

Rafael Medina, Ph.D.

Assistant Professor
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Education

- 2012 **Ph.D.** Evolutionary Biology and Biodiversity. Universidad Autónoma de Madrid
2005 **M.Sc.** (D.E.A.) Evolutionary Biology and Biodiversity. UAM
2003 **B.Sc.** Life Sciences. UAM

Professional appointments

- 2016 **Assistant Professor.** Department of Biology. Augustana College
2012-2016 **Postdoctoral Associate.** Ecology and Evolutionary Biology. University of Connecticut
2006-2011 **“Profesor Ayudante”.** Universidad Autónoma de Madrid

Publications

Authored and co-authored 18 peer-reviewed publications, 5 peer-reviewed chorological records, 1 book chapter, 1 book review, 8 papers in minor journals and 9 highlighted outreach publications

Peer-reviewed research publications

- 2016 HUDSON, L. N., NEWBOLD, T. ET AL. (coauthor in an international consortium of several hundred). The database of the PREDICTS (Projecting Responses of Ecological Diversity In Changing Terrestrial Systems) project. *Ecology and Evolution* 7: 145-188
- LARA, F., R. GARILLETI, B. GOFFINET, I. DRAPER, **R. MEDINA**, B. VIGALONDO & V. MAZIMPAKA. *Lewinskya*, a new genus to accomodate the phaneroporous and monoicous taxa of *Orthotrichum* Hedw. (Bryophyta, Orthotrichaceae). *Cryptogamie, Bryologie* 37(4):361-382
- JOHNSON, M.G., E.M. GARDNER, Y. LIU, **R. MEDINA**, B. GOFFINET, A.J. SHAW, N.J.C. ZEREGA & N.J. WICKETT. HybPiper: Extracting coding sequence and introns for phylogenetics from high-throughput sequencing reads using target enrichment. *Applications in Plant Science* 4: 1600016

Peer-reviewed research publications (cont.)

- 2015 ALONSO, M., **R. MEDINA**, M.J. CANO, J.A. JIMÉNEZ & B. GOFFINET. The complete mitochondrial genome of the moss *Oxystegus tenuirostris* (Hook. & Taylor) A.J.E. (Pottiaceae, Bryophyta). *Mitochondrial DNA* DOI:10.3109/19401736.2015.1082087
- MEDINA, R.**, Y. LIU, W. LI-SONG, G. SHUILIANG, K. HYLANDER & B. GOFFINET. DNA-based revised geographic circumscription of species of *Physcomitrella* s.l. (Funariaceae): *P. patens* new to East Asia and *P. magdalenae* new to East Africa. *The Bryologist* 118: 22-31
- 2014 LIU, Y., **R. MEDINA** & B. GOFFINET. 350 My of Mitochondrial Genome Stasis in Mosses, an Early Land Plant Lineage. *Molecular Biology and Evolution* 31: 2586–2591
- 2013 **MEDINA, R.**, F. LARA, B. GOFFINET, R. GARILLETI & V. MAZIMPAKA. Unnoticed diversity within the disjunct moss *Orthotrichum tenellum* s.l. validated by morphological and molecular approaches. *Taxon* 62: 1133-1152
- PATIÑO, J., **R. MEDINA**, A. VANDERPOORTEN, J. M. GONZÁLEZ-MANCEBO, R. M. ROS, N. DEVOS, R. G. MATEO, F. LARA & O. WERNER. Origin and fate of the single-island endemic moss *Orthotrichum handiense*. *Journal of Biogeography* 40: 857-868
- 2012 **MEDINA, R.**, F. LARA, B. GOFFINET, R. GARILLETI & V. MAZIMPAKA. Integrative taxonomy successfully resolves the pseudo-cryptic complex of the disjunct epiphytic moss *Orthotrichum consimile* s.l. (Orthotrichaceae). *Taxon* 61: 1180-1198
- MEDINA, R.**, A. EDERRA & F. LARA. *Orthotrichum armatum* in Western Cape province of South Africa. *Journal of Bryology* 34: 52-55
- 2011 **MEDINA, R.**, F. LARA, V. MAZIMPAKA, J. SHEVOCK & R. GARILLETI. *Orthotrichum pilosissimum*, a new moss from arid areas of Nevada with unique axillary hairs. *The Bryologist* 114: 316-624
- 2010 LARA, F., V. MAZIMPAKA, **R. MEDINA**, R. CAPARRÓS & R. GARILLETI. Northeastern Turkey, an unnoticed but very important area for the Orthotrichaceae (Bryophyta). *Nova Hedwigia* 138: 163-178
- MEDINA, R.**, F. LARA, B. ALBERTOS, I. DRAPER, R. GARILLETI & V. MAZIMPAKA. Epiphytic bryophytes in harsh environments: the *Juniperus thurifera* forests. *Journal of Bryology* 32: 23-31
- 2009 GARILLETI, R., **R. MEDINA**, V. MAZIMPAKA & R.F. LARA. *Orthotrichum hispanicum* in the Turkish Caucasus and Kashmir. *Journal of Bryology* 31: 46-47
- MEDINA, R.**, R. GARILLETI, V. MAZIMPAKA & F. LARA. A new look at *Orthotrichum scanicum* Grönvall (Orthotrichaceae, Bryophyta). *Journal of Bryology* 31:86-92
- LARA, F., R. GARILLETI, **R. MEDINA**, R. GARILLETI & V. MAZIMPAKA. A new key of the genus *Orthotrichum* in Europe and the Mediterranean Region. *Cryptogamie, Bryologie* 30: 129-142
- MEDINA, R.**, F. LARA, V. MAZIMPAKA & R. GARILLETI. *Orthotrichum norrisii* (Orthotrichaceae), a new epiphytic Californian moss. *The Bryologist* 111: 670-675
- 2007 LARA, F., **R. MEDINA**, R. GARILLETI & V. MAZIMPAKA. On the presence of *Orthotrichum patens* Bruch & Brid. in the Iberian Peninsula. *Cryptogamie, Bryologie* 29: 157-164.

Peer reviewed chorological records

- 2015 LARA, F., R. GARILLETI, **R. MEDINA** & V. MAZIMPAKA. *Orthotrichum speciosum* var. *brevisetum* Lara, Garilleti & Mazimpaka [Crete]. In: Ellis L. T. (Ed.). New national and regional bryophyte records 43. *Journal of Bryology* 37: 137
- 2011 INFANTE, M. & **R. MEDINA**. *Cololejeunea distalopapillata* (E.W.Jones) R.M.Schust [South Africa]. In: Ellis L. T. (Ed.) New national and regional bryophyte records 27. *Journal of Bryology* 33: 159
- 2006 **MEDINA, R. F. LARA** & V. MAZIMPAKA. *Orthotrichum philibertii* Venturi [Corsica]. In: Blockeel T.L. (Ed.) New National and Regional Bryophyte Records, 14. *Journal of Bryology*. 28: 272
- MEDINA, R. F. LARA** & V. MAZIMPAKA. *Orthotrichum vittii* F.Lara, Garilleti & Mazimpaka [France]. In: Blockeel T.L. (Ed.) New National and Regional Bryophyte Records, 14. *Journal of Bryology*. 28: 272
- LARA, F., A. SOTIAUX, **R. MEDINA** & V. MAZIMPAKA. *Orthotrichum macrocephalum* F.Lara, Garilleti & Mazimpaka [Corsica]. In: Blockeel T.L. (Ed.) New National and Regional Bryophyte Records, 14. *Journal of Bryology*. 28: 273

Book chapter

- 2011 ESTÉBANEZ, B., I. DRAPER & **R. MEDINA**. Briófitos: una aproximación a las plantas terrestres más sencillas. In VIEJO, J. L. (Ed.) *Biodiversidad. Aproximación a la diversidad botánica y zoológica de España*. Memorias de la Real sociedad Española de Historia Natural. Segunda época. IX: 19-73. Real Sociedad Española de Historia Natural. Madrid. ISBN: 978-84-936677-6-4

Other research publications

- 2008 VILLAVERDE, C, N. G. MEDINA, B. ESTÉBANEZ, **R. MEDINA**, V. MAZIMPAKA, M. INFANTE & F. LARA. Contribución al conocimiento de la brioflora del extremo sureste de la Comunidad de Madrid. *Boletín de la Sociedad Española de Briología*. 32/33: 21-29
- MEDINA, N. G., **R. MEDINA**, F. LARA & V. MAZIMPAKA. Brioflora epífita de Sierra Alhamilla (Almería). *Boletín de la Sociedad Española de Briología*. 32/33: 1-7
- 2007 GONZÁLEZ MANCEBO, J. M., B. ALBERTOS, A. BARRÓN, K. CEZÓN, R. M. CROS, I. DRAPER, B. ESTÉBANEZ, R. GARILLETI, T. HALLINGBÄCK, R. HERNÁNDEZ-MAQUEDA, F. LARA, A. LOSADA-LIMA, R. G. MATEO, V. MAZIMPAKA, J. MUÑOZ, **R. MEDINA**, N. G. MEDINA, J. PATIÑO, F. PUCHE, S. RAMS, R. M. ROS & E. RUIZ. Bryophytes collected by the Spanish Bryological society during a field trip at La Gomera (Canary Islands). *Boletín de la Sociedad Española de Briología*. 30/31: 43-51
- 2006 ELÍAS, M. J., B. ALBERTOS, G. CALABRESE, M. J. CANO, B. ESTÉBANEZ, M. T. GALLEGO, R. GARILLETI, J. GUERRA, P. HERAS, M. INFANTE, F. LARA, M. A. MARTÍN, V. MAZIMPAKA, **R. MEDINA**, J. MUÑOZ, L. POKORNY, F. PUCHE & J. A. SÁNCHEZ. Aportaciones al conocimiento de la flora briológica española. Nótula XV: musgos, antocerotas y hepáticas de la Sierra de Gredos (Ávila). *Boletín de la Sociedad Española de Briología*. 28: 25-31

Other research publications (cont.)

2006 LARA, F., R. GARILLETI, B. ALBERTOS, **R. MEDINA** & V. MAZIMPAKA. Nuevos datos sobre la distribución en la Península Ibérica de *Orthotrichum sprucei* Mont., *O. rivulare* Turn. Y *Dendrocryphaea lamyana* (Mont.) P.Rao. *Boletín de la Sociedad Española de Briología*. 28: 61-66

MEDINA, R. Nuevas citas provinciales de briófitos epífitos de sabinares ibéricos. *Boletín de la Sociedad Española de Briología*. 28: 57-60

MEDINA, R., V. MAZIMPAKA, F. LARA, B. ALBERTOS, I. DRAPER & R. GARILLETI. Aproximación al conocimiento de la variabilidad de los sabinares albares mediante el estudio de sus comunidades de briófitos epífitos. *Actas del III coloquio internacional sobre sabinares y enebrales (Género Juniperus)* Tomo 1: 115-122

PUCHE, F., A. BARRÓN, M. BRUGUÉS, M. J. CANO, I. DRAPER, A. EDERRA, B. ESTÉBANEZ, M. T. GALLEGU, C. GIMENO, J. GUERRA, J. A. JIMÉNEZ, F. LARA, **R. MEDINA** & N. G. MEDINA. Aportaciones al conocimiento de la flora briológica española. Nótula XVI: musgos y hepáticas del Alto Tajo (Cuenca, Guadalajara, Teruel). *Boletín de la Sociedad Española de Briología*. 28: 87-94

Book review

2015 **MEDINA, R.** & B. GOFFINET. Better shoes alone don't get you to your destination [Rev. of *A Framework for Post-Phylogenetics Systematics* by R. Zander]. *The Bryologist* 117: 431-433

Outreach publications (selection)

2016 **MEDINA, R.** El infierno de Linneo. *Principia Magazine* 3: 86-89

2015 FARKAS, T., K. FUCIKOVA, A. CASKENETTE, L. CISNEROS, **R. MEDINA**, U. SEZEN & B. WADE. UConn BioBlitz 2015 post-blight report. *Connecticut Wildlife* 35(5):14-16

AMEZTEGUI, A. & **MEDINA, R.** El ocaso de los gigantes. *Principia Magazine* 1: 24-33

2014 **MEDINA, R.** Invitación a los briófitos: botánica a pequeña escala. *JOF* 14:6-21 (ISSN: 2254-3651)

2013 **MEDINA, R.** Espezie labainkorak, estereotipo likatsuak. *Elhuyar* 299: 40-41 (ISSN 0213-3687)

2012 **MEDINA, R.** Qué es una especie y por qué debería importarnos. *JOF* 4: 86-96 (ISSN: 2254-3651)

2011 **MEDINA, R.** Exploradores de la biodiversidad ayer y hoy: nuevas respuestas a preguntas antiguas. *JOF* 1: 45-51 (ISSN: 2254-3651)

MEDINA, N. G. & **R. MEDINA.** Small is beautiful: la microflora de los bosques de montaña. En: *Pequeño libro de los Bosques de Montaña. Recordatorio de un año necesario*. RedMontañas

2009 **MEDINA, R.** Darwin, 200 años después. *Alkaid. Revista multitemática* 3. (ISSN: 9-771888-886000-00003)

Conference presentations

Only oral presentations are listed. Speakers marked with (*)

- 2016 1) **MEDINA R.**, M. JOHNSON, Y. LIU, J.M. BUDKE, N. WILDING, T. HEDDERSON, N.J. WICKETT & B. GOFFINET. Zooming in on the rapid radiation of the Funariaceae. Abstract 317. 2) LIU Y., M. JOHNSON, **R. MEDINA**, N. DEVOS, N. WICKETT, A.J. SHAW & B. GOFFINET. Resolving the backbone phylogeny of mosses, using targeted NGS data from plastid, mitochondrial and nuclear genomes. Abstract 503. Botanical Society of America/American Bryological Society annual meeting; Savannah, Georgia, July 30–August 3
- DRAPER I.*, F. LARA, R. GARILLETI, B. VIGALONDO, **R. MEDINA**, Y. LIU, V. MAZIMPAKA & B. GOFFINET. Towards the clarification of the phylogeny of the Orthotrichoideae. XXV Meeting of the Spanish Bryological Society. Western Andalusia. 30 May-6 June.
- 1) **MEDINA R.**, M. JOHNSON, Y. LIU, J. BUDKE, N. WILDING, T. HEDDERSON, N. WICKETT & B. GOFFINET*. A genomic approach to solve the phylogeny of the Funariaceae. 2nd International Symposium on the Evolution and Systematics of pleurocarpous mosses. 2) LIU Y., M. JOHNSON, **R. MEDINA**, N. DEVOS, N. BELL, D. QUANDT, A. VANDERPOORTEN, B. SHAW, N. WICKETT, A.J. SHAW & B. GOFFINET*. 2016. Resolving the backbone phylogeny of mosses, using targeted NGS data from plastid, mitochondrial and nuclear genomes. 3) DRAPER I.*, F. LARA, R. GARILLETI, B. VIGALONDO, **R. MEDINA**, Y. LIU, V. MAZIMPAKA & B. GOFFINET. Searching a variable region to increase the resolution in an unresolved phylogeny. 4) LIU Y., M. JOHNSON, **R. MEDINA**, N. DEVOS, W.R. BUCK, J. SHEVOCK, H. AKIYAMA, M. IGNATOV, L. HEDENÄS, P. DALTON, N. BELL, B. SHAW, N. WICKETT, A.J. SHAW & B. GOFFINET*. Phylogenetic relationships within the pleurocarpous mosses: phylogenomic inferences from targeted enriched libraries of genes from all compartments. 2nd International Symposium on the Evolution and Systematics of pleurocarpous mosses. Nees Institute for Plant Biodiversity, University of Bonn, Germany. June 9-12, 2016
- 2015 JOHNSON, M.*, N. WICKETT, **R. MEDINA**, Y. LIU, N. DEVOS, J. SHAW & B. GOFFINET. Phylotranscriptomic insights into the radiation of mosses: gene family expansions and paleopolyploidy. Botany 2015 (Botanical Society of America Annual Meeting) 25-29 July. Edmonton (Canada)
- LIU, Y., **R. MEDINA** & B. GOFFINET*. 350 my of mitochondrial genome stasis in mosses, an early land plant lineage. Meeting of the International Association of Bryologists. 11-15 January. Puerto Williams (Chile).
- 2013 **MEDINA, R.***, Y. LIU AND B. GOFFINET. Targeted sequencing of organellar exomes in early land plants. Laboratory methodology. Pleurocarp Tree of Life Meeting and Workshop. Chicago Botanic Garden. 4-5 October. Chicago
- 1) LIU*, Y., **R. MEDINA** AND B. GOFFINET. The evolution of the mitochondrial genome in mosses. 2) LIU, Y., **R. MEDINA***, N. WILDING, J.M. BUDKE, T. HEDDERSON & B. GOFFINET. The evolutionary history of *Physcomitrella patens*: phylogenetic inferences from 4 loci within the Funariidae. Botany 2013 (Botanical Society of America Annual Meeting). 27-31 July. New Orleans
- 2012 **MEDINA, R.***, B. GOFFINET, F. LARA, R. GARILLETI & V. MAZIMPAKA. Unnoticed *Orthotrichum* species richness in western North America revealed by integrative approaches 3rd International Conference on Molecular Systematics of Bryophytes. New York Botanical Garden. 15-22 June. New York City

Conference presentations (cont.)

- 2011 **MEDINA, R.***, B. GOFFINET, F. LARA, R. GARILLETI & V. MAZIMPAKA. Species delimitation combining Morphology and Molecular Phylogenetics: the case of the *Orthotrichum tenellum*-like taxa in California. XVIII Symposium of Cryptogamic Botany. Universidad de Barcelona. 13-16 June. Barcelona (Spain)
- 2010 PATIÑO, J.*, **R. MEDINA**, O. WERNER, R. M. ROS, F. LARA & J. M. GONZÁLEZ-MANCEBO. Flirting with extinction? *Orthotrichum handiense*, a Canarian endemic bryophyte under multiple threats. International Symposium FloraMac2010. University of the Azores. 23-25 September. Açores (Portugal)
- 2009 **MEDINA, R.***, F. LARA, B. ALBERTOS, I. DRAPER, R. GARILLETI & V. MAZIMPAKA. Epiphytic bryophytes of inland juniper forests throughout the Mediterranean basin. World Conference on Bryology 2009. International Association of Bryologists -IAB-. 16-21 August. Cape Town (South Africa)
- 2008 **MEDINA, R.***, F. LARA, R. GARILLETI & V. MAZIMPAKA. Presentación de una nueva clave del género *Orthotrichum* (s.l.) en Europa y la Región Mediterránea. XXII Meeting of the Spanish Bryological Society. 9-13 June. Espinosa de los Monteros (Spain)
- 2007 1) **MEDINA, R.***, F. LARA, V. MAZIMPAKA & R. GARILLETI. *Orthotrichum norrisii* sp. nov., un nuevo musgo de California próximo a *O. tenellum* Bruch ex Brid. 2) LARA, F.*, R. GARILLETI, **R. MEDINA**, B. ESTÉBANEZ & V. MAZIMPAKA. Diversidad global en el grupo de *Orthotrichum diaphanum* (Orthotrichaceae, Musci) XVI Symposium of Cryptogamic Botany. Universidad de León. 9-22 septiembre. León (Spain)
- 2006 **MEDINA, R.***, V. MAZIMPAKA, F. LARA, B. ALBERTOS, I. DRAPER & R. GARILLETI. Aproximación al conocimiento de la variabilidad de los sabinares albares mediante el estudio de sus comunidades de briófitos epífitos. 3rd International Symposium on Juniper Forests. 24-26 May. Soria (Spain)
- 1) **MEDINA, R.***, F. LARA, B. ALBERTOS, B. ESTÉBANEZ, R. GARILLETI & V. MAZIMPAKA. Novedades corológicas de la familia Orthotrichaceae en la Región Caucásica de Turquía. 2) MEDINA, N.G.*, **R. MEDINA**, F. LARA & V. MAZIMPAKA. Briófitos epífitos de Sierra Alhamilla (Almería). Resultados preliminares. XXI Meeting of the Spanish Bryological Society. 14-17 junio. Viso del Marqués (Spain)
- 2005 ESTÉBANEZ, B.*, **R. MEDINA**, I. DRAPER, B. ALBERTOS, R. GARILLETI, F. LARA & V. MAZIMPAKA. Taxonomy and systematics of the family Orthotrichaceae in Europe and the Mediterranean area. XXXIII Congress of the Japanese Bryological Society. 26-28 August. Fukui (Japan)
- MEDINA, R.***, F. LARA, R. GARILLETI & V. MAZIMPAKA. Consideraciones previas a una revisión taxonómica del género *Orthotrichum* Hedw., subgénero *Pulchella* (Schimp.) Vitt.. XX Reunión de la Sociedad Española de Briología. 4-6 February. San Sebastián de La Gomera (Spain)
- MAZIMPAKA, V., **R. MEDINA***, R. GARILLETI & F. LARA. Nuevos datos sobre la distribución y variabilidad morfológica de *Orthotrichum scanicum* Grönvall. XV Symposium of Cryptogamic Botany. Universidad del País Vasco. 21-23 September. Bilbao (Spain)
- MEDINA, R.***, B. ALBERTOS, F. LARA & V. MAZIMPAKA. Briófitos epífitos de los sabinares ibéricos: resultados preliminares. XIX Meeting of the Spanish Bryological Society. 4-6 June. Tragacete (Spain)

Conference presentations (cont.)

- 2004 1) MEDINA, R.*, F. LARA, L. POKORNY, I. DRAPER, D. CORTÉS & V. MAZIMPAKA. Interest of *Juniperus thurifera* L. forests in the conservation of epiphytic bryophytes. 2) DRAPER, I.*, B. ALBERTOS, F. LARA, R. GARILLETI, R. MEDINA & V. MAZIMPAKA. Hot-spots areas for the epiphytic bryophytes in Morocco (Northern Africa). 5th European Bryophyte Conservation Conference. 21-23 September. Valencia (Spain)
- 2003 **MEDINA, R.***, B. ALBERTOS, F. LARA & V. MAZIMPAKA. Briófitos epífitos del sabinar de Lozoya del Valle (Madrid). XVIII Meeting of the Spanish Bryological Society. 8-10 November. El Barco de Ávila (Spain)

Participation on research projects

- 2014-2017 Collaborative Research: Evolution, Diversification, and Conservation of a Megadiverse Flagship Lichen Genus. \$223,000. National Science Foundation, DEB- 1354631. Aug 2014-Jul 2017. PI: Dr. Bernard Goffinet. **Postdoctoral Fellow** (7 months in 2016)
- 2012-2015 Rapid radiation and sporophyte evolution in the Funariaceae: inferences from phylogenomics and cross generational cuticle development studies. \$219,814. National Science Foundation, DEB-1146295. Jul 2012-Jun 2015. PI: Dr. Bernard Goffinet. **Postdoctoral Fellow**
- 2011 Population analyses on epiphytic bryophytes: biological implications related with the dispersal strategy on species of the family Orthotrichaceae. € 13,832. Universidad Autónoma de Madrid. CCG10-UAM/AMB-5630. Jan-Dec 2011. PI: Dr. Belén Estébanez. **Researcher**
- 2008-2010 Taxonomic, systematic and biogeographic studies on the genus *Orthotrichum* Hedw., subgenus *Pulchella* (Schimp.) Vitt. A worldwide revision. € 60,000. Spanish Ministry of Education and Science. CGL2007-61389/BOS. Jan 2008-Dec 2010. PI: Dr. Francisco Lara. **Researcher**
- 2005-2007 Taxonomy and systematics of the family Orthotrichaceae in Europe and the Mediterranean Basin. € 32,700. Spanish Ministry of Education and Science. CGL2004-03513/BOS. Jan 2005-Dec 2007. PI: Dr. Vicente Mazimpaka. **Research trainee**

Grants and Fellowships

- 2017 Faculty Research Fund. Consolidation of the herbarium of the college (Augustana College). \$2,766
- 2016 Research Fund for New Faculty (Augustana College). \$4,000
- 2012 Bryophyte Bonanza Challenge Fellowship (Awarded by the US National Science Foundation for the attendance to MOSS 2012 & 3rd Int. Conference on Molecular Systematics of Bryophytes) \$902
- Grants for the Mobility of Young Staff Researchers Program (Universidad Autónoma de Madrid). Awarded 3 times (2007, 2008, 2009). Research visits to the University of Connecticut. €4,200 each.
- 2005-2006 Fellowship for University Faculty Training (Formación de Profesorado Universitario, FPU). Spanish Ministry of Education. AP-2004-0007 (Resigned in 2006 after the “Profesor Ayudante” appointment)

Teaching

Assistant Professor at Augustana College

- 2016-2017 BIOL220 (General Botany). Two terms (six credits total. Lectures and laboratories)

Student mentoring

- 2016-2017 Bryophyte identification (two students during two terms)
- 2017 Supervision of student volunteering at the herbarium of the college

Postdoc at the University of Connecticut

- 2015 EEB 3899-007 (Independent Study). Seminar: “A primer for practical phylogenetic data gathering”. (Two courses: spring and fall semester, one credit). Co-designed and co-taught with Dr. Yang Liu.

Student mentoring

- 2015-2016 Moss culturing and hybridization (one student during two semesters)
- 2014-2016 DNA extraction, amplification and sequencing (two students during four semesters)
- 2014 High-Throughput genomic data edition and annotation (one student during one semester)
- 2013-2014 Culturing of Funariaceae mosses (one student during 4 semesters)
- 2013 Culturing of mosses and induction of polyploid strains (one student during 2 semesters)

“Profesor Ayudante” at Universidad Autónoma de Madrid

Laboratories and field trips. 494 net hours. Department of Biology. Division of Botany

Introductory courses

- 2003-2012 Botany (for Biology majors). 7 courses. Laboratory and field
- 2009-2011 Botany (for Env. Sc. majors). One course. Laboratory and other activities (herbarium, botanical garden walks, etc)
- 2003-2004 Botany (for Env. Sc. majors). One course. Laboratory.

Advanced courses

- 2008-2009 Advanced laboratory; Terrestrial ecosystems. One course. Field
- 2005-2007 Introduction to the Iberian Flora. Two courses. Laboratory and field
- 2005-2006 Cryptogamy. One course. Laboratory

Student mentoring (supervisor of B.Sc. theses)

- 2010 Álvaro González. Thesis: “Catalogue of the bryophyte flora of the birch forest of Somosierra (Madrid)”. Grade: 9.5/10. Universidad Autónoma de Madrid
- 2009 Pablo Ventura. Thesis: “Characterization of the bryophyte communities of the holly forest of Robregordo (Madrid)”. Grade: 9.0/10. Universidad Autónoma de Madrid. Co-supervised with Dr. Vicente Mazimpaka

Other teaching-related experience

- 2015 Invited speaker at the Seminar Series in Biology. (SUNY-Oneonta) “Small questions, big answers: what mosses can teach us about evolution and biodiversity”. Oneonta, New York. 27 March 2015
- 2015 Co-instructed of the UConn Early College Experience Biology Workshop (a lab session for 50 high school biology teachers aimed to introduce bryophytes as a model system for biology teaching). Storrs, Connecticut. 19 March 2015

Popular Science

Popular Science journal edition and writing

- 2014-present Associate editor and writer of *Principia* (<http://principia.io>) Website and semiannual journal of scientific culture [Spanish]. ISSN: 2386-5997.
- 2012-2014 Co-editor and writer of *JOF*. Bimonthly online journal of scientific outreach [Spanish]. ISSN: 2254-365

Organization of Popular Science events

- 2015 Member of the executive committee of the UConn BioBlitz 2015 (a 24-hour biodiversity inventory open to the public: <http://bioblitz2015.eeb.uconn.edu/>) Storrs campus (Connecticut) 24-25 July

Invited participation at Popular Science activities for broad audiences

- 2016 Bryophyte specialist at the Connecticut BioBlitz (a 24-hour biodiversity inventory open to the public). Two-Rivers Magnet School, East Hartford, Connecticut. June 4th-5th
- Bryophyte specialist at the Weir Farm Bioblitz, (Wilton, Connecticut). May 21st
- 2015 Invited speaker at the monthly meeting of the New England Botanical Club (Talk: “Mosses, DNA and old papers”). Harvard University. Cambridge, MA. October 2nd
- 2014 Taxon leader (bryophytes) at the Macaulay Honors College/New York Botanical Garden Bioblitz. New York Botanical Garden (New York City, USA). September 7th
- 2013 Bryophyte specialist at the White Memorial Bioblitz. White Memorial. Litchfield (Connecticut, USA) May 31st-June 1st
- 2012 Invited speaker at the VI Fair of Cacti and Succulents of Benalmádena (Talk: “Introduction to the Cape Floristic Region”). (Benalmádena, Spain). July 7th
- 2011 Invited speaker at the environmental Center of La Pedriza (talk: “Bryophytes: a closer look. An introduction to the biology of mosses and liverworts”) with Rut Caparrós (Madrid, Spain). April 30th
- 2010 Invited speaker at the conference “Blogs and Science”. (talk: “Taxomania: sorting the biodiversity”) Universidad de Granada (Spain). April 22nd-23rd

Science blogging

- 2012-2015 Writer at **Mapping Ignorance** (<http://mappingignorance.org/author/rafael-medina>). Blog of the Chair of Scientific Culture of the University of the Basque Country [English].
- 2014-2015 Writer at **CienciaXplora** (<http://www.cienciaxplora.com/firmas/rafael-medina/>) Blog of Science of the Spanish TV-Media Group “AtresMedia” [Spanish].
- 2012-2013 Writer at **Hablando de Ciencia** (<http://www.hablandodeciencia.com/>). Blog of popular science [Spanish]

Workshops and courses attended

- 2011 Advanced workshop on oral and written scientific communication. Association for Promotion of Multimedia Education (UMNA). Madrid. 16 hours

Workshops and courses attended (cont.)

- 2010 Linux: Instalation and Administration (first steps). Center of Scientific Computation. Universidad Autónoma de Madrid (CCCUAM). 20 hours
- 2009 Training program for faculty and staff members. Universidad Autónoma de Madrid.
- Introduction to teaching and research at UAM (1 ECTS –European Standard– credit)
 - Teaching with ICT: the teacher’s webpage (1 ECTS credit)
 - The oral speech in the academic context (2 ECTS credits)
 - Autonomous learning, motivation and evaluation (2 ECTS credits)
 - Evaluation of learning (2 ECTS credits)
- 2008 3rd. Course on Molecular Evolution, Phylogenetics and Phylogenomics. Research Center Príncipe Felipe. Valencia. 40 hours
- 2005 Workshop on Bibmaster (Resource for management of taxonomic and bibliographic information). Coordination Unit of GBIF Spain. Royal Botanical Garden. Madrid. 7 hours

Awards

- 2013 Outstanding Ph.D. Degree Award (“Premio extraordinario de doctorado”) Facultad de Ciencias. Universidad Autónoma de Madrid.
- 2004 Outstanding Bachelor Degree Award (“Premio extraordinario de licenciatura”) Facultad de Ciencias. Universidad Autónoma de Madrid.

Best student presentation awards

- 2012 MOSS 2012 & 3rd Internat. Conference on Molecular Systematics of Bryophytes. New York City
- 2009 World Conference on Bryology 2009 (International Association of Bryology). Cape Town (S. Africa)

Professional membership and service

Peer reviews. Bryologist; Cryptogamie-Bryologie; Journal of Bryology; Molecular Phylogenetics and Evolution; Taxon; Phytotaxa; Plant Systematics and Evolution; Scientific Reports.

Societal membership. Spanish Bryological Society (2006-present); International Association of Bryologists (2008-present); Botanical Association of America (2013-present); American Bryological and Lichenological Society (2015-present); New England Botanical Club (2015-present)