# ALISSAR CHEAIB

RESEARCHER AND LECTURER IN PLANT ECOLOGY

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## EDUCATION

- **Ph.D., Plant Ecophysiology Bordeaux I University, INRAE,** Bordeaux, France, 2006
- **MS. Science Journalism and Communication**, **Bordeaux III University,** Bordeaux, France, 2006
- **MS. Environmental Biogeochemistry**, **Pierre and Marie Curie University**, Paris, France, 2001
- **MS. Geology and Paleontology** of The Quaternary, National Museum of Natural History of Paris, France, 2000
- **BS. Natural sciences**, Lebanese University, Beirut, Lebanon, 1999

## PROFESSIONAL APPOINTEMENTS

- **Postdoctoral Researcher, Texas Tech University** **2023 - present**
  Supervision Dr. Nick Smith
- **Postdoctoral Researcher, University of Florida** **2022 - 2023**
  Supervision Dr. Nabil Killiny
- **Associate professor, Saint-Joseph University of Beirut, Lebanese University and Lebanese International University, Lebanon** **2012 - 2022**
- **Postdoctoral Researcher, University Paris 11, CNRS, France** **2008 -2011**
  Supervision Dr. Paul Leadley

## PEER REVIEWED JOURNAL ARTICLES

1) **Alissar Cheaib**, Jeff Chieppa, Evan A Perkowski and Nicholas Smith. Soil resource acquisition strategy modulates global plant nutrient and water economics. ***New Phytologist***, May **2025**, 246(4), 1536-1553; https://doi.org/10.1111/nph.70087
2) **Alissar Cheaib**, Elizabeth F Waring, Risa McNellis, Evan A Perkowski, Jason Martina, Eric Seabloom, Elizabeth Borer, Peter Wilfahrt, Nine Dong, Colin Prentice, Ian Wright, Sally A Power, Erika Hersch-Green, Anita Risch, Maria Caldeira, Carla Nogueira, Qingqing Chen, and Nicholas Smith. Soil nitrogen supply exerts largest influence on leaf nitrogen in environments with the greatest leaf nitrogen demand. ***Ecology Letters***, January **2025**, *28* (1), e70015; https://doi.org/10.1111/ele.70015

3) **Alissar Cheaib** and Nabil Killiny., Photosynthesis Responses to the Infection with Plant Pathogens, ***Molecular Plant-Microbe Interactions***, February **2025**; https://doi.org/10.1094/MPMI-05-24-0052-CR
4) **Alissar Cheaib**, Lamiaa M. Mahmoud, Christopher Vincent, Nabil Killiny, Manjul Dutt., Influence of Anthocyanin Expression on the Performance of Photosynthesis in Sweet Orange, *Citrus sinensis* (L.) Osbeck, ***Plants* 2023**, *12* (23), 3965; https://doi.org/10.3390/plants12233965
5) N. Delpierre, S. Lireux, F. Hartig, J.J. Camarero, **Alissar Cheaib**, K. Čufar, H. Cuny, A. Deslauriers, P. Fonti, J. Gričar, J-G Huang, C. Krause, G. Liu, M. de Luis, H. Mäkinen, EM del Castillo, H. Morin, P. Nöjd, W. Oberhuber, P. Prislan, S. Rossi, Sm. Saderi, V.Trem, H.Vavrick, CB. K. Rathgeber, Chilling and forcing temperatures interact to predict the onset of wood formation in Northern Hemisphere conifers, ***Global Change Biology*** – *25 (***2019**), 1089-1105
6) **Alissar Cheaib**, Badeau, V., Boe, J., Chuine, I., Delire, C., Dufrêne, E., François, C., Gritti, E. S., Legay, M., Pagé, C., Thuiller, W., Viovy, N. and Leadley, P., Climate change impacts on tree ranges: model intercomparison facilitates understanding and quantification of uncertainty. ***Ecology Letters* –** 15 (**2012**), 533-544
7) **Alissar Cheaib.**, Alain Mollier, Stéphane Thunot, Catherine Lambrot, Sylvain Pellerin and Denis Loustau (2005), Growth of maritime pine seedlings as affected by phosphorus availability and light, ***Annals of Forest sciences*** - 62 (**2005**), 575-583

## MANUSCRIPTS UNDER REVIEW AND IN PREPARATION

1) **Alissar Cheaib** and Nicholas Smith. Satisfying leaf nitrogen demand under drought is determined by soil nitrogen availability and drought severity, 2025. **Submitted to *Journal of Experimental Botany*, *In review***
2) **Alissar Cheaib,** Nico Eisenhauer, Elsa E. Cleland, Andrew S. MacDougall, Pablo L. Peri, Carly Stevens, Kimberly J Komatsu, Yann Hautier, Andrew Leakey, Marc W Cadotte, Glenda M Wardle, Erika Hersch-Green, Lars A. Brudvig, Chris R. Dickman, Johannes M H Knops, Anita C. Risch, Peter B. Adler, Elizabeth T Borer, Saheed O. Jimoh, Nicole Hagenah, Yvonne Buckley, Clinton Carbutt, Eric W Seabloom, Holly M Martinson, Risto Virtanen, Anmke Jentsch and , and Nicholas Smith. Scaling from traits to demography: Photosynthetic optimality theory predicts plant functional traits from climate and soil resources and explains population growth dynamics. ***In preparation, to be submitted October 2025***
3) **Alissar Cheaib**, Isabella Beltran, Monika Kelly and Nicholas Smith. Plant functional diversity is more important than phylogenetic diversity in determining ecosystem functioning and resilience to drought. ***In preparation, to be submitted December 2025***

## SELECTED FIRST AUTHOR ORAL PRESENTATIONS AND POSTERS

- **2025: Alissar Cheaib** and Nicholas Smith. Satisfaction of leaf nitrogen demand under soil drought requires high nitrogen availability. **Poster**, Ecological Society of America, Long Beach, CA, August 2025
- **2024: Alissar Cheaib**, Jeff Chieppa, Evan A Perkowski and Nicholas Smith. Soil resource acquisition strategy modulates global plant nutrient and water economics. **Oral presentation**, Ecological Society of America, Long Beach, CA, August 2024
- **2023**: **Alissar Cheaib**, Elizabeth F Waring, Risa McNellis, Evan A Perkowski, Jason Martina, Eric Seabloom, Elizabeth Borer, Peter Wilfahrt, Nine Dong, Colin Prentice, Ian Wright, Sally A Power, Erika Hersch-Green, Anita Risch, Maria Caldeira, Carla Nogueira, Qingqing Chen, and

Nicholas Smith. Soil nitrogen supply exerts largest influence on leaf nitrogen in environments with the greatest leaf nitrogen demand. **Poster**, Ecological Society of America, Portland, Oregan, August 2023

- **2010: Alissar Cheaib** *et al.,* Climate change impacts on tree ranges: model inter-comparison facilitates understanding and quantification of uncertainty. **Poster**, 14th Convention of Biological Diversity, Nairobi, Kenya, May 2010
- **2010: Alissar Cheaib** *et al.,* Climate change impacts on tree ranges: model inter-comparison facilitates understanding and quantification of uncertainty. **Oral presentation**. Ecology 2010 Symposium, Montpellier, France, September 2010
- **2008: Alissar Cheaib**, Christophe François and Eric Dufrene. Modeling climate change impacts on the growth and survival of European beech and sessile oak. Journées de l'écologie fonctionnelle**, Oral presentation and poster**, Montpellier, France, April 2008
- **2005: Alissar Cheaib** et *al.,* Interactive effects of phosphorus and light availability on growth and architecture of maritime pine seedlings. **Poster**, Third Conference of Phosphorus, Brazil, June 2005
- **2003: Alissar Cheaib** *et al.,* Growth of maritime pine seedlings as affected by phosphorus availability and light. **Oral presentation**, Secondes rencontres de l'écophysiologie de l'arbre, La Rochelle, France, December 2003
- **2001: Alissar Cheaib** and Camille Dumat. Mobility of heavy metals in urban composts. **Poster**, Salon Pollutec, Paris, France, December 2001

## TEACHING &MENTORING

### Lecture Courses as Instructor of Record

**• Biology of Plants (BIOL 1401), Texas Tech University, Fall 2025 and Spring 2026**
- Undergraduate, non-major, sessional and Lab
- Typical size: 144 students

**• Climate change, Agriculture and Biosystems, University Saint-Jospeh of Beirut, Fall 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022**
- Graduate students, sessional
- Typical size: 8-12 students
- Average university evaluation score: 4.5/5 (average n per semester = 10)

**• Building Ecological Projects, University Saint-Jospeh of Beirut, Fall 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022**
- Graduate students, , project supervision
- Typical size: 8-12 students
- Average university evaluation score: 4.5/5 (average n per semester = 10)

**• Plant Biotechnology and Biosecurity, University Saint-Jospeh of Beirut, Fall 2014, 2015, 2016, 2017, 2018, 2019**
- Graduate students, sessional
- Typical size: 8-12 students
- Average university evaluation score: 4.5/5 (average n per semester = 10)

**• Plant Tissue Culture, University Saint-Jospeh of Beirut, Fall 2012, 2013, 2014, 2015, 2016, 2017, 2018**
- Graduate students, sessional
- Typical size: 10-16 students
- Average university evaluation score: 4.5/5 (average n per semester = 12)

**• Soil pollution, Faculty of Agronomy, Lebanese University, Fall 2012, 2013, 2014, 2015, 2016**
- Graduate students, Lab
- Typical size: 10-16 students
- Average university evaluation score: 4.5/5 (average n per semester = 10)

**• Environmental Sciences, University Saint-Jospeh of Beirut, Fall 2017, 2018, 2019, 2020, 2021, 2022**
- Undergraduate, major, sessional
- Typical size: 15-25 students
- Average university evaluation score: 4.5/5 (average n per semester = 18)

**• General Ecology, Lebanese University, Fall 2013, 2014, Spring 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022**
- Undergraduate, major, sessional and Lab
- Typical size: 15-25 students
- Average university evaluation score: 4.7/5 (average n per semester = 18)

**• General Geology, Lebanese University, Fall 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022**
- Undergraduate, major, sessional and Lab
- Typical size: 15-25 students
- Average university evaluation score: 4.7/5 (average n per semester = 18)

**• Plant Physiology, Lebanese International University, Fall and Spring 2014, 2015, 2016, 2017**
- Undergraduate, major, sessional and Lab
- Typical size: 15-25 students
- Average university evaluation score: 4.7/5 (average n per semester = 18)

**• Plant Biology, Lebanese International University, Fall and Spring 2014, 2015, 2016, 2017**
- Undergraduate, major, sessional
- Typical size: 15-25 students
- Average university evaluation score: 4.7/5 (average n per semester = 18)

**• Plant Ecology, Lebanese International University, Fall and Spring 2014, 2015, 2016, 2017**
- Undergraduate, major, sessional and Lab
- Typical size: 15-25 students
- Average university evaluation score: 4.7/5 (average n per semester = 18)

**• Plant Biology and Botany, Lebanese University, Spring 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021**
- Undergraduate, major, sessional
- Typical size: 250-400 students

- Average university evaluation score: 4.7/5 (average n per semester = 200)

**• Ecology and Geology, Lebanese University, Spring 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022**
- Undergraduate, major, sessional
- Typical size: 250-400 students
- Average university evaluation score: 4.7/5 (average n per semester = 200)

**• Cell Biology, Lebanese International University, Fall and Spring 2012, 2013, 2014, 2015, 2016, 2017, 2022**
- Undergraduate, major, sessional
- Typical size: 20-35 students
- Average university evaluation score: 4.7/5 (average n per semester = 25)

**• General Biology, Lebanese International University, Fall and Spring 2012, 2013, 2014, 2015, 2016**
- Undergraduate, major, sessional
- Typical size: 20-35 students
- Average university evaluation score: 4.7/5 (average n per semester = 25)

**• Environmental Health, Lebanese International University, Fall and Spring 2012, 2013**
- Undergraduate, non-major, sessional
- Typical size: 20-35 students
- Average university evaluation score: 4.7/5 (average n per semester = 25)

**• Paleontology and Evolution, Lebanese International University, Spring 2014**
- Undergraduate, major, sessional and Lab
- Typical size: 10-15 students
- Average university evaluation score: 4.7/5 (average n per semester = 12)

### Graduate students mentored as major advisor

Nathalie Karam (M.S. – Agriculture Sciences). Lebanese University, 2012-2013
Nour Mkacher (M.S. – Agriculture Sciences). Lebanese University, 2012-2013

### Graduate students mentored as committee advisor

Elza Serghani (M.S. – Agriculture and Environnemental Sciences). Saint-Joseph University of Beirut, 2020-2021
Elio Saifi (M.S. – Agriculture and Environnemental Sciences). Saint-Joseph University of Beirut, 2020-2021
Jana Khatib (M.S. – Agriculture and Environmental Sciences). Saint-Joseph University of Beirut, 2020-2021
Tonia Chdid (M.S. – Agriculture and Environmental Sciences). Saint-Joseph University of Beirut, 2019-2020
Patrick Al Sabbagh (M.S. – Agriculture and Environmental Sciences). Saint-Joseph University of Beirut, 2019-2020
Toni Azar (M.S. – Agriculture and Environmental Sciences). Saint-Joseph University of Beirut, 2019-2020
Gabriella Charbel (M.S. – Agriculture and Environmental Sciences). Saint-Joseph University of Beirut, 2019-2020
Carole Kassouf (M.S. – Agriculture and Environmental Sciences). Saint-Joseph University of Beirut, 2019-2020
Mira Haouly (M.S. – Agriculture and Environmental Sciences). Saint-Joseph University of Beirut, 2019-2020
Tracy J. El Haber (M.S. – Agriculture and Environmental Sciences). Saint-Joseph University of Beirut, 2018-2019
Pascale Machaalany (M.S. – Agriculture and Environmental Sciences). Saint-Joseph University of Beirut, 2018-2019
Jihane Hamoud (M.S. – Agriculture and Environmental Sciences). Saint-Joseph University of Beirut, 2018-2019

Ali Haidar Ahmad (M.S. – Agriculture and Environmental Sciences). Saint-Joseph University of Beirut, 2018-2019
Zainab Chamas (M.S. – Agriculture and Environmental Sciences). Saint-Joseph University of Beirut, 2018-2019

Undergraduate students mentored as faculty advisor: 30 students. Lebanese University. 2012-2021.

## EXTERNAL FUNDING

**Analyzing functional leaf traits and community productivity across climatic gradients**
Funder: Braun and Gresham Attorneys at Law

- Program: Texas Ecological Laboratory
- Role: PI
- Total amount: $10,000 (100% to TTU)
- Dates: 2024-2025
- Percent contribution: 100

## SCIENCE COMMUNICATION AND PUBLIC OUTREACHING

**National Center for Scientific Research (CNRS) - Paris, France, 2006-2007**
Writing articles on current developments in scientific research, industry, and technology: laboratory life, innovations, profiles of researchers and entrepreneurs, thematic reports, and institutional news. Design and creation of synopses for front-page feature stories of the CNRS Journal

**Science Presenter, CAP-Sciences - Bordeaux, France, 2005-2006**
Contribution to the design and implementation of scientific exhibitions and scientific animation for school groups and the public (Forest and biodiversity). Writing articles on technological innovations

## PUBLICATION REVIEW

New Phytologist, Journal of Ecology, Journal of Plant Ecology, Plant Physiology, Plant&Cell and Environment, Plant and Soil, Functional Ecology, Journal of Experimental Botany, Journal of Geophysical Research, Biogeosciences

## INTERNATIONAL NETWORKS AND MEMBERSHIPS

LEMONTREE, Nutrient Network (NutNet), Ecological Society of America, European Geophysical Union

## LANGUAGES

English fluent
French fluent
Arabic native
Spanish good comprehension