VULUME 41/ NUMBER 1/ 1999

# Radiocarbon

An International Journal of Cosmogenic Isotope Research



Editor AUSTIN LONG

Consulting Editor

Managing Editor Emerita RENEE S KRA

Managing Editor DAVID R SEWELL

Assistant Editor KIMBERLEY TANNER ELLIOTT

QC 798 .D3 A48 Sci Current Journal https://doi.org/1 artment of Geosciences University of Arizona East Ft. Lowell Road on, Arizona 85712-1201 USA

ISSN: 0033-8222

#### **RADIOCARBON**

An International Journal of Cosmogenic Isotope Research

Editor: AUSTIN LONG Consulting Editor: A J T JULL Managing Editor Emerita: RENEE S KRA Managing Editor: DAVID R SEWELL Assistant Editor: KIMBERLEY TANNER ELLIOTT Published by Department of Geosciences The University of Arizona

Published three times a year at The University of Arizona, Tucson, AZ 85712-1201 USA.

© 1999 by the Arizona Board of Regents on behalf of the University of Arizona. All rights reserved.

Subscription rate (1999): \$120.00 (for institutions), \$65.00 (for individuals). Foreign postage is extra. A complete price list, including Proceedings of International Conferences, special publications and back issues, appears on the inside back cover of this issue.

*Missing issues* will be replaced without charge only if claim is made within three months (six months for India, New Zealand and Australia) after the publication date. Claims for missing issues will not be honored if nondelivery results from failure by the subscriber to notify the Journal of an address change.

Authors: See our "Information for Authors" document at http://www.radiocarbon.org/Authors/ for guidelines concerning manuscript submission and format. All correspondence and manuscripts should be addressed to the Managing Editor, *RADIOCARBON*, Department of Geosciences, The University of Arizona, 4717 East Ft. Lowell Road, Tucson, AZ 85712-1201 USA. Tel.: +1 520 881-0857; Fax: +1 520 881-0554; Internet: editor@radiocarbon.org

List of laboratories. Our comprehensive list of laboratories is published annually, and is also available on the WWW at http://www.radiocarbon.org/Info/lablist.html. We ask all laboratory directors to provide their laboratory code designation, as well as current telephone and fax numbers, and e-mail addresses. Changes in names or addresses, additions or deletions should be reported to the Managing Editor. Conventional and AMS laboratories are now arranged in alphabetical order by country and we include laboratories listed by code designation.

RADIOCARBON on the World Wide Web: http://www.radiocarbon.org/

RADIOCARBON is indexed and/or abstracted by the following sources: Anthropological Index; Anthropological Literature; Art and Archaeology Technical Abstracts; Bibliography and Index of Geology (GeoRef); British Archaeological Bibliography; Chemical Abstracts; Chemistry Citation Index; Current Advances in Ecological and Environmental Sciences; Current Contents (ISI); FRANCIS (Institut de l'Information Scientifique et Technique – CNRS); Geographical Abstracts; Geological Abstracts; Oceanographic Literature Review; Science Citation Index; Social Sciences Citation Index.

## Radiocarbon

## CONTENTS

FROM THE MANAGING EDITOR David R Sewell	iii
ARTICLES	
Methods, Materials, and Instruments	
A Simple Method to Separate Pollen for AMS Radiocarbon Dating and its Application to Lacustrine and Marine Sediments Scott A Mensing, John R Southon	1
A 23-Year Retrospective Blind Check of Accuracy of the Copenhagen Radiocarbon Dating System	
Kaare L Rasmussen, Henrik Tauber, Niels Bonde, Kjeld Christensen, Páll Theodórsson	9
The Reliability of AMS Radiocarbon Dating of Shells from China Weijian Zhou, M J Head, Fubao Wang, D J Donahue, A J T Jull	17
Environmental and Paleoclimatic Studies	
Chronology of Vegetation and Paleoclimatic Stages of Northwestern Russia During the Late Glacial and Holocene Kh A Arslanov, L A Saveljeva, N A Gey, V A Klimanov, S B Chernov, G M Chernova, G F Kuzmin, T V Tertychnaya, D A Subetto, V P Denisenkov	25
The Maunder Minimum: An Interlaboratory Comparison of $\Delta^{14}$ C from AD 1688 to AD 1710 Paul E Damon, Christopher J Eastoe, Irina B Mikheeva	47
Oceanic Radiocarbon between Antarctica and South Africa along WOCE Section I6 at 30°E Viviane Leboucher, James Orr, Philippe Jean-Baptiste, Maurice Arnold, Patrick Monfray, Nadine Tisnerat-Laborde, Alain Poisson, Jean-Claude Duplessy	51
Radiocarbon Distribution in Northwest Belarus near the Ignalina Nuclear Power Plant Nikolaj D Mikhajlov, Vladimir M Kolkovsky and Iren D Pavlova	75
Variations of Isotopic Composition of Carbon in the Karst Environment from Southern Poland, Present and Past Anna Pazdur, Tomasz Goslar, Mirosława Pawlyta, Helena Hercman, Michał Gradziński	81
A ΔR Correction Value for Samoa from Known-Age Marine Shells Matthew B Phelan	99
Archaeological Studies	
Radiocarbon Dates from Northern Mongolia         Mark Hall, Zagd Batsaikhan, William Honeychurch	103
BOOK REVIEW	
Claudio Tuniz, John R Bird, David Fink, and Gregory F Herzog. Accelerator Mass Spectrometry: Ultrasensitive Analysis for Global Science Reviewed by John S Vogel	111
RADIOCARBON UPDATES	117
i 1 44913 U/A SCIENCI 158 U/A 09/07/00	Ξ: J. 8.

### **ASSOCIATE EDITORS**

EDOUARD BARD J WARREN BECK OWEN K DAVIS ELLEN R M DRUFFEL CALVIN J HEUSSER SHEELA KUSUMGAR STEVEN W LEAVITT ANN P McNICHOL ANDREW M T MOORE PAVEL POVINEC

MICHAEL B SCHIFFER E MARIAN SCOTT JOHANNES VAN DER PLICHT JOHN S VOGEL WEIJIAN ZHOU Aix-en-Provence, France Tucson, Arizona, USA Tucson, Arizona, USA Irvine, California, USA Tuxedo, New York, USA Ahmedabad, India Tucson, Arizona, USA Woods Hole, Massachusetts, USA New Haven, Connecticut, USA Bratislava, Slovakia Monaco Tucson, Arizona, USA Glasgow, Scotland Groningen, The Netherlands Livermore, California, USA Xi'an, China

*RADIOCARBON* wishes to acknowledge the generosity of John Southon of the Lawrence Livermore Laboratory, California, in making a personal donation to help subsidize the printing of this issue.