

CURRICULUM VITAE  
Dr. Soumaya Belmecheri

Laboratory of Tree Ring Research  
University of Arizona  
1215 Lowell St, Tucson, AZ 85721  
Phone: (814) 867-3724  
Email: [sbelmecheri@email.arizona.edu](mailto:sbelmecheri@email.arizona.edu)

## Appointments

---

<b>January 2015</b>	<b>Postdoctoral research Associate-</b> Laboratory of Tree Ring Research-University of Arizona
<b>September 2012</b>	<b>Research Associate.</b> The Pennsylvania State University
<b>June 2010-September 2012</b>	<b>Postdoctoral Researcher.</b> The Pennsylvania State University
<b>September 2009- May 2010</b>	<b>Research Associate.</b> The National Museum of Natural History of Paris (France). <b>Lecturer.</b> University of Picardie Jules Verne (France)
<b>2004- 2005</b>	<b>Research Assistant.</b> Laboratoire des Sciences du Climat et de l'Environnement (France).

## Education

---

<b>December 2008</b>	<b>Ph. D. in Earth Sciences (Geochemistry and Paleoclimatology)</b> University of Paris XI, Orsay, France
<b>September 2004</b>	<b>M, Sc. Sedimentology and Geochemistry</b> University of Paris XI, Orsay, France
<b>June 2003</b>	<b>Engineer, Geology,</b> University of Science and Technology Algiers, Algeria

---

## Research Grants

---

### *current*

1. USDA-USDI Joint Fire Science Program, \$196,801 08/29/2014 – 04/30/2017. **PI: Alan. H. Taylor. Co-PI: Soumaya Belmecheri.** Do fuel treatments restore ecosystem function? Water use efficiency before and after fire suppression and fuels treatments in fire-prone pine forests in the western United States.

2. NSF-BCS- 1229887, \$205,601; 8/15/2012-1/31/2015. **PI: Alan. H. Taylor. Co-PIs: Soumaya Belmecheri, Stockton Maxwell, Kenneth. J. Davis.** Estimating Forest productivity Over Regional and Multi-Decadal Time Scales Using Carbon Isotopes in Tree Rings.
3. NSF-PLR-1204033, \$487,728; 2/1/2013- 1/21/2016. **PI: Russel. W. Graham. Co-PI: Soumaya Belmecheri. Collaborative research: Paleoclimate, Paleoenvironment and Other Potential Drivers of Extinction of Mammuthus primigenius, St. Paul Island, Pribilof Islands, Alaska.**
4. Penn State Institute for Energy and the Environment, \$24, 974, 03/15/2014-06/31/2015. **PI: Soumaya Belmecheri, Co-PIs: Mathew Hurteau (PSU), Lee Newsom (PSU).** Summer temperature variability, Drought and the Atlas Cedar: A tree-ring  $\delta^{13}\text{C}$  based multi-centennial record in Northwestern Africa.

## Publications

---

1. **S. Belmecheri**, Maxwell, R.S., Davis, J.K, Taylor A.H., K. Freeman. Tree-ring  $\delta^{13}\text{C}$  tracks flux tower estimates in a NE temperate forest. *Environmental research Letters* **9** 074011 doi:10.1088/1748-9326/9/7/074011
2. Ammann, B., van Raden, U.J., Schwander, J., Eicher, U., Gilli, A., Bernasconi, S.M., van Leeuwen, J.F.N., Lischke, H., Brooks, S.J., Heiri, O., Nováková, K., van Hardenbroek, M., von Grafenstein, U., **Belmecheri, S.**, van der Knaap, W.O., Magny, M., Eugster, W., Colombaroli, D., Nielsen, E., Tinner, W., Wright, H.E., **2013**. Responses to rapid warming at Termination 1a at Gerzensee (Central Europe): Primary succession, albedo, soils, lake development, and ecological interactions. *Palaeogeography, Palaeoclimatology, Palaeoecology* 391, Part B, 111–131. doi:10.1016/j.palaeo.2013.11.009.
3. Von Grafenstein, U., **Belmecheri, S.**, Eicher, U., van Raden, U.J., Erlenkeuser, H., Andersen, N., Ammann, B., **2013**. The oxygen and carbon isotopic signatures of biogenic carbonates in Gerzensee, Switzerland, during the rapid warming around 14,685 years BP and the following interstadial. *Palaeogeography, Palaeoclimatology, Palaeoecology* 391, Part B, 25–32.
4. E. Messager, **S. Belmecheri**, U. von Grafenstein, S. Nomade, V. Ollivier, P. Voinchet, S. Puaud, A. Courtin-Nomade, H. Guillou, A. Mgeladze, J.P. Dumoulin, A. Mazuy, D. Lordkipanidze. **2013**. Late Quaternary record of the vegetation and catchment-related changes from Lake Paravani (Javakheti, South Caucasus). *Quaternary Science Reviews* (77)125-140.
5. D. J. Kennett, I. Hajdas, B. J. Culleton, **S. Belmecheri** S. Martin H. Neff , J. Awe, H. Graham, L. Newsom, D. L. Lentz, F. S. Anselmetti, M. Robinson, N. Marwan, J. Southon, D. A. Hodell, G. H. Haug **2013**. *Nature Scientific Report* 04/2013; 3:1597.

6. Namiotko, T., Danielopol, **S. Belmecheri**, M. Gross and U. von Grafenstein. **2012**. On the Leptocytheridae Ostracods of the Long-Lived Lake Ohrid: A Reappraisal of their Taxonomic Assignment and Biogeographic Origin. *International Review of Hydrobiology*. 97 2012 4 356–374. DOI: 10.1002/iroh.201211496
7. **Belmecheri, S.**, von Grafenstein, U., Andersen, N., Eymard-Bordon, A., Régnier, D., Grenier, C., Lézine, A-M. **2010**. Ostracod-based isotope record from Lake Ohrid (Balkan Peninsula) over the last 140 ka *Quaternary Science Reviews, Volume 29, Issues 27-28, Pages 3894-3904*
8. Lézine A.M., von Grafenstein U., Andersen N., **Belmecheri S.**, Bordon A., Caron B., Cazet, J.P., Erlenkeuser H., Fouache E., Grenier C., Huntsman-Mapila P., Hureau-Mazaudier D., Manelli D., Mazaud A., Robert C., Sulpizio R., Tiercelin J.J., Zanchetta G., Zeqollari Z. **2010**. Lake Ohrid, Albania, provides an exceptional multi-proxy record of environmental changes during the last glacial-interglacial cycle. *Palaeogeography, Palaeoclimatology, Palaeoecology. Volume 287, Issues 1-4, 1, Pages 116-127*
9. **Belmecheri, S.**, T., Namiotko, C., Robert, von Grafenstein, U., D.L, Danielopol **2009**. Climate controlled ostracode preservation in Lake Ohrid (Albania, Macedonia), *Palaeogeography, Palaeoclimatology, Palaeoecology. 277, PP. 236-245.*
10. Veres, D., Wohlfraht, B., Andrieu-Ponel, V., Bjorck, S., Beaulieu, J.-L., Digerfeldt, G., Ponel, P., ampel, L., Davies, S., Gandouin, E. & **Belmecheri, S.** **2007**. The lithostratigraphy of the Les Echets basin, France: tentative correlation between different core sites. *Boreas. Volume 36, Issue 3, pages 326–340.*

#### **Book chapter**

11. von Grafenstein U and **S. Belmecheri**. **2013**. Interface air-lac: les ostracodes des lacs tempérés. In J.C. Duplessy and G. Ramstein EDP Sciences-CNRS (Ed.). *Paléoclimatologie enquête sur les climats anciens – tome 1.*

#### **As Declakes Project Participant:** ESF Eurocores EuroCLIMATE.

12. Lauterbach, S., Chapron, E., Brauer, A., Hüls, M., Gilli, A., Arnaud, F., Piccin, A., Nomade, J., Desmet, M., von Grafenstein, U., **Declakes Participants**. 2012. A sedimentary record of Holocene surface runoff events and earthquake activity from Lake Iseo (Southern Alps, Italy). - *Holocene*, 22, 7, 749-760, 10.1177/0959683611430340.
13. Lauterbach, S., Brauer, A., Andersen, N., Danielopol, D. L., Dulski, P., Hüls, M., Milecka, K., Namiotko, T., Plessen, B., von Grafenstein, U., **Declakes participants**. 2011. Multi-proxy evidence for early to mid-Holocene environmental and climatic changes in northeastern Poland. - *Boreas*, 40, 1, 57-72, 10.1111/j.1502-3885.2010.00159.x.
14. Lauterbach, S., Brauer, A., Andersen, N., Danielopol, D. L., Dulski, P., Hüls, M., Milecka, K., Namiotko, T., Obremaska, M., von Grafenstein, U., **Declakes Participants**. 2011. Environmental responses to Lateglacial climatic fluctuations recorded in the sediments of pre-Alpine Lake Mondsee (northeastern Alps). - *Journal of Quaternary Science*, 26, 3, 253-267, 10.1002/jqs.1448.

## **Presentations (*selected*)**

---

1. **North American Carbon Project-AmeriFlux Principal Investigators Meeting, Washington DC, January 2015** “*Linking tree-ring  $\delta^{13}C$  records to flux tower ecosystem estimates of water and carbon fluxes and productivity in NE forests*”. (Invited talk)
2. **The National Geographic Society, Washington DC, January 2014**  
A closer look presentation “*The Atlas Cedar legacy: vanishing forests of the Mediterranean*” (invited talk).
3. **Lamont-Doherty Earth Observatory, NY, April 2013.**  
“*Tree-ring  $\delta^{13}C$  tracks flux tower estimates in a NE temperate forest*” (invited talk)
4. **Second American Dendrochronology Conference, Tucson, USA 2013**  
**Belmecheri, S.,** Maxwell, R.S., Davis, J.K, Taylor A.H. W. Munger and K. Freeman  
“*Tree-ring  $\delta^{13}C$  as a proxy of gross primary productivity in a North American forest*”  
(oral presentation)
5. **American Geophysical Union, San Francisco, USA 2012**  
**Belmecheri, S.,** Maxwell, R.S., Davis, J.K, Taylor A.H. “*Inferring long-term carbon sequestration from tree rings at Harvard Forest: A calibration approach using tree ring widths and geochemistry / flux tower data*” (Oral presentation).
6. **21st International Radiocarbon Conference, Paris, France 2012**  
Messenger E., **Belmecheri., S.,** von Grafenstein U., Nomade., S., Dumoulin J.P., Olliver., V., Voinchet P., Puaud S., Courtin-Nomade A., Guillou., H., Mgeladze. A., Mazuy A., Lordkipanize. D. “*The Holocene onset on the Djavakheti highlands (Lesser Caucasus): Chronology and Palaeoenvironment*” (Poster).
7. **Association of American Geographers, NY, USA, 2012**  
**Belmecheri, S.,** Maxwell, R.S., Davis, J.K, Taylor A.H. “*Inferring long-term carbon sequestration from tree rings at Harvard Forest: A calibration approach using tree ring widths and geochemistry / flux tower data*” (Oral presentation)
8. **XVIIIe INQUA Congres, Bern, Switzerland 2011**  
Messenger, E., **Belmecheri, S.,** von Grafenstein, U., Nomade, S.,Voinchet, P., Ollivier, V.,  
Puaud, S., Mgeladze, A., Lordkipanidze, D. “*Palaeoenvironmental records of the last 13 ka in Lesser Caucasus: First data from Paravani lake (Djavakheti, Georgia)*” (Poster).
9. **European Geosciences Union, Vienna, Austria 2011**  
Messenger, E., **Belmecheri, S.,** von Grafenstein,U., Nomade, S.,Voinchet, P., Ollivier, V., Puaud, S., Mgeladze, A., Lordkipanidze, D. “*Palaeoenvironmental records of the last 13 ka in Lesser Caucasus: First data from Paravani lake (Djavakheti, Georgia)*” (Poster).
10. **American Geophysical Union, San Francisco, USA 2009**

**Belmecheri, S.**, von Grafenstein, U., Namiotko, T., Robert, C., Andersen, N Danielopol, D.L., Caron, B., Bordon, A., Régnier, D., Mazaud, A., Sulpizio, R., Zanchetta, G., Grenier, C., Tiercelin, J.-J., Fouache, E. and Lézine A-M. *“Potential of Lake Ohrid for long paleoclimatic and paleoenvironmental records: The last glacial-interglacial cycle (140 ka)”*. (Oral presentation)

**11. American Geophysical Union, San Francisco, USA 2007**

**Belmecheri, S.**, U.von Grafenstein, A.Bordon, N.Andersen, A.M Lezine, A.Mazaud, V.Andrieu-ponel, and C. Roberts: *“Last glacial- interglacial cycle palaeoclimatology and palaeoecology reconstruction: Ostracod stable isotope records from Lake Ohrid and palaeolake “Les Echets”* (Poster).

**12. European Geosciences Union - Vienna, Austria 2007**

**Belmecheri, S.**, U. von Grafenstein, A. Bordon, N. Andersen, A.M. Lezine, A. Mazaud, C. Grenier. *“ Last glacial-interglacial cycle palaeoclimatology and palaeoecology reconstruction in the southern Balkans: an ostracod stable isotope record from Lake Ohrid (Albania)”*. (Oral presentation).

## **Teaching Experience**

---

**2009-2010**

**Lecturer.** University of Picardie Jules Verne (France).

Geological Sciences (Principles of Geology, Stratigraphy, Palaeontology, atmospheric and ocean circulation and Paleoclimatology (Paleoclimate of the Quaternary: archives and proxies).

Degrees taught: Undergraduates to Master.

**Since 2012**

**Instructor.** The Pennsylvania State University.

Meteo-469: From Meteorology to Mitigation: Understanding Global warming (Online course e-Duton education. University Park and World campus).

## **Laboratory experience**

---

- Tree ring sample-preparation (cutting, milling and chemical extraction of cellulose according to soxhlet method).
- Stable isotopes measurements with a CarboErba® elemental analyser coupled to a FINIGAN-MAT 225 mass-spectrometer. Coztech elemental analyzer (EA) connected to Thermo Delta V Advantage analyzer.
- Stable isotope geochemistry (oxygen, carbon and deuterium) of carbonate & water.
- Ostracods preparation and selection (taxonomy, endemic species).

## **Field experience**

---

- Tree rings samplings (Tibetan Plateau, NE USA, Central America, North Africa)
- Geomorphology of glacial deposits: west Sahara, France, Albania, Macedonia, Georgia.
- Lakes coring with UWITEC device and modified Livingston Piston-Corer: Lake Mondsee (Austria), Lake Hancza (Poland), Lake Sebino (Italy); Lake Ohrid (Albania-Macedonia), The Djavakheti plateau lakes (Republic of Georgia), Lake Hill (Pribilofs islands, Alaska).

- Freeze-coring in Lake Ammersee (Germany).

## **Professional services**

---

### **Reviewer for Journals:**

Great Lakes Research, Quaternaire, Palaeogeography, Palaeoclimatology, Palaeoecology, PloS one, Quaternary Sciences Reviews, Forest Ecology and Management., Trees, Oecologia.

### **Conferences**

**AAG 2012 conference session.** Co-organizer. Title: Dendrochronological Applications II session (NY City, NY).

**Second American Dendrochronology Conference 2013** isotopes in Dendrochronology. Convener (Tucson, AZ).

## **Outreach**

---

**Climate Science communicator** at the LSCE-France (2005-2008)

**Discover magazine (5 June 2013)** Hunting for Clues to Why the Last Mammoths Disappeared. (Field notes Blog by Jessica Marshal).

**Aures radio-Algeria interview** (August 2014): Atlas Cedar dieback Field project.

## **Languages**

---

Arabic	<i>mother tongue</i>		
	<i>Understand</i>	<i>Speak</i>	<i>Write</i>
French	Excellent	Excellent	Excellent
English	Excellent	Excellent	Excellent