

Curriculum vitae

Family name: Ogaya i Inurrigarro

Forename: Romà

Gender: M

Present professional position

Institution: CSIC

Faculty, School or Institute: CREAF

Department: Global Ecology Unit CSIC-CEAB-CREAF

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E-mail: r.ogaya@creaf.uab.cat

Professional status: Post-doc Researcher

Start date: 1-9-2014

Hired on contracts.

Full time.

Present research area

Climate change, Mediterranean ecosystems, *Quercus ilex*, *Phillyrea latifolia*, *Arbutus unedo*, ecophysiology, drought, photosynthesis, ecosystem productivity, phenology, dendrochronology, tree mortality, atmospheric carbon gain, and water relations.

Academic background

Bachelor: Biology

Centre: Universitat Autònoma de Barcelona

Date: 1996

Ph.D.: Ph.D. in Ecology

Centre: Universitat Autònoma de Barcelona

Thesis supervisor: Josep Peñuelas i Reixach

Date: 20-10-2003

Past Scientific Experience

Position: grant researcher
R&D Centre: CREAM
Duration: 1998-2001

Position: Researcher Assistant
R&D Centre: CSIC-CREAM
Duration: 2002-2006

Position: Post-doc Researcher
R&D Centre: CSIC-CREAM
Duration: 2006-2009

Position: Associate Professor
R&D Centre: Universitat Autònoma de Barcelona
Duration: 2009-2010

Position: Post-doc Researcher
R&D Centre: CEAB-CSIC
Duration: 2010

Position: Post-doc Researcher
R&D Centre: CSIC-CREAM
Duration: 2010-2013

Languages

Language	Speaking	Reading	Writing
Catalan	perfectly	perfectly	perfectly
Spanish	perfectly	perfectly	perfectly
English	good	good	good
Romanian	good	good	normal

Participation in Research Projects

Efectos ecofisiológicos, demográficos e hidrológicos de la sequía sobre el encinar mediterráneo en distintas litologías. Estudio experimental en islas de vegetación de zonas montañosas culminales. **CICYT-CLI97-0344**. Ministerio de Ciencia y Tecnología. 1997-2000. Principal Investigator: Josep Peñuelas.

Efectos del cambio climático sobre los ecosistemas arbustivos del Garraf. Simulación experimental, herbarios y teledetección. **CICYT REN-2000-0278/CLI**. Ministerio de Ciencia y Tecnología. 2001-2003. Principal Investigator: Josep Peñuelas.

Flujos de carbono en los ecosistemas arbustivos mediterráneos y posibles alteraciones por el cambio climático. **CICYT REN-2001-0003/GLO**. Ministerio de Ciencia y Tecnología. 2002-2004. Principal Investigator: Josep Peñuelas.

Estudio de los cambios en las emisiones de compuestos orgánicos volátiles biogénicos (COVBs) de los matorrales y bosques mediterráneos en respuesta a los distintos componentes del cambio global. **MCYT REN-2003-04871/GLO**. Ministerio de Ciencia y Tecnología. 2003-2005. Principal Investigator: Josep Peñuelas.

ALARM Assessing large-scale environmental risks with tested methods. EU sixth framework programme. Subpriority 6.3. sustainable development, global change and ecosystems. **Contract GOTCE-CT-506675**. CEE. 2004-2007. Principal Investigator: Josep Peñuelas.

Funciones fisiológicas y ecológicas de las emisiones vegetales de compuestos orgánicos volátiles y caracterización de las emisiones de comunidades con distinta biodiversidad. **MEC CGL2004-01402/BOS**. Ministerio de Educación y Ciencia. 2004-2007. Principal Investigator: Josep Peñuelas.

Grup reconegut i subvencionat per la Generalitat. Grup d'Ecofisiologia i efectes ecològics dels canvis ambientals globals. Modalitat: B. **SGR2005-00312**. Generalitat de Catalunya. 2005. Principal Investigator: Josep Peñuelas.

NitroEurope IP. The nitrogen cycle and its influence on the European greenhouse gas balance. NUE Specific Programme Integrating and Strengthening the European Research Area - Sub-Priority 1.1.6.3, Global Change and Ecosystems Call identifier: FP6-2004-GLOBAL-3 (OJ 2004 C 159/03). **Contract GOCE 017841**. CEE. 2005-2010. Principal Investigator: Josep Peñuelas.

(C-consolider type) Ecofisiología y efectos ecológicos de los cambios ambientales globales en el marco de las interacciones atmósfera-biosfera. **CGL2006-04025/BOS**. Ministerio de Educación y Ciencia. 2006-2010. Principal Investigator: Josep Peñuelas.

MONTES (Consolider Ingenio type 2010) Los montes españoles y el cambio global: amenazas y oportunidades. **CSD2008-00040**. Ministerio de Educación y Ciencia. 2009-2013. Principal Investigator: Javier Retana.

Impactos de la creciente desproporción ambiental entre N y P sobre organismos, comunidades y ecosistemas terrestres. **CGL2013-48074-P**. Ministerio de Educación y Ciencia. 2013-2015. Investigador principal: Josep Peñuelas.

Grup reconegut i subvencionat per la Generalitat. Grup de la Unitat d'Ecologia Global. **SGR2014-274**. Generalitat de Catalunya. 2014-2016. Investigador principal: Josep Peñuelas.

Effects of phosphorus limitations on Life, Earth system and Society (ERC Synergy project) **SyG-2013-610028 IMBALANCE-P**. CEE. 2013-2018. Investigador principal: Josep Peñuelas.

Publications in SCI journals

Peñuelas J, Piñol J, Ogaya R, Filella I. 1997. Estimation of plant water concentration by the reflectance Water Index WI (R900/R970). **International Journal of Remote Sensing** 18: 2869-2875.

Piñol J, Filella I, Ogaya R, Peñuelas J. 1998. Ground-based spectroradiometric estimation of live fine fuel moisture of Mediterranean plants. **Agricultural and Forest Meteorology** 90: 173-186.

Viegas DX, Piñol J, Viegas MT, Ogaya R. 2001. Estimating live fine fuels moisture content using meteorologically-based indices. **International Journal of Wildland Fire** 10: 223-240.

Ogaya R, Peñuelas J. 2003. Comparative seasonal gas exchange and chlorophyll fluorescence of two dominant woody species in a Holm Oak Forest. **Flora** 198: 132-141.

Ogaya R, Peñuelas J, Martínez-Vilalta J, Mangirón M. 2003. Effect of drought on diameter increment of *Quercus ilex*, *Phillyrea latifolia*, and *Arbutus unedo* in a holm oak forest of NE Spain. **Forest Ecology and Management** 180: 175-184.

Martínez-Vilalta J, Mangirón M, Ogaya R, Sauret M, Serrano L, Peñuelas J, Piñol J. 2003. Sap flow of three co-occurring Mediterranean woody species under varying atmospheric and soil water conditions. **Tree Physiology** 23: 747-758.

Ogaya R, Peñuelas J. 2003. Comparative field study of *Quercus ilex* and *Phillyrea latifolia*: photosynthetic response to experimental drought conditions. **Environmental and Experimental Botany** 50: 137-148.

Peñuelas J, Filella I, Zhang X, Llorens L, Ogaya R, Lloret F, Comas P, Estiarte M, Terradas J. 2004. Complex spatiotemporal phenological shifts as a response to rainfall changes. **New Phytologist** 161: 837-846.

Lloret F, Peñuelas J, Ogaya R. 2004. Seedling versus sprout recruitment of two Mediterranean trees (*Phillyrea latifolia* and *Quercus ilex*) under drought conditions. **Journal of Vegetation Science** 15: 237-244.

Ogaya R, Peñuelas J. 2004. Phenological patterns of *Quercus ilex*, *Phillyrea latifolia*, and *Arbutus unedo* growing under a field experimental drought. **Écoscience** 11: 263-270.

Ogaya R, Peñuelas J. 2005. Decreased mushroom production in a holm oak forest in response to an experimental drought. **Forestry** 78: 279-283.

Serrano L, Peñuelas J, Ogaya R, Savé R. 2005. Tissue-water relations of two co-occurring evergreen Mediterranean species in response to seasonal and experimental drought conditions. **Journal of Plant Research** 118: 263-269.

Ogaya R, Peñuelas J. 2006. Contrasting foliar responses to drought in *Quercus ilex* and *Phillyrea latifolia*. **Biologia Plantarum** 50: 373-382.

Asensio D, Peñuelas J, Ogaya R, Llusà J. 2007. Seasonal soil and leaf CO₂ exchange rates in a Mediterranean holm oak forest and their responses to drought conditions. **Atmospheric Environment** 41: 2447-2455.

Asensio D, Peñuelas J, Ogaya R, Llusà J. 2007. Seasonal soil VOC Exchange rates in a Mediterranean holm oak forest and their responses to drought conditions. **Atmospheric Environment** 41: 2456-2466.

Ogaya R, Peñuelas J. 2007. Leaf mass per area ratio in *Quercus ilex* leaves under a wide range of climatic conditions. The importance of low temperatures. **Acta Oecologica**, 31: 168-173.

Ogaya R, Peñuelas J. 2007. Tree growth, mortality, and above-ground biomass accumulation in a holm oak forest under a five-year experimental field drought. **Plant Ecology** 189: 291-299.

Ogaya R, Peñuelas J. 2007. Seasonal ultrasonic acoustic emissions of *Quercus ilex* L. trees in a Mediterranean forest. **Acta Physiologiae Plantarum** 29:407-410.

Ogaya R, Peñuelas J. 2007. Species-specific drought effects on flower and fruit production in a Mediterranean holm oak forest. **Forestry** 80:351-357.

Asensio D, Peñuelas J, Llusà J, Ogaya R, Filella I. 2007. Interannual and interseasonal soil CO₂ efflux and VOC exchange rates in a Mediterranean holm oak forest in response to experimental drought. **Soil Biology and Biochemistry** 39: 2471-2484.

Peñuelas J, Ogaya R, Boada M, Jump A. 2007. Migration, invasion and decline: changes in recruitment and forest structure in a warming-linked shift of European beech forest in Catalonia (NE Spain). **Ecography** 30: 830-838.

Sardans J, Peñuelas J, Ogaya R. 2008. Drought induced changes in C and N stoichiometry in a *Quercus ilex* Mediterranean forest. **Biogeochemistry** 87: 49-69.

Peñuelas J, Jump A, Hunt J, Ogaya R. 2008. 20th century changes of tree-ring $\delta^{13}\text{C}$ at the southern range-edge of *Fagus sylvatica*. Increasing water-use efficiency does not avoid the growth decline induced by warming at low latitudes. **Global Change Biology** 14: 1076-1088.

Alessio GA, Peñuelas J, Llusà J, Ogaya R, Estiarte M, De Lillis M. 2008. Influence of water and terpenes on flammability in some dominant Mediterranean species. **International Journal of Wildland Fire** 17: 274-286.

Prieto P, Peñuelas J, Ogaya R, Estiarte M. 2008. Precipitation-dependent flowering of *Globularia alypum* and *Erica multiflora* in a Mediterranean shrubland under experimental drought and warming and its interannual variability. **Annals of Botany** 102: 275-285.

Ogaya R, Peñuelas J. 2008. Changes in leaf $\delta^{13}\text{C}$ and $\delta^{15}\text{N}$ and trunk growth for three Mediterranean tree species in relation to soil water availability. **Acta Oecologica** 34:331-338.

Sardans J, Peñuelas J, Ogaya R. 2008. Experimental drought reduced acid and alkaline phosphatase activity and increased organic extractable P in soil in a *Quercus ilex* Mediterranean forest. **European Journal of Soil Biology** 44: 509-520.

Sardans J, Peñuelas J, Ogaya R. 2008. Drought-induced Changes in C and N Stoichiometry in a *Quercus ilex* Mediterranean Forest. **Forest Science** 54: 513-522.

Peñuelas J, Sardans J, Ogaya R, Estiarte M. 2008. Nutrient stoichiometry relations and biogeochemical niche in coexisting plant species: effect of simulated climate change. **Polish Journal of Ecology** 56: 613-622.

Prieto P, Peñuelas J, Niinemets U, Ogaya R, Schmidt IK, Beier C, Tietema A, Sowerby A, Kovács Láng E, Kröel-Dulay G, Lhotsky B, Cesaraccio C, Pellizzaro G, De Dato G, Sirca C, Estiarte M. 2009. Changes in the onset of spring growth in shrubland species in response to experimental warming along a north-south gradient in Europe. **Global Ecology and Biogeography** 184: 473-484.

Llusià J, Peñuelas J, Alessio GA, Ogaya R. 2009. Annual and seasonal changes in foliar terpene content and emission rates in *Cistus albidus* L. submitted to soil drought in Prades forest (Catalonia, NE Spain). **Acta Physiologiae Plantarum**, DOI 10.1007/s11738-009-0416-y.

Ogaya R, Peñuelas J, Asensio D, Llusià J. 2011. Chlorophyll fluorescence in two Mediterranean Woody species growing under drought conditions. **Environmental and Experimental Botany** 71: 123-127.

Peñuelas J, Canadell JG, Ogaya R. 2011. 20th Century changes of tree-ring growth and $\delta^{13}\text{C}$: increasing water-use efficiency does not translate on overall significant CO_2 fertilization growth **Global Ecology and Biogeography** 20: 597-608.

Ogaya R, Llorens L, Peñuelas J. 2011. Stomatal density in “living fossil” trees under elevated CO_2 polar regime, **Acta Oecologica** 37: 381-385.

Llusià J, Peñuelas J, Alessio G, Ogaya R. 2011. Species-specific, seasonal, inter-annual, and historically-accumulated changes in foliar terpene emission rates in *Phillyrea latifolia* and *Quercus ilex* submitted to rain exclusion in the Prades mountains (Catalonia). **Russian Journal of Plant Physiology** 58: 126-132.

Ogaya R, Peñuelas J, Asensio D, Llusià J. 2011. Chlorophyll fluorescence in two Mediterranean Woody species growing under drought conditions. **Environmental and Experimental Botany** 71: 123-127.

Curriel-Yuste J, Peñuelas J, Estiarte M, Garcia-Mas J, Mattana S, Ogaya R, Pujol M, Sardans J. 2011. Drought-resistant fungi control soil organic matter decomposition and its response to temperature. **Global Change Biology** 17: 1475-1486.

Barbeta A, Peñuelas J, Ogaya R, Jump A. 2011. Reduced tree health and seedling production in fragmented *Fagus sylvatica* forest patches in the Montseny Mountains (NE Spain). **Forest Ecology and Management** 261: 2029-2037.

Peñuelas J, Canadell JG, Ogaya R. 2011. Increased water-use efficiency during the 20th century did not translate into enhanced tree growth. **Global Ecology and Biogeography** 20:597-608.

Ogaya R, Llorens L, Peñuelas J. 2011. Stomatal density in “living fossil” trees under elevated CO₂ polar regime. **Acta Oecologica** 37: 381-385.

Kattge J, et al. 2011. TRY – a global database of plant traits. **Global Change Biology** 17: 2905-2935.

Peñuelas J, Rico L, Ogaya R, Jump A, Terradas J. 2012. Summer season and long-term drought increase the richness of bacteria and fungi in the foliar phyllosphere of *Quercus ilex* in a mixed Mediterranean forest. **Plant Biology** 14: 565-575.

Büker P, et al. 2012. DO3SE modelling of soil moisture to determine ozone flux to forest trees. **Atmospheric Chemistry and Physics** 12: 5537-5562.

Vicca S, Gilgen A.K, Camino Serrano M, Dreesen F.E, Dukes J.S, Estiarte M, Gray S.B, Guidolotti G, Hoepfner S.S, Leakey A.D.B, Ogaya R, Ort D.R, Ostrogovic M.Z, Rambal S, Sardans J, Schmitt M, Siebers M, van der Linden L, van Straaten O, Granier A. 2012. Urgent need for a common metric to make precipitation manipulation experiments comparable. **New Phytologist** 195: 518-522.

Barbeta A, Ogaya R, Peñuelas J. 2012. Comparative study of diurnal and nocturnal sap flow of *Quercus ilex* and *Phillyrea latifolia* in a Mediterranean holm oak forest in Prades (Catalonia, NE Spain). **Trees** 26: 1651-1659.

Garbulsky MF, Peñuelas J, Ogaya R, Filella I. 2013. Leaf and stand-level carbon uptake of a Mediterranean forest estimated using the satellite-derived reflectance indices EVI and PRI. **International Journal of Remote Sensing** 34: 1282-1296.

Rabasa SG, Granda E, Benavides R, Kunstler G, Epelta JM, Ogaya R, Peñuelas J, Scherer-Lorenzen M, Gil W, Grodzki W, Ambrozy S, Bergh J, Hódar JA, Zamora R, Valladares F. 2013. Disparity in elevational shifts of European trees in response to recent climate warming. **Global Change Biology** 19: 2490-2499.

Peñuelas J, Guenther A, Rapparini F, Llusià J, Filella I, Seco R, Estiarte M, Mejía-Chang M, Ogaya R, Ibáñez J, Sardans J, Castaño LM, Turnipseed A, Duhl T, Harley P, Vila J, Estavillo JM, Menéndez S, Facini O, Baraldi R, Geron C, Mak J, Patton EG, Jiang X, Greenberg J. 2013. Intensive measurements of gas, water, and energy exchange between vegetation and troposphere during the MONTES campaign in a vegetation gradient from short semi-desertic shrublands to tall wet temperate forests in the NW Mediterranean Basin. **Atmospheric Environment** 75: 348-364.

Peñuelas J, Sardans J, Estiarte M, Ogaya R, Carnicer J, Coll M, Barbeta A, Rivas-Ubach A, Llusià J, Garbulsky M, Filella I, Jump A. 2013. Evidence of current impact of

climate change on life: a walk from genes to the biosphere. **Global Change Biology** 19:2303-2338.

Sardans J, Rivas-Ubach A, Estiarte M, Ogaya R, Peñuelas J. 2013. Field-simulated droughts affect leaf stoichiometry in Mediterranean forests and shrublands. **Acta Oecologica** 50: 20-31.

Barbeta A, Ogaya R, Peñuelas J. 2013. Dampening effects of long-term experimental drought on growth and mortality rates of a Holm oak forest. **Global Change Biology** 19: 3133-3144.

Rosas T, Martínez-Vilalta J, Galiano L. 2013. Non-structural carbohydrates in three Mediterranean woody species are unaffected by long-term experimental drought. **Frontiers in Plant Science** doi: 10.3389/fpls.2013.00400.

Curiel Yuste J, Fernández-González AJ, Fernández-López M, Ogaya R, Peñuelas J, Sardans J, Lloret F. 2014. Strong functional stability of soil microbial communities under semiarid Mediterranean conditions and subjected to long-term shifts in baseline precipitation. **Soil Biology and Biogeochemistry** 69: 223-233.

Nogués I, Llusà J, Ogaya R, Munné-Bosch S, Sardans J, Peñuelas J, Loreto F. 2014. Physiological and antioxidant responses of *Quercus ilex* to drought in two different seasons. **Plant Biosystems** 148: 268-278.

Rico L, Ogaya R, Barbeta A, Peñuelas J. 2014. Changes in DNA methylation fingerprint of *Quercus ilex* trees in response to experimental field drought simulating projected climate change. **Plant Biology** 16: 419-427.

Rico L, Ogaya R, Terradas J, Peñuelas J. 2014. Community structures of N₂-fixing bacteria associated with the phyllosphere of a Holm oak forest and their response to drought. **Plant Biology** 16: 586-593.

Rivas-Ubach A, Gargallo-Garriga A, Sardans J, Oravec M, Mateu-Castell L, Pérez-Trujillo M, Parella T, Ogaya R, Urban O, Peñuelas J. 2014. Drought enhances folivory by shifting foliar metabolomes in *Quercus ilex* trees. **New Phytologist** 202: 874-885.

Vicca S, Bahn M, Estiarte M, van Loon EE, Vargas R, Alberti G, Ambus P, Arain MA, Beier C, Bentley LP, Borken W, Buchmann N, Collins SL, de Dato G, Dukes JS, Eescolar C, Fay P, Guidolotti G, Hanson PJ, Kahmen A, Kröel-Dulay G, Ladreiter-Knauss T, Larsen KS, Lellei-Kovacs E, Lebrija-Trejos E, Maestre FT, Maehan S, Marshall M, Meir P, Miao Y, Muhr J, Niklaus PA, Ogaya R, Peñuelas J, Poll C, Rustad LE, Savage K, Schindlbacher A, Schmidt IK, Smith AR, Sotta ED, Suseela V, Tietema A, van Gestel N, van Straaten O., Wan S, Weber U, Janssens IA. 2014. Can current moisture responses predict soil CO₂ efflux under altered precipitation regimes? A synthesis of manipulation experiments. **Biogeosciences** 11: 2991-3013.

Greenberg JP, Peñuelas J, Guenther A, Seco R, Turnipseed A, Jiang X, Filella I, Estiarte M, Sardans J, Ogaya R, Llusà J, Rapparini F. 2014. A tethered-balloon PTRMS sampling approach for surveying of landscape-scale biogenic VOC fluxes. **Atmospheric Measurement Techniques** 7: 2263-2271.

Ogaya R, Llusà J, Barbeta A, Asensio D, Liu D, Alessio GA, Peñuelas J. 2014. Foliar CO₂ in a holm oak forest subjected to 15 years of climate change simulation. **Plant Science**. 226: 101-107.

Ogaya R, Barbeta A, Basnou C, Peñuelas J. 2015. NDVI and EVI data from MODIS are good indicators of tree biomass growth and forest dieback in a Mediterranean holm oak forest. **Annals of Forest Science**. 72: 135-144.

Curiel Yuste J, Fernández-González AJ, Fernández-López M, Ogaya R, Peñuelas J, Lloret F. 2015. Functional diversification within bacterial lineages promotes wide functional overlapping between taxonomic groups in a Mediterranean forest soil. **Microbiology Ecology**. 90: 54-67.

Barbeta A, Mejía-Chang M, Ogaya R, Voltas J, Dawson TE, Peñuelas J. 2015. The combined effects of a long-term experimental drought on the use of plant-water sources in a Mediterranean forest. **Global Change Biology**. 21: 1213-1225.

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Benavides R, Escudero A, Coll L, Ferrandis P, Ogaya R, Gouriveau F, Peñuelas J, Valladares F. 2015. Recruitment patterns of four tree species along elevation gradients in Mediterranean mountains: Not only climate matters. **Forest Ecology and Management**. 360: 287-296.

Sperlich D, Barbeta A, Ogaya R, Sabaté S, Peñuelas J. 2015. Balance between carbon gain and loss under long-term drought: impacts on foliar respiration and photosynthesis in *Quercus ilex* L. **Journal of Experimental Botany**. In press.

Publications in other journals and chapters of books

Martínez-Vilalta J, Mangirón M, Ogaya R, Lloret F, Mastrantonio M, Piñol J, Sardans J, Terradas J, Peñuelas J. 1999. Efectes de la sequera sobre l'alzinar mediterrani a Prades. **Treballs del Centre d'Història Natural de la Conca de Barberà** 2: 49-60. Article.

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Peñuelas J, Filella I, Estiarte M, Llusia J, Ogaya R, Ribas A, Llorens L, Mangirón M, Munné-Bosch S, Bruna P, Prieto P, Asensio D, Sardans J, Serrano L, Oliveira G, Castells E, Rodà F, Lloret F, Terradas J. 2003. Passeig ecofisiològic per l'espai i pel temps: l'estudi de les alteracions produïdes pels canvis climàtics i atmosfèrics en l'estructura i el funcionament de les plantes i dels ecosistemes terrestres. **Treballs Societat Catalana de Biologia** 54: 65-84. Article.

Ogaya R, Peñuelas J, Asensio D, Llusia J, Sardans J, Serrano L, Lloret F, Terradas J. 2004. Efectes ecofisiològics d'una sequera experimental sobre l'alzinar de Prades. En: Actes de les Primeres Jornades sobre el Bosc de Poblet. (**Paratge Natural d'Interès Nacional de Poblet** Ed.). L'Espluga de Francolí. pp 183-191. Article.

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Ogaya R, Peñuelas J. 2007. Les baixes temperatures hivernals determinen la morfologia foliar de les plantes. **UAB divulga**, June 2007. Article.

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Peñuelas J, Filella I, Estiarte M, Ogaya R, Llusia J, Sardans J, Jump A, Garbulsky M, Carrillo B, Stefanescu C, Lloret F, Terradas J. 2008. El canvi climàtic altera i alterarà la vida als ecosistemes terrestres catalans. **Atzavara** 16: 13-28. Article.

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CREAF 2003-2008 (ISBN: 978-84-935211-03; **CREAF** Ed.) Bellaterra, Barcelona. pp 45-58. Chapter of book.

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Jump A, Barbeta A, Ogaya R, Peñuelas J. 2011. Interactions between genetics and demography in forest fragmentation. Population Biology meeting, Cambridge, UK. June. **Presentation.**

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Peñuelas J., Filella I., Estiarte M., Ogaya R., Llusà J., Sardans J., Jump A., Carnicer J., Rico L., Garbulsky M., Coll M., Díaz de Quijano M., Seco R., Rivas-Ubach A., Kefauer S, Barbeta A, Achotegi A, Mejía-Chang M, Gallardo A, Farré G., Fernández M., Terradas J, 2012. Ecosystemic and biospheric interactions with carbon cycle. Carbon dioxide budget: processes and tendencies symposium. Universitat Politècnica de Catalunya. Catalonia, Spain. May 23-25. **Presentation.**

Estiarte M, Peñuelas J, Ogaya R, Barbeta A. 2012. Drought and other extreme weather conditions in terrestrial ecosystems. ClimMani (Climate Change – Manipulation experiments in terrestrial ecosystems). Dubrovnik, Croacia. June 8-9. **Presentation.**

Ogaya R, Peñuelas J. 2012. Eleven years of experimental drought in Prades Holm Oak forest. International workshop of MOTIVE project. Poblet (Tarragona), Catalonia, Spain. November 8-9. **Presentation.**

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Peñuelas J, Marino G, Llusia J, Morfopoulos C, Farré-Armengol G, Kefauver S, Guenther A, Rapparini F, Seco R, Estiarte M, Mejia-Chang M, Ogaya R, Sardans J, Turnipseed A, Harley P, Facini O, Baraldi R, Greenberg J, Filella I. 2013. Photochemical reflectance index and remote sensing of isoprenoid emissions. Prospects for upscaling. AGU American Geophysical Union's 46th annual Fall Meeting. San Francisco, California, USA. December 9-13. (Invited communication). **Presentation.**

Peñuelas, J., Garbulsky, M., Marino, G., Llusia, J., Morfopoulos, C., Farré-Armengol, G., Kefauver, S., Guenther, A., Rapparini, F., Seco, R., Estiarte, M., Mejia-Chang, M., Ogaya, R., Sardans, J., Turnipseed, A., Harley, P., Facini, O., Baraldi, R., Greenberg, J., Filella, I. 2014. PRI and remote sensing of vegetation gas exchange. In: Global

Vegetation Monitoring and Modeling (GV2M) conference, 2014. Session on Land Essential Climate Variables (ECV) available products and new products.(Key note speech). Avignon, France. February 3-7. **Presentation.**

Peñuelas J, Filella I, Estiarte M, Llusà J, Sardans J, Ogaya R, Carnicer J, Rico L, Verger A, Asensio D, Bartrons M, Kefauver S, Barbeta A, Rivas-Ubach A, Achotegui A, Gargallo A, Sperlich D, Farré G, Liu D, Zhang C, Tao S. 2014. Quantifying the responses of ecosystems and society in a world increasingly rich in N and C but limited in Phosphorus. In: Phosphorus Imbalance in the Terrestrial Biosphere Processes from Root to Globet Meeting. Phosphorus meeting. Montpellier, France. March 6-7. **Presentation.**

Ogaya R, Peñuelas J. 2014. Quinze anys de sequera experimental a l'alzinar de Prades. En: Experiències d'adaptació dels boscos al canvi climàtic. Paratge Natural de Poblet (Vimodó, Tarragona), Catalonia, Spain. May 15. **Presentation.**

Peñuelas J, Filella I, Zhang C, Llusà J, Ogaya R, Liu D, Verger A, Balzarolo M, Vicca S, Fernández-Martínez M, Janssens I, Garbulsky M, Marino G, Farré-Armengol G. 2014. On the use of remote sensing techniques to assess forest gas exchange. ForestSAT conference: a bridge between forest sciences, remote sensing and geo-spatial applications. Riva del Garda (TN), Italy. November 4-7. **Presentation.**

Estiarte M, Ogaya R, Peñuelas J. 2014. Biomassa en un matollar del Garraf després de 12 anys de sequera experimental. VII trobada d'estudiosos del Garraf i d'Olèrdola. Begues (Barcelona), Catalonia, Spain. November 20.

Barbeta A, Ogaya R, Mejía-Chang M, Rico L, Voltas J, Dawson TE, Peñuelas J. 2014. Forest acclimation to drought: Structural, functional and epigenetic changes following a long-term drought experiment. Natural and human-assisted adaptation of forests to climatic constraints: the relevance of interdisciplinary approaches. Orléans, France. November 18-19.

Ogaya R, Filella I. 2015. PLECO Antwerp, and Global Ecology Unit CREAM-CSIC. 2015. The effects of nutrients and drought on canopy energy partitioning in tropical and Mediterranean forests. Imbalance-P conference (European Research Council Synergy grant ERC-2013-SyG-610028). Barcelona, Catalonia, Spain. January 13-16.

Stays in internationally recognized centres

University of California. 2009. Effects of changes in precipitation in terrestrial ecosystems and the use of meta-analysis as a tool to compare the results of different projects. October 12-16.

CSIC-CEAB (Centre d'Estudis Avançats de Blanes). 2010. Estudios de ecofisiología y o macroecología para identificar las equivalencias de procesos, patrones temporales, estructura, organización y variables fisiológicas de la vegetación mediterránea en respuesta al cambio climático. May-August.

Technology transference activities

Installation and management of two climate manipulation experiments: one in a holm oak Mediterranean forest and another one in a Mediterranean shrubland.

Teaching experience

Master thesis supervisor “Drought effect on tree growth in a Mediterranean holm oak forest”. Karen Thirslund. University of Copenhagen, Faculty of Biology. 2009.

Thesis supervisor “Climate change effects in Mediterranean forest development and structure”. Adrià Barbeta. Universitat Autònoma de Barcelona. In course.

Associate professor in Ecology. Universitat Autònoma de Barcelona. 135 hours. 2009-2010.

Thesis supervisor “Climate change impacts on Mediterranean shrubland and forest, their ecophysiology and demography”. Daijun Liu. Universitat Autònoma de Barcelona. In course.

Other Achievements

Collaborator in the organization of the Global Change International Congress GCTE-LUCC Open Science Conference ‘Earth’s Changing Land’. Barcelona, Spain. March 14-18, 1998.

Reviewer of some papers in: Environmental and Experimental Botany, Forest Ecology and Management, Écoscience, Forestry, Scandinavian Journal of Forest Research, Acta Oecologica, Trees, Plant and Soil, Global Change Biology.

Tribunal member of 5 master and 3 Ph.D. presentations between 2004 and 2010 (Universitat Autònoma de Barcelona and Universitat de Lleida).

Some of the developed projects were broadcasted in TV: RTVE (La2) and TVC (TV3 and Canal33).