

# Charlotte Pearson

*Assistant Professor*

Room 404  
Bryant Bannister  
Tree-Ring Building  
1215 E Lowell St  
University of Arizona  
Tucson, AZ 85721 USA  
✉ c.pearson@ltrr.arizona.edu  
☎ +1 520 621 0807

---

## APPOINTMENTS

- 2014 – **Assistant Professor**, *Laboratory of Tree-Ring Research*,  
University of Arizona, U.S.A.  
Tenure track appointment. Associate Director of CMATE (<http://cmate.arizona.edu>). Affiliated Assistant Professor in the School of Anthropology. Dendrochronological, archaeological and paleoenvironmental research. Lecturing, supervising and mentoring students.
- 2013 – 2014 **Assistant Research Professor**, *Laboratory of Tree-Ring Research*,  
University of Arizona, U.S.A.  
Associate Director of the Center for Mediterranean Archaeology and the Environment (CMATE). Dendrochronological, archaeological and paleoenvironmental research. Lecturing, supervising and mentoring students.
- 2012 **Senior Research Associate, Lecturer, Manager**, *Cornell Tree-Ring Laboratory*,  
Cornell University, U.S.A.  
Dendroarchaeological and geoarchaeological research, lecturing, supervision and practical instruction. Laboratory management
- 2009 – 2011 **Research Associate and Manager**, *Cornell Tree-Ring Laboratory*,  
Cornell University, U.S.A.  
Management of the Cornell Tree-Ring Laboratory, measurement and chronology building for the Aegean Dendrochronology Project. Supervision and teaching of dendrochronology, dendroarchaeological and geoarchaeological research.
- 2007 – 2008 **Postdoctoral Research Associate**, *Cornell Tree-Ring Laboratory*,  
Cornell University, U.S.A.  
Research into the isotopic chemistry of tree rings to trace environmental marker events (volcanic eruptions, forest fires) and for palaeoclimatic reconstruction.
- 2005 – 2007 **Manager / Postdoctoral Researcher**, *Archaeological, Forensic, Environmental Scientific Services (AFESS)*, The University of Reading, U.K.  
Established and developed commercial geoanalytical services for archaeological, forensic and environmental applications. Managed customer relations, promotion, contract negotiation, and finance, wrote reports and liaised with technical staff to ensure deadlines were met. Gained experience of a wide range of archaeological science techniques and tailored analytical packages to meet the requirements of excavators.
- 2005 **Part-time Sessional Lecturer**, *School of Human and Environmental Science*,  
The University of Reading, U.K.  
Lecturing, student supervision, research support.
- 2004 **Postdoctoral Research Assistant**, *Natural Environment Research Council ICP Facility*,  
Kingston University, U.K.

Clean-lab preparation of a variety of archaeological, geological and environmental samples for analysis via ICP-MS and LA-ICP-MS. Development of calibration standards for new applications. Instrument set-up and maintenance, data processing, instruction / supervision.

- 2003 **Research Fellow**, *School of Human and Environmental Science*,  
The University of Reading, U.K.  
Preparation of wood samples for radiocarbon and chemical analysis.

---

## EDUCATION

- 2000 – 2003 **Ph.D. Archaeological Science**, *School of Human and Environmental Sciences*,  
The University of Reading, UK.  
Thesis *Volcanic Eruptions, Tree Rings and Multi-Elemental Chemistry, an Investigation of Dendrochemical Potential for the Absolute Dating of Past Volcanism*  
Advisors Professors Sturt W. Manning and Max L. Coleman
- 1999 – 2000 **M.Sc. Geoarchaeology**, *School of Human and Environmental Sciences*,  
The University of Reading, UK.
- 1996 – 1999 **B.A. Environment and Archaeology**, *Dept. of Archaeology*,  
University of Wales, Lampeter, U.K.

---

## AWARDS

- 2016-2017 **PI: Interdisciplinary Chronology of Civilizations Project**, *University of Arizona*,  
Malcolm H. Wiener Foundation and matching sources \$1,348,505.
- 2007-2012 **PI: Synchrotron Beamtime Application**, *Cornell High Energy Synchrotron Source*,  
CHESS, Cornell University - \$400,000 equivalent analysis.
- 2003 **ICP-MS Analysis of Wood**, *NERC ICP-MS Laboratory*, Kingston University,  
Natural Environment Research Council - £17,000.
- 2002 **ICP-MS Analysis of Wood**, *NERC ICP-MS Laboratory*, Kingston University,  
Natural Environment Research Council - £70,500.
- 2000 **Ph.D. Studentship**, The University of Reading,  
The University of Reading - £30,000.
- 1999 **Masters Studentship**, The University of Reading,  
Natural Environment Research Council - £5,000.

---

## SERVICE AND OUTREACH 2013-2016

- Editorial
- Associate editor for *Dendrochronologia* and *Radiocarbon*.
  - Editor and coordinator of *Tree-Ring Research* and *Radiocarbon* special issue.
  - Reviewer of manuscripts for *Nature Communications*; *Dendrochronologia*.
- Media
- Interviewed for various University, local and State newspapers
  - Interviewed for Radio New Zealand and Arizona's 12 News TV
  - Produced educational poster series for the exhibit hall of the UA Bannister Building.
  - Conceptual illustrations for faculty and students outreach talks.
  - Short term exhibits plan implemented for Tucson Festival of Books.
  - Long term exhibits plan with costings for individual museum quality exhibits for LTRR.
  - College preparation outreach for high school students in the Tucson area.
  - Designed and presented a Tree-Ring Lab educational video

- Administration
- Associate Director of CMATE: Meeting and conference organization, compiled documentation to establish new UA Center, organized content and collated images for associated web resources, liaison between LTRR, AMS Lab, Anthropology and Geosciences faculty, with the Dean of the College of Sciences and with a private Foundation
  - LTRR Director Search: Co-organized scheduling of 5 interviewees over 10 days, recruitment, reviewing of applicants, liaison with LTRR faculty, staff and students.
  - Committees: Dean of College of Science Advisory Committee, CMATE Steering Committee, LTRR Exhibits and Displays, LTRR Outreach, LTRR Teaching.
- Memberships
- The Tree-Ring Society.

---

## RESEARCH INTERESTS

The use of tree-ring and other proxies in combination with diverse cultural records to study global / regional 'events' of significance for past human societies. In particular sudden onset climatic changes and / or volcanic events and the chronologies associated with these in the ancient Mediterranean. Development of new applications for dendrochronological and dendrochemical research in concert with geochemical, geological and archaeological contexts and paleoenvironmental questions. Improving the radiocarbon calibration curve and precision dating of archaeological tree-ring sequences. Creating new archaeological tree-ring chronologies and generating precise dates for sites and artifacts across the Mediterranean region.

---

## TEACHING AND LECTURING

- 2013 – **Dendroarchaeology; Culture, Climate and Catastrophe; Human and Environmental Interactions,**  
*Laboratory of Tree-Ring Research, University of Arizona, U.S.A.*
- Developed a new interdisciplinary general education course (current enrollment 80) combining cultural and scientific proxies to study past climate, ecology, culture, collapse and geological catastrophe. Developing a graduate seminar in science communication through tree-rings, extreme events and people. Guest lectures in Anthropology (dating methods, paleoenvironmental proxies, the Thera Eruption) plus for LTRR signature courses in global change and introduction to dendrochronology.
- 2009 – 2012 **Dendroarchaeology and Dendrochemistry,**  
*Cornell Tree-Ring Laboratory, Cornell University, U.S.A.*
- Practical instruction and lecturing on Mediterranean dendroarchaeology, dendrochemistry, wood anatomy and radiocarbon dating as part of an intensive semester long introduction to dendrochronology class with significant supervised practical component. Typical enrollment 10-18 graduate and undergraduate. Guest lectures in Geosciences - dating volcanic eruptions.
- 2000 – 2006 **Geoarchaeology, Analytical Methods, Soil Micromorphology,**  
*School of Human and Environmental Sciences, The University of Reading, U.K.*
- Guest lecturing, practical instruction, seminars and marking on the following:
- Analytical methods (ICP-MS, ICP-AES, SEM, NAA)
  - Dendrochronology (archaeological applications, dendrochemistry, paleoclimate)
  - Reconstructing past environments (proxy records, quaternary geomorphology)
  - Soil micromorphology and petrographic analysis
  - Sedimentological analysis (magnetic susceptibility, laser granulometry, phosphate, mineralogy)
  - Geoarchaeology and landscape formation processes (volcanic, riverine, coastal, glacial)
  - Radiocarbon dating and calibration
- 1999 **Archaeology, Department of Archaeology,**  
*University of Wales, Lampeter, U.K.*
- Practical teaching in sediment core analysis and geological interpretation

---

## MENTORING AND SUPERVISION

2013 – **Student / research technicians, independent studies, masters, PhD,**  
*Laboratory of Tree-Ring Research, University of Arizona, U.S.A.*

Gina Conigliario 2014-2016 (Undergrad technician), Piper O'Faolain Murphy 2014-2016 (Undergrad independent study, technician). Jacob Martin 2013-2016 and Sarah Johnson 2013 (research technicians), Mary Glueck 2014 (graduate independent study), David Pickel (masters committee - graduated 2015) Amy Schott (comps committee - passed 2014, PhD).

2009 – 2012 **Undergraduate student technicians,**  
*Cornell Tree-Ring Laboratory, Cornell University, U.S.A.*

Over 3 years (2010-2012) training, close supervision and mentorship of LeAnn Canady, Sarah Johnson, Kate Seufer and Alexander Stepp.

---

## COLLABORATORS

*List of collaborators on publications and grants from 2010 to the present:*

Akkemik Ü.; Allen J.; Anchukaitis K.; Aral D.; Bandy K.; Beeckman H.; Botič, K.; Brewer P.W.; Bronk Ramsey C.; Brown A.; Brunning R.; Canady L.; Cherubini P.; Creasman P.P.; Dale D.; Dalfes N.; Dee M.W.; Durman, A.; Foster J.; Gärtner H.; Griggs C.B.; Humbel T.; Jordan K.; Kaya A.; Köse N.; Kromer B.; Kuhn, S.L.; Kuniholm P.I.; Killick D.; Lev Yadun S.; Lombardo K.; Lorentzen B.; Mannes D.; Manning S.W.; Mutlu H.; Nayling N.; Schoch W.; Seufer, K.; Shortland A.J.; Steier P.; Talamo S.; Tognetti R.; Touchan, R.; Trano N.; Turner R.; Watkins J.; Wazny T.; Wild E.M.; Woodward A.

---

## PUBLICATIONS

Journal Articles **Pearson C.L.**, Wazny, T., Kuniholm, P.I., Botič, K., Durman, A. and Seufer, K. (2014) Potential for a new multi-millennial tree-ring chronology from Sub-fossil Balkan river oaks. Special Issue *Tree-Ring Research*, Vol. 70(3), 2015, pp. S1–S12 *Radiocarbon*, Vol 56, Nr 4, 2014, p S1–S12.

**Pearson C.L.** and Kuhn, S.L. (2014) Preface: Center for Mediterranean Archaeology and the Environment - special joint issue of Radiocarbon and Tree-Ring Research. *Radiocarbon*, 56(4), iii-iv.

Manning, S.W., Dee, M.W., Wild, E.M., Bronk Ramsey, C., Bandy, K., Creasman, P.P., Griggs, C. B., **Pearson, C. L.**, Shortland, A. J., Steier, P. (2014) High-precision dendro-14C dating of two cedar wood sequences from First Intermediate Period and Middle Kingdom Egypt and a small regional climate-related 14C divergence. *Journal of Archaeological Science* 46: 401-416.

Cherubini, P., Humbel, T., Beeckman, H., Gärtner, H., Mannes, D., **Pearson, C. L.**, Schoch, W., Tognetti, R., Lev Yadun, S. (2014) The olive-branch dating of the Santorini eruption. *Antiquity* 88: 267-291.

Griggs, C.B., **Pearson, C.L.**, Manning, S.W. & Lorentzen, B. (2013) A 250-year annual precipitation reconstruction and drought assessment for Cyprus from *Pinus brutia* (Ten.) tree-rings. *International Journal of Climatology*, DOI: 10.1002/joc.3869.

Cherubini, P., Humbel, T., Beeckman, H., Gärtner, H., Mannes, D., **Pearson, C. L.**, Schoch, W., Tognetti, R., Lev-Yadun, S. (2013) Olive tree-ring problematic dating: A comparative analysis on Santorini (Greece). *PLOS One*, 8: e54730.

Mutlu, H., Köse, N., Akkemik, Ü., Aral, D., Kaya, A., Manning, S.W., **Pearson, C.L.**, Dalfes, N. (2012) Environmental and climatic signals from stable isotopes in Anatolian tree rings, Turkey. *Regional Environmental Change*, 12 (3), 559-570.

**Pearson, C. L.**, Griggs, C.B., Kuniholm, P.I., Brewer, P.W., Wazny, T. & Canady, L. (2012) Dendroarchaeology of the mid-first millennium AD in Constantinople. *Journal of Archaeological Science*, 39: 3402-3414.

**Pearson, C.L.**, Dale, D. & Lombardo, K. (2011) An investigation of fire scars in *Pseudotsuga macrocarpa* by scanning x-ray fluorescence microscopy. *Forest Ecology and Management*, 262: 1258-1264.

Brown A., Turner, R. & **Pearson, C. L.** (2010) Medieval fishing structures and baskets at Sudbrook Point, Severn Estuary, Wales. *Medieval Archaeology*, 54.

Manning, S.W., Kromer, B., Ramsey, C.B., **Pearson, C. L.**, Talamo, S., Trano, N. & Watkins, J. (2010) 14C record and wiggle-match placement for the Anatolian (Gordion area) Juniper tree-ring chronology 1729 to 751 Cal BC, and typical Aegean/Anatolian (growing season related) regional 14C offset assessment. *Radiocarbon*, 52: 1571-1597.

**Pearson, C.L.**, Dale, D., Brewer, P., Kuniholm, P.I., Lipton, J. & Manning S.W. (2009) Dendrochemistry of a tree ring growth anomaly associated with the Thera Eruption. *Journal of Archaeological Science* 36: 1206-1214.

**Pearson, C.L.**, Dale, D., Brewer, P., Salzer, M., Lipton, J. & Manning S.W. (2009) Dendrochemistry of White Mountain Bristlecone pines - an investigation via Synchrotron Radiation Scanning X-Ray Fluorescence Microscopy. *Journal of Geophysical Research*, 114: G01023.

**Pearson C.L.**, Manning S.W., Coleman, M.L. & Jarvis, K., (2006) A Dendrochemical study of *Pinus sylvestris* from Siljansfors Experimental Forest, Central Sweden. *Applied Geochemistry* 21: 10 1681-1691.

**Pearson C.L.**, Manning S.W., Coleman, M.L. & Jarvis, K., (2005) Could Tree-Ring Chemistry Reveal Absolute Dates for Past Volcanic Eruptions? *Journal of Archaeological Science* 32: 1265-1274.

**Pearson C.L.**, Manning S.W., Coleman, M.L. & Jarvis, K., (2005) Tree rings, volcanic eruptions and multi-elemental chemistry: The potential of dendrochemical techniques for the absolute dating of past volcanism. *Geophysical Research Abstracts* 7: 00804

Cook S.R., Fulford M., Clarke A. & **Pearson, C.L.**, (2003) Soil Geochemical analyses as an indication of metal working at the excavation of a house in the Roman City at Silchester (UK), *J. Phys IV France* 107: 319-321.

Manning, S.W., Ramsey, C.B., Dumas, C., Marketou, T., Cadogan, G. & **Pearson C.L.**, (2002) New evidence for an early date for the Aegean Late Bronze Age and Thera eruption, *Antiquity* 76: 733-744.

Books &  
Monographs

**Pearson, C.L.**(2006) Volcanic Eruptions, Tree Rings and Multielemental Chemistry: An Investigation of Dendrochemical Potential for the Absolute Dating of Past Volcanism. BAR International Series 10191.

Chapters in Books Kuniholm, P. I., **Pearson C.L.**, Wazny, T. J. and Griggs, C. B., (2014) A 2367-Year Oak Tree-Ring Chronology from 98 Sites for the Aegean, East Mediterranean, and Black Seas: the Marmaray Contribution, In P. Magdalino and N.Ergin (eds.) Ancient Near Eastern Studies Supplement Series, Vol. 47, Peeters Press, Leuven, Belgium.

Brunning, R., Nayling, N., **Pearson, C.L.**, Woodward, A., Foster, J. and Allen, J. (2013) The wood and other artifacts from the Redwick and Cold Harbour sites, Chapter 4, p.82-89 In Bell, M. The Bronze Age in the Severn Estuary. Research Report, 172. Council for British Archaeology, York. ISBN 9781902771946

Brown A., Morgan, R., Turner, R. & **Pearson, C. L.** (2007) Fishing Structures on the Sudbrook Foreshore, Monmouthshire, Severn Estuary. *Archaeology in the Severn Estuary*, 18.

Nayling N., Manning, S.W., Kromer, B., Bronk Ramsey, C., **Pearson, C.L.** & Talamo, S. (2007) Dating the submerged forests: dendrochronology and radiocarbon 'wiggle-match' dating in Bell. M. (2007) Prehistoric Coastal Communities: The Mesolithic in western Britain. CBA Research report 149.

Archer S., Bartoy K.M., **Pearson C.L.** (2006) The life and death of a home: House history in a sub-surface feature. In Bartoy, K.M. & Archer, S. (Eds.) *Between Dirt and Discussion: Methods, Methodology and Interpretation in Historical Archaeology*, Springer.

Electronic Publications Manning, S. W., **Pearson, C. L.** & Griggs, C. B. (2012) Dendro-wiggle-match placement of an oak tree-ring chronology from mid-first millennium AD Constantinople. *Antiquity Project Gallery*, 86: 331

Reviews **Pearson, C.L.** (2009) Review of Grattan, J. and Torrence, R. (eds.). 2007. *Living Under the Shadow. The Cultural Impact of Volcanic Eruptions*. Walnut Creek, CA: Left Coast Press. 307 pp. ISBN-13: 978-1-59874-268-8. *Environmental Archaeology* 14: 2: 191-192

Magazine Ünlü, K., **Pearson, C.L.**, Hauck, D.K. & Kuniholm, P.I., (2009) Dating volcanic eruptions with tree-ring chemistry. *IEEE Potentials*, 28: 36-44.

**Pearson C.L.**, (2006) Under the Microscope: New advances in soil and sediment micro-morphology. *The Archaeologist*, 59: 16-17.

Work in progress **Pearson, C.L.** & Jordan, K. (in prep) A geochemical provenance study of Red Stone from Iroquois sites at Whitesprings and Townley-Read. *Geoarchaeology*

---

## CONFERENCES/SCHOLARLY PRESENTATIONS

*Presentations made since January 2013*

- Pearson, C.L. "River oaks from the Orasje region of Croatia / Bosnia - a new paleoenvironmental resource". Tree-ring day talk, (4/8/2014).
- Pearson, C.L. "A Tale of Wood and Mud from the Lost Harbor Of Theodosius, Yenikapi, Istanbul". Anthropology lecture series, (10/10/2013).
- Pearson, C.L. "Wood and mud in the Yenikapi harbour, Istanbul". Tree-Ring Day talk, (4/9/2013).
- Pearson, C.L. "Wood, mud and dating a flood: Dendroarchaeology of the Theodosian Harbour, Yenikapi, Istanbul." 2nd American Dendrochronology Conference AmeriDendro, Tucson, AZ, (5/17/2013).
- Yalçın, M.N., Sezerer, M. Pearson, C.L., Algan, O. and Kuniholm, P. "Establishment of a high-resolution stratigraphy with the help of dendrochronology-an example from the marine Holocene sequence in the ancient Theodosian harbor (Istanbul, Turkey). GSA, Denver (10/27/2013).

- Şahin, D., Ünlü, K., Kuniholm, P.I. and Pearson, C.L. “*New dendrochemical findings for Pinus nigra trees grown in the Mediterranean region*”. ANS Winter Meeting, Washington DC, (10/13/2013).