

Curriculum Vitae

Gerard Sapés de Moreta

Date of birth: September 25th, 1989

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Education

2014- Present

PhD Graduate Student in the OBEE program of the Division of Biological Sciences (University of Montana, United States). *Current GPA: 3.9*

2012 - 2013

Masters' Degree in Terrestrial Ecology at Center of Ecological Research and Forestry Applications (CREAF) (Autonomous University of Barcelona). *Grade: 8.5/10*

2007-2012

Bachelor of Science in Biology at Autonomous University of Barcelona specialized in Plant Biology and Ecology. *Grade: 7.5/10*

11 years of academic music studies, specialized in classical guitar (3rd medium level - Intermediate Level 3), piano (2nd elementary level) and electric guitar (4th elementary level). *Grade: 8/10*

Work Experience

January 2014 – December 2018

PhD graduate student in the OBE program of the **Division of Biological Sciences** (University of Montana, United States)

- Teaching Introduction to Botany labs as part of my duties as a PhD student doing active research
- Teaching Principles of Living Systems labs as part of my duties as a PhD student doing active research
- Teaching Discovering Biology labs as part of my duties as a PhD student doing active research
- Undergraduate student mentoring

Work References: asala@mso.umt.edu (Full professor)

October 2013 – January 2014

Research technician at **CREAF** (Autonomous University of Barcelona, Spain)

- Treatment of plant samples, active research, coordinating internship students

Work References: Francisco.Lloret@uab.cat (Research professor)

June 2012 to September 2013

Master's thesis at **CREAF** (Autonomous University of Barcelona, Spain)

- Species climatic niche explains drought-induced die-off in a Mediterranean woody community

Work References: Francisco.Lloret@uab.cat (Research professor)

September 2011 to June 2012

Collaboration grant in the University Ecology Department – CREAM (Autonomous University of Barcelona, Spain).

- Collaboration in a project about the effects of drought on the abundance of woody Mediterranean species and on their resilience. Also helping in fieldwork of a PhD student (Forestry works).

Work References: Francisco.Lloret@uab.cat (Research professor)

September 2010 to June 2011

Internship at CREAM (Autonomous University of Barcelona, Spain)

- Field Work (collection of plant samples), treatment of plant samples at Laboratory, collaboration in experiments about germination of seed banks, monitoring of ecosystems affected by drought, and so on.

Work References: Francisco.Lloret@uab.cat (Research professor)

Publications

Martinez-Vilalta J, Anderegg W, **Sapes G**, Sala A. Greater focus on water pools may improve our ability to understand and anticipate drought-induced mortality in plants. New Phytologist. Accepted.

Simeone C, Maneta M, Holden Z, **Sapes G**, Sala A, Dobrowski S. 2018. Coupled ecohydrology and plant hydraulics modeling predicts ponderosa pine seedling mortality and lower tree line in the U.S. Northern Rocky Mountains. New Phytologist.
<https://doi.org/10.1111/nph.15499>

Pérez-Navarro MA, **Sapes G**, Batllori E, Serra-Diaz JM, Esteve MA, Lloret F. 2018. Climatic suitability derived from species distribution models correlates with plant population responses to an extreme drought episode. Ecosystems. <https://doi.org/10.1007/s10021-018-0254-0>.

Lloret F, **Sapes G**, Rosas T, Galiano L, Saura-Mas S, Sala A, Martínez-Vilalta J. 2018. Non-structural carbohydrates dynamics associated to drought-induced die-off in woody species of a shrubland community. Annals of Botany mcy039.
<https://doi.org/10.1093/aob/mcy039>.

Sapes G, Serra-Diaz J, Lloret F. 2017. Species climatic niche explains drought-induced die-off in a Mediterranean woody community. Ecosphere 8 (5):e01833.
e0183310.1002/ecs2.1833.

Ryan M, **Sapes G**, Sala A, Hood S. 2015. Tree Physiology and Bark Beetles. New Phytologist. 205 (3), 955-957. Doi: 10.1111/nph.13256

Publications in preparation

Sapes G, Roskilly B, Dobrowski S, Maneta M, Anderegg W, Martinez-Vilalta J, Sala A. Plant water content integrates hydraulics and carbon depletion to predict population-level drought-induced seedling mortality. Under revision at New Phytologist.

Sapes G, Dobrowski S, Sala A. Populations with different resistance to drought show common mortality thresholds based on water content at turgor loss point. In prep.

Sapes G, Demaree P, Sala A. Depletion of Non-Structural Carbohydrate Pools in the Absence of Drought Increases Plant Vulnerability to Drought. In prep.

Sapes G, Demaree P, Lekberg Y, Sala A. Lack of Evidence of Plant to Plant Carbon Transfer through Mycorrhizal Networks. In prep.

Conference presentations:

Sapes G, Simeone C, Demaree P, Roskilly B, Dobrowski S, Maneta M, Holden Z, Lekberg Y, Sala A. 2018. From seedlings to forest distributions: Understanding the importance of water and carbon under drought. Mountain Climate Conference. Oral presentation.

Sapes G, Demaree P, Lekberg Y, Sala A. 2018. Depletion of non-structural carbohydrate pools in the absence of drought increases plant vulnerability to drought. Gordon Research Conference: Multiscale Plant Vascular Biology. Poster.

Sapes G, Demaree P, Lekberg Y, Sala A. 2018. Depletion of non-structural carbohydrate pools in the absence of drought increases plant vulnerability to drought. Gordon Research Conference Seminar: Multiscale Plant Vascular Biology. Oral presentation.

Sapes G, Roskilly B, Dobrowski S, Maneta M, Sala A. 2018. Plant water content is the best predictor of drought-induced mortality. Reforestation and Stand Improvement Workshop. Oral presentation.

Simeone C, Maneta M, Holden Z, Dobrowski S, **Sapes G**, Sala A. 2017. An examination of drought-induced hydraulic stress in conifer forests using a coupled ecohydrologic model. Montana American Water Resources Associate Conference. Poster.

Sapes G, Roskilly B, Dobrowski S, Sala A. 2017. Plant Water Content is the Best Predictor of Mortality under Drought. IoE meeting. Poster presentation.

Simeone C, Dobrowski S, Holden Z, **Sapes G**, Sala A, Maneta M. 2017. An Examination of Drought-Induced Hydraulic Stress in Conifer Forests Using a Coupled Ecohydrologic Model. AGU meeting. Oral presentation.

Maneta M, Simeone C, Dobrowski S, Holden Z, **Sapes G**, Sala A, Begueria S. 2017. Insight into the hydraulics and resilience of Ponderosa pine seedlings using a mechanistic ecohydrologic model. AGU meeting. Poster.

Sapes G, Roskilly B, Dobrowski S, Maneta M, Sala A. 2017. Plant water content is the best predictor of drought-induced mortality. AGU meeting. Oral presentation.

Sapes G, Roskilly B, Dobrowski S, Sala A. 2017. Plant water content is the best predictor of drought-induced mortality. ESA meeting. Oral presentation.

Sapes G, Roskilly B, Dobrowski S, Sala A. 2017. Why do plants die under drought? IoE-EPSCoR All-Hands meeting. Oral presentation.

Lloret F, **Sapes G**, Perez M A, Batllori E. 2016. Species climatic niches explain population-level responses in plant communities: the case of drought-induced vegetation die-off. Community ecology for the 21st century: From genes to ecosystems. Oral presentation.

Lloret F, **Sapes G**, Batllori E. 2016. Assessing population-level responses in plant communities affected by drought-induced die-off through species bioclimatic niches. CLIMMANI/INTERFACE workshop. After the extreme: Measuring and modeling impacts on terrestrial ecosystems when thresholds are exceeded. Poster.

Lloret F, **Sapes G**, Perez M A, Batllori E. 2015. Assessing plant community responses to global change through species bioclimatic niches. Ecological European Federation (EEF/SITE) Congress: Ecology at the interface. Oral presentation.

Sapes G, Serra-Diaz J, Lloret F. 2014. Species bioclimatic niche explains drought-induced die-off in a Mediterranean woody community. Society of American Forestry Symposium. Poster presentation.

Outreach Publications

Sapes G. 2016. La caza como herramienta de protección de la naturaleza. La Vanguardia Natural.

Sapes G. 2016. ¿Cómo y cuánto afectará Trump a los esfuerzos contra el cambio climático? La Vanguardia Natural.

Fellowships

2014 – 2019 University of Montana Teaching Assistantship in Organismal Biology and Ecology Department.

2015 – 2016 University of Montana Research Assistantship in Forestry Department.

Grants and Awards

2018 – Mountain Climate Conference Early Career Invited Speaker

2018 – Multiscale Plant Vascular Biology Travel Award – Gordon Research Conference

2018 – ESA Travel Award - Ecological Society of America

2018 – Best of Grad Con Award – University of Montana

2018 – David Nicholas Memorial Fund – University of Montana

2018 – Jack E. Schmautz Graduate Scholarship – University of Montana

2018 – Drollinger-Dial Research Travel Award – University of Montana

2017 – IoE Award for outstanding work towards the IoE mission – Institute of Ecosystems

2017 – Billings Award for best graduate student talk in the Physiology and Ecology Section of ESA – Ecological Society of America

2017 – ESA Travel Award - ESA

2017 – Hydraulics Workshop Assistance and Travel Award - NSF

2017 – Research Creative Scholarship – University of Montana

2017 – David Nicholas Memorial Fund – University of Montana

2017 – Jack E. Schmautz Graduate Scholarship – University of Montana

2017 – Best of Grad Con Award – University of Montana

2017 – Collaboration Challenge Research Grant – Interdisciplinary Collaborative Network

2016–2019 – *Bioclimatic Niche and Plant Community Dynamics in Response to Climate Change*. Ministerio de Economía y Competitividad (Spain), Programa Nacional de Investigación Fundamental (CGL2015-67419-R); 160,000 €. PI: Francisco Lloret. **Role:** Member of the research team.

2016 – IoE Graduate Enhancement Award – Institute of Ecosystems

2016 – Phys Fest Travel Award - NSF

2015 – Drollinger-Dial Research Travel Award – University of Montana

2015 – Collaboration Challenge Research Grant – Interdisciplinary Collaborative Network

2014 – Jack E. Schmautz Graduate Scholarship – University of Montana
2014 – Drollinger-Dial Research Travel Award – University of Montana
2011 – Ecology Department Collaboration Grant – Universitat Autònoma de Barcelona

Teaching and Mentoring

2018 – Undergraduate mentoring for Ella Dartman.
2018 – Head Teaching assistant for Introduction to Botany.
2017 – Teaching assistant for Discovering Biology.
2017 – Undergraduate mentoring for Laura Thornton.
2017 – Undergraduate mentoring for Jack Schooley.
2016-Present – Undergraduate mentoring for Patrick Demaree.
2015 – Undergraduate mentoring for Dylan Budke.
2015 – Head Teaching assistant for Introduction to Botany.
2015 – Invited guest lecture for Introduction to Botany: *Root physiology and Development*
2014 – Teaching assistant for Principles of Living Systems.
2014 – Teaching assistant for Introduction to Botany.

Science Outreach

2018 – Yoncha A, **Sapes G.** Blackfoot Pathways: Sculpture in the Wild – Talking Trees
2018 – Montana Science Fair Judge
2017 – Big Biology: A biology podcast. <https://www.bigbiology.org/>
2017 – Project Biogames: Bringing science to people through videogames and social networks. <https://gerardsapes.wixsite.com/plantscience/outreach>
2017 – Montana Science Fair Judge
2017 - Yoncha A, **Sapes G.** Attempting physical contact with geologic time: A collaboration between Arts and Science. [UM Grad Con show.](#)
2016 – Montana Science Fair Judge
2016 – SpectrUM Volunteer Program

Workshops

NSF Phys-Fest workshop 2016 (40 hours)
NSF Tree-line workshop (30 hours)
Effective Teaching and Communication Skills for International Teaching Assistants (50 hours)
VIII International Keté Symposium: Polar environments (15 hours)
IX International Keté Symposium: Menaced fauna (15 hours)
Future Forests: Challenges of Mediterranean forests under future climate change (15 hours)
Word: text processing (20 hours)
Layout and design (15 hours)

Computer Skills

R for Statistical Computing
Python
SPSS
Statistica
MiraMon (GIS software)
Quantum GIS (GIS software)
MaxEnt (Species Distribution Modeling)
Adobe Illustrator
ImageJ

Windows 98/Me/2000/Xp/Vista/7/8/10
Proficiency in Microsoft Office
REAPER – Digital Audio Workstation

Languages

Spanish: Native

Catalan: Native

English: Good communication skills (written and spoken). – TOEFL level 101/120

Other Work Experience

September 2005 to June 2012.

Electric guitar teacher at IES Puig de la Creu (Castellar del Vallès, Spain).