Nacional d'Aigüestortes i Estany de Sant Maurici*, Barruera, Lleida, Spain. Departament de Medi Ambient, Generalitat de Catalunya
- 2000 Marcer, A., Pons, X., and Vicens, J. (2000c). 'Vulcanus Project'. *Geographical Information System applied to the management of the Zona Volcànica de la Garrotxa Natural Park*. CDROM. Departament de Medi Ambient (Generalitat de Catalunya), Institut Cartogràfic de Catalunya, Centre de Recerca Ecològica i Aplicacions Forestals. ISBN: 84-393-4138-5

- Marcer, A., Ibàñez, J. J., Vayreda, J., and Pons, X. (2000a). Aplicació dels SIG en la gestió forestal d'àrees protegides. In Llimona, F., Espelta, J., Guix, J., Mateos, E., and Rodríguez-Teijeiro, J., editors, *I Jornades sobre la Recerca en els sistemes naturals de Collserola: aplicacions a la gestió del Parc*, pages 265–269, Barcelona. Consorci del Parc de Collserola. I.S.B.N.: 84-605-9579-X, Dep.Legal: B-4.524-2000
- 1999 Marcer, A., Pons, X., and Vicens, J. (1999b). El projecte Vulcà. Desenvolupament d'un Sistema d'Informació Geogràfica per a la gestió del Parc natural de la Zona Volcànica de la Garrotxa. *Vitrina*, 10:29–34
- 1998 Marcer, A., Pons, X., and Falgarona, J. (1998). Proyecto Vulcà: Desarrollo de un Sistema de Información Geográfica para la Gestión del Parque Natural de la Zona Volcánica de la Garrotxa. *Boletín de la Sección del Estado Español de EuroParc*, 8:19–22
- Fontboté, J., Germain, J., Grau, S., Marcer, A., Pujolriu, L., and Carceller, X. (1998). Pla especial de protecció del medi natural i del paisatge d'Alfès. Protected area management plan, Departament de Medi Ambient, Generalitat de Catalunya, Barcelona
- 1997 Fontboté, J., Germain, J., Grau, S., Marcer, A., Pujolriu, L., and Carceller, X. (1997). Pla especial de protecció del medi natural i del paisatge de Tamarit-Punta de la Móra. Protected area management plan, Departament de Medi Ambient, Generalitat de Catalunya, Barcelona
- 1996 Marcer, A., Pons, X., and Masó, J. (1996). '*Vulcà Project*'. *A GIS for park management and planning at 'Zona Volcànica de la Garrotxa Natural Park'*. CDROM. Departament de Medi Ambient (Generalitat de Catalunya), Institut Cartogràfic de Catalunya, Centre de Recerca Ecològica i Aplicacions Forestals, cdrom edition. ISBN: 84-393-4138-5
- Fontboté, J., Germain, J., Grau, S., Marcer, A., and Carceller, X. (1996a). Pla especial de protecció del medi natural i de la riera de Sorreigs. Protected area management plan, Departament de Medi Ambient, Generalitat de Catalunya, Barcelona
- Fontboté, J., Germain, J., Grau, S., Marcer, A., and Carceller, X. (1996b). Pla especial de protecció del medi natural i de la Rojala-Platja del Torn. Protected area management plan, Departament de Medi Ambient, Generalitat de Catalunya, Barcelona
- Fontboté, J., Germain, J., Grau, S., Marcer, A., and Carceller, X. (1996c). Pla especial de protecció del medi natural i dels Tossals d'Isòvol i Olopte. Protected area management plan, Departament de Medi Ambient, Generalitat de Catalunya, Barcelona
- 1995 Fontboté, J., Germain, J., Grau, S., Marcer, A., and Carceller, X. (1995). Pla especial de protecció del medi natural i del paisatge de Montllober. Protected area management plan, Departament de Medi Ambient, Generalitat de Catalunya, Barcelona
- 1992 Clark, T. W., Schuyler, P., Donnay, T., Curlee, P., Sullivan, T., Cymerys, M., Sheeline, L., Reading, R., Wallace, R., Kennedy Jr, T., Marcer, A., and de Fretes, Y. (1992). Conserving biodiversity in the real world: professional practice using a policy orientation. *Endangered Species Update*, 9(5/6):12–16

## Projects

2020–2023	<p>RESURRECT – Merging ecology, genomics and modelling to parameterise the effect of warming on plants based on a resurrection approach in <i>Arabidopsis thaliana</i> (PID2019-104135GB-I00)</p> <p>Role: Research team member</p> <p>Funding: Ministry of Science, Innovation and Universities</p> <p>Participating partners: EBD-CSIC, CREAM</p> <p>Duration: 36 months</p> <p>Principal Investigator: Dr. F. Xavier Picó</p> <p>Number of researchers: 2</p> <p>Duration: 01/06/2020 – 30/06/2023</p>
2018–2022	<p>MOBILISE – Mobilising Data, Policies and Experts in Scientific Collections (Action CA17106)</p> <p>Role: Research team member</p> <p>Funding: COST - European Cooperation in Science and Technology</p> <p>Participating partners: Institutions from 27 different states</p> <p>Duration: 48 months</p> <p>Principal Investigator: Dr. Dimitris Koureas (Naturalis, NL)</p> <p>Number of researchers: 81</p> <p>Duration: 02/10/2018 – 01/10/2022</p>
2017–2020	<p>BEEMed – Biodiversitat i Evolució en Ecosistemes Mediterranis (2017 SGR 1006)</p> <p>Role: Collaborator</p> <p>Funding: Generalitat de Catalunya</p> <p>Participating partners: CREAM</p> <p>Duration: 36 months</p> <p>Principal Investigator: Dr. Maria Mayol</p> <p>Number of Researchers: 9</p> <p>Duration: 01/01/2017 – 31/12/2019</p>
2007–2020	<p>GEOREF – Information System for the Georeferencing of Biological Collections at the Natural History Museum of Barcelona</p> <p>Role: Principal investigator</p> <p>Funding: Barcelona City Council</p>
2017–2019	<p>BLACKBOX – Looking into the evolutionary black box: processes and mechanisms accounting for adaptive evolution in <i>Arabidopsis thaliana</i> (CGL2016-77720-P)</p> <p>Role: Research team member</p> <p>Funding: Spanish Science and Innovation Ministry</p> <p>Participating partners: EBD-CSIC, CREAM</p> <p>Duration: 36 months</p> <p>Principal Investigator: Dr. F. Xavier Picó</p> <p>Number of researchers: 2</p> <p>Duration: 01/01/2017 – 31/12/2019</p>
2013–2017	<p>NewForests – New and old World perspectives for forest ecology and management in a context of global change</p> <p>Role: Participant</p> <p>Funding: IRSES Projects, EU 7th Framework Programme</p> <p>Participating partners: CREAM, CTFC, CBAE, UQAM, UQAT</p> <p>Duration: 40 months</p>

	Principal Investigator: Dr. Lluís Brotons Number of researchers: 85 Duration: 01/10/2013 – 31/01/2017
2013–2015	REACT – Caracterización fenotípica y normas de reacción de linajes de Arabidopsis thaliana mediante experimentos de translocación entre ambientes diferenciados (CGL2012-33220/BOS) Role: Research team member Funding: Spanish Science and Innovation Ministry Participating partners: EBD-CSIC, CREAM Duration: 36 months Principal Investigator: Dr. F. Xavier Picó Number of researchers: 3 Duration: 01/01/2013 – 31/12/2015
2014–2016	BEEMed – Biodiversitat i Evolució en Ecosistemes Mediterranis Role: Collaborator Funding: Generalitat de Catalunya Participating partners: CREAM Duration: 36 months Principal Investigator: Dr. Maria Mayol Number of Researchers: 7 Duration: 01/01/2014 – 31/12/2016
2014–2015	iNaturalist España, creando comunidad a través de casos de estudio Role: Collaborator Funding: Fundación Española para la Ciencia y la Tecnología, Ministerio de Economía y Competitividad Participating partners: CREAM Duration: 12 months Principal Investigator: Dr. Bernat Claramunt Number of Researchers: 5 Duration: 30/10/2014 – 01/11/2015
2013–2014	iNaturalist España – Ampliación de funcionalidades e integración de los usuarios en la mayor red internacional para grabar observaciones de la naturaleza y conectarse con otros naturalistas Role: Collaborator Funding: Fundación Española para la Ciencia y la Tecnología, Ministerio de Economía y Competitividad Participating partners: CREAM Duration: 12 months Principal Investigator: Dr. Bernat Claramunt Number of Researchers: 2
2010–2012	DORMANT – Genómica funcional ecológica y evolutiva de la dormición de semillas en poblaciones de Arabidopsis thaliana (CGL2009-07847/BOS) Role: Participant Funding: Spanish Science and Innovation Ministry Participating partners: EBD-CSIC, CNB-CSIC, CREAM, UNIV. OF FLORIDA, UNIV. OF PITTSBURGH Duration: 36 months Principal Investigator: Dr. F. Xavier Picó Number of researchers: 4

	Duration: 01/01/2010 – 31/12/2012
2005–2014	SIPARC – Protected Areas Information System Role: Principal investigator Funding: Department of the Environment, Generalitat de Catalunya
2004–2013	SIPAN – Natural Heritage Information System Role: Principal investigator Funding: Department of the Environment, Generalitat de Catalunya
2010–2012	DORMANT – Functional ecological and evolutionary genomics of seed dormancy in populations of <i>Arabidopsis thaliana</i> Role: Collaborator Funding: Spanish Science and Innovation Ministry
2008–2011	MONTES – Spanish forests and global change: threats and opportunities (CSD2008-00040) Role: Collaborator Funding: Consolider Ingenio 2010, Spanish Science and Innovation Ministry Participating partners: CREA, CIEMAT, CTFC, EBD-CSIC, IDAEA, IRN-MNCN, IRTA, UB, UCLM, UGR Duration: 60 months Principal Investigator: Dr. Javier Retana Number of researchers: 97 Duration: 15/12/2008 – 15/12/2013
2010–2011	CONSPARC – Database integration and harmonization for the Strategic Conservation Plan of the protected areas of the Province of Barcelona Role: Principal investigator Funding: Government of the Province of Barcelona
2005–2008	DAISIE – Delivering Alien Invasive Inventories for Europe Role: Collaborator Funding: European 6th Framework Programme
2003–2006	SITGAR – Land Information System for the Garrotxa County Role: Principal investigator Funding: Garrotxa County Council
2000–2003	SITGAR – Land Information System for the Garrotxa County Role: Technical staff Funding: Garrotxa County Council
2003–2005	BOSCOS PÚBLICS – Public Forests Information System Role: Principal investigator Funding: Department of the Environment, Generalitat de Catalunya
2000–2003	SIPAN – Natural Heritage Information System Role: Technical staff Funding: Department of the Environment, Generalitat de Catalunya
1995–1999	VULCANUS – Geographical Information System of the Volcanic Zone of La Garrotxa Natural Park Role: Technical staff Funding: Department of the Environment, Cartographic Institute of Catalonia

## Presentations at conferences, etc.

- 2020 Marcer, A. (2020). Some preliminary results on nhc georeferencing quality at gbif. Workshop Quality issues in georeferencing: From physical collections to digital data repositories for ecological research, The Biological And Chemical Research Centre, University Of Warsaw, Warsaw, Poland, February 10-13, 2020
- 2020 Marcer, A., Groom, Q., Haston, E., and Uribe, F. (2020a). Survey on georeferencing of natural history collections. Workshop Quality issues in georeferencing: From physical collections to digital data repositories for ecological research, The Biological And Chemical Research Centre, University Of Warsaw, Warsaw, Poland, February 10-13, 2020
- 2019 Marcer, A., Haston, E., Groom, Q., Picó, X., and Uribe, F. (2019b). Uncertain geo-uncertainty: ecological research and public biodiversity data repositories. Biodiversity\_Next 2019 - Building a global infrastructure for biodiversity data, together, Leiden, The Netherlands
- 2019 Marcer, A., Escobar, A., Díaz, A., and Uribe, F. (2019a). Towards a federated list of versioned georeferenced site names: a local experience. Biodiversity\_Next 2019 - Building a global infrastructure for biodiversity data, together, Leiden, The Netherlands
- 2019 Groom, Q. J., Besombes, C., Brown, J., Chagnoux, S., Georgiev, T., Kearney, N., Marcer, A., Nicolson, N., Page, R., Phillips, S., Rainer, H., Riccardi, G., Röpert, D., Shorthouse, D. P., Stoev, P., and Haston, E. M. (2019). Progress in authority management of people names for collections. Biodiversity\_Next 2019 - Building a global infrastructure for biodiversity data, together, Leiden, The Netherlands
- 2019 Picó, F. X., Marcer, A., and Alonso-Blanco, C. (2019b). The value of regional collections of natural populations to unravel the ecological and genetic basis of adaptive variation in *Arabidopsis thaliana*. Brachypodium 2019 - 4th International *Brachypodium* Conference, Huesca Coventions Centre, Huesca, Spain
- 2019 Toledo, B., Marcer, A., and Picó, F. X. (2019a). Biogeography of the relict lineage of *Arabidopsis thaliana* across the Iberian peninsula and Morocco. EcoFlor 2019 - 16th Annual Meeting of the Spanish Group for Floral Ecology (EcoFlor), Granada, Spain
- 2019 Toledo, B., Marcer, A., and Picó, F. X. (2019b). Disentangling the current distribution of the relict genetic lineage of the annual plant *Arabidopsis thaliana* in its Mediterranean range. 1st Meeting of the Iberian Ecological Society & XIV AEET Meeting, Ecology: an integrative science in the Anthropocene, University of Barcelona, Spain
- 2019 Picó, F. X., Marcer, A., and Alonso-Blanco, C. (2019a). Genomic and phenotypic differentiation of *Arabidopsis thaliana* across the SW Mediterranean hotspot. 1st Meeting of the Iberian Ecological Society & XIV AEET Meeting, Ecology: an integrative science in the Anthropocene, University of Barcelona, Spain
- 2018 Martínez-Minaya, J., Conesa, D., Fortin, M., Alonso-Blanco, C., Picó, F. X., and Marcer, A. (2018a). Effects of geographic genetic structure and spatial autocorrelation on models of distribution range shifts in the annual plant *Arabidopsis thaliana*. XXIXth International Biometric Conference, CCIB, Barcelona, Spain
- 2018 Mendez-Vigo, B., Arteaga, N., Ramiro, M., Marcer, A., Picó, F. X., and Alonso-Blanco, C. (2018). Genome-wide signatures of flowering adaptation to climate temperature. XIV Reunión de Biología Molecular de Plantas, Universidad de Salamanca, Salamanca, Spain

- 2018 Martínez-Minaya, J., Vicent, A., Cendoya, M., López-Quílez, A., Picó, F. X., Marcer, A., and Conesa, D. (2018c). Bayesian spatial models for analyzing the spread of diseases and species distributions. 2018 ISBA World Meeting, University of Edinburgh, Edinburgh, UK
- 2018 Martínez-Minaya, J., Conesa, D., Fortin, M., Alonso-Blanco, C., Picó, F. X., and Marcer, A. (2018b). Modeling the distribution range shifts in the annual plant *Arabidopsis thaliana* taking into account the effects of geographic genetic structure and spatial autocorrelation. XXXVII Congreso Nacional de Estadística e Investigación Operativa y XI Jornadas de Estadística Pública, Universidad de Oviedo, Oviedo, Spain
- 2017 Martínez-Minaya, J., Vicent, A., López-Quílez, A., Picó, F., Marcer, A., and Conesa, D. (2017). Highly structured spatial models as a tool for analyzing the spread of diseases and species distributions. 27<sup>th</sup> Annual Conference of The International Environmetrics Society joint with GRASPA 2017 on Climate and Environment, Bergamo, Italy
- 2016 Picó, F., Marcer, A., and C., A.-B. (2016). Ecological drivers and genetic mechanisms underlying adaptive evolution of life-cycle phenology in annuals: lessons from natural *Arabidopsis thaliana* populations. British Ecological Society annual meeting, Liverpool, UK
- 2016 Marcer, A., Fortin, M., and Picó, F. (2016a). Geographical restructuring of *Arabidopsis thaliana*'s genetic makeup in the iberian peninsula due to climate change. British Ecological Society annual meeting, Liverpool, UK
- 2015 Picó, F., Marcer, A., Méndez-Vigo, B., and Alonso-Blanco, C. (2015). Evaluating the effects of global climate change on loss of genetic diversity: the case of the annual plant *arabidopsis thaliana* in the iberian península. 4<sup>o</sup> Congreso Ibérico de Ecología. Universidade de Coimbra, Coimbra, Portugal
- 2015 Marcer, A., Fortin, M., and Picó, F. (2015). Species distribution modelling based on intraspecific genetic variation in the light of global climate change. Spatial Ecology & Conservation 3, University of Bristol, Bristol, UK
- 2015 Arrocha, M. A., Amores-Arrocha, A., Marcer, A., and Picó, F. (2015). Analysis of the geographic structure of genetic variation in *arabidopsis thaliana* in eurasia. EUROANALYSIS 2015, Université de Bordeaux, Bordeaux, France
- 2014 Marcer, A. and Picó, F. X. (2014). Assessing global change using meaningful genetic units: the case of the iberian collection of natural populations of the model plant *Arabidopsis thaliana*. Workshop: Studying spatiotemporal patterns of genetic variation with species distribution models (SDM) in a context of global change – potential, caveats and challenges, Estación Biológica De Doñana, Sevilla, Spain
- 2014 Alonso-Blanco, C., Ausín, I., Méndez-Vigo, B., Ramiro, M., Savic, M., Marcer, A., and Picó, F. X. (2014). Searching for genes involved in climatic adaptation: contributions from *Arabidopsis* studies at a regional scale. Plant Biology Europe FESPB/EPSO 2014 Congress, Dublin, Ireland
- 2014 Picó, F. X., Marcer, A., and Carlos (2014). Contribución de la genética de poblaciones al entendimiento y mitigación de los efectos del cambio global sobre la biodiversidad. XX Seminario de Genética de Poblaciones y Evolución, Granada, Spain
- 2013 Marcer, A., Escobar, A., Alonso-Blanco, C., and Picó, X. (2013a). Modelling the distribution and dynamics of genetic variation in *arabidopsis thaliana*. Adapting to Global Change in the Mediterranean Hotspot, EBD-CSIC, Sevilla, Spain
- 2013 Marcer, A. (2013). Biodiversity data use, modelling and organization: some research and development projects at CREAM. Biodiversity Informatics Horizons 2013 (BIH2013), Rome, Italy

- 2012 Marcer, A., Alonso-Blanco, C., Escobar, A., Garcia, V., and Picó, X. (2012a). IberiAt – An Information System on Natural Variation of the Annual Plant *Arabidopsis thaliana* in the Iberian Peninsula. Biosymposium 2012: Biodiversity Technologies, Biodiversity Institute, Oxford University, Oxford, UK
- 2008 Marcer, A., Escobar, A., and Garcia, V. (2008). Territorialización de las actuaciones de la administración ambiental. XIII Congreso Nacional de Tecnologías de la Información Geográfica, Las Palmas de Gran Canaria, Spain
- 2007 Marcer, A., Escobar, A., and Garcia, V. (2007). Keeping track of legal and cartographic contexts in protected areas. 13th EC-GI & GIS Workshop. INSPIRE Time: ESDI for the environment, Porto, Portugal
- 2005 Marcer, A., Escobar, A., and Calvo, E. (2005). Sistema de información para el seguimiento del catálogo de espacios naturales protegidos. 6a Setmana geomàtica, Barcelona
- 2003 Marcer, A. and Escobar, A. (2003). Diseño e implementación de un sistema de información para el seguimiento del catálogo de espacios naturales protegidos con capacidad para el registro de cambios históricos. IX Conferencia Iberoamericana de SIG, VII Congreso Nacional de la AESIG, II Reunión del GMC SIGT, Cáceres, Spain
- 2003 Marcer, A., Calvo, E., and Escobar, A. (2003). Sistema de información para el seguimiento de la planificación de espacios naturales protegidos en cataluña. VII Congreso Nacional de la Asociación Española de Ecología Terrestre, Universitat Autònoma de Barcelona, Cerdanyola del Vallès, Spain
- 2000 Marcer, A., Pons, X., and Vicens, J. (2000b). Design and implementation of a GIS-based report management tool for the 'Zona Volcànica de la Garrotxa Natural Park (Catalonia, Spain)'. XIXth Congress of the International Society for Photogrammetry and Remote Sensing, Amsterdam, The Netherlands
- 1999 Marcer, A., Ibàñez, J. J., Vayreda, J., and Pons, X. (1999a). Inventarios forestales y sistemas de información geográfica en la gestión forestal de áreas protegidas. In *Actas del Congreso de Ordenación y Gestión Sostenible de Montes*, volume I, pages 239–247, Santiago de Compostela, Spain
- 1998 Marcer, A. and Pons, X. (1998). Park GIS Implementation. GIS Planet '98, International Conference and Exhibition on Geographic Information, Lisbon, Portugal
- 1998 Marcer, A., Pons, X., and Falgarona, J. (1998). Proyecto Vulcà: Desarrollo de un Sistema de Información Geográfica para la Gestión del Parque Natural de la Zona Volcànica de la Garrotxa. *Boletín de la Sección del Estado Español de EuroParc*, 8:19–22

## Student's theses

- 2015 | María Amores Arrocha, Análisis de la estructura geográfica de la variación genética de *Arabidopsis thaliana* en su rango de distribución nativo  
Directors: Arnald Marcer and F.X. Picó  
Programme: Master in Molecular Genetics and Biotechnology  
Universidad de Sevilla, Spain
- 2012 | María Jesús Soriano Matarín, Repositorio de Variables Ambientales de la península Ibérica  
Directors: Arnald Marcer and Lluís Pesquer  
Programme: Master in Remote Sensing and GIS  
CREAF, Universitat Autònoma de Barcelona, Cerdanyola del Vallès, Spain
- 2010 | Jordi Gadea, Sistema d'Informació per a la gestió de l'enllumenat públic a Parets del Vallès  
Director: Arnald Marcer  
Programme: Master in Remote Sensing and GIS  
CREAF, Universitat Autònoma de Barcelona, Cerdanyola del Vallès, Spain
- 2009 | Elena Navarro, Proposta de creació d'un SIG per a la gestió i tramitació d'expedients d'obres majors a l'ajuntament de Santa Perpètua de la Mogoda: "SIG Parcel·lari Municipal"  
Director: Arnald Marcer  
Programme: Master in Remote Sensing and GIS  
CREAF, Universitat Autònoma de Barcelona, Cerdanyola del Vallès, Spain

## Teaching

2015–2018	Case studies in GIS implementations Master in Remote Sensing and GIS CREAF, Universitat Autònoma de Barcelona, Spain
2000–2015	Organization of corporate GIS Master in Remote Sensing and GIS CREAF, Universitat Autònoma de Barcelona, Spain
2000–2015	GIS in protected areas management Master in GIS Universitat Politècnica de Catalunya, Spain
2003–2010	GIS in protected areas Master in protected areas Universidad Autónoma de Madrid, Universidad Complutense de Madrid, Universidad de Alcalá, Spain
2004–2005	Environmental Information, Information Systems and Land Applications Master in Land and Urban Studies Catalonia Institute of Technology Foundation, Spain
2003–2005	Environmental Information, Information Systems and Land Applications Graduate course on Urban areas and Land Sustainability Catalonia Institute of Technology Foundation, Spain
2001–2002	Lecture on GIS in Protected Areas PhD programme in Environmental Studies Universitat de Girona, Spain
2000–2001	Lecture on Environmental Cartography, GIS and Internet Master in Sustainability Cátedra UNESCO of the Catalonia Institute of Technology, Spain
1999–2000	Lecture on GIS in Protected Areas Summer course on Geographical Information Systems Universitat de Girona, Spain
1998	Lecture on GIS in protected areas Computer Aided Management Planning Workshop EuroParc Expertise Exchange, Vrchlabi, Krkonose Mountains National Park (KRNAP), Czech Republic

## Languages

Catalan	Mother tongue
Spanish	Fluent
English	Fluent
French	Fluent
German	Basic

## Computer skills

Programming	R, Python, SQL, Java
Databases	SQLite, PostgreSQL
Spatial tools	R-Spatial, Quantum GIS, GDAL, GRASS, PostGIS, MiraMon
Office	LaTeX, Markdown, LibreOffice, Microsoft Office
Operating systems	MacOS, Linux, MS Windows