

# Radiocarbon

An International Journal of Cosmogenic Isotope Research

VOLUME 62 • NUMBER 2 • 2020

14



Editor  
A.J.T. Jull

CAMBRIDGE  
UNIVERSITY PRESS

## Radiocarbon

*An International Journal of Cosmogenic Isotope Research*

### EDITOR

A. J. T. Jull · University of Arizona

### MANAGING EDITOR

Kimberley Tanner Elliott · University of Arizona

### ASSOCIATE EDITORS

Edouard Bard · Collège de France

Nancy Beavan · Cardiff University

Warren Beck · University of Arizona

Elisabetta Boaretto · Weizmann Institute

Christopher Bronk Ramsey · Oxford University

George S. Burr · University of Arizona

Owen K. Davis · University of Arizona

Ellen R. M. Druffel · University of California-Irvine

Pieter Grootes · Christian-Albrechts University

Irka Hajdas · ETH Zurich

Derek Hamilton · University of Glasgow

Christine Hatté · Laboratoire des Sciences du Climat et

l'Environnement

Gregory Hodgins · University of Arizona

Quan Hua · Australian Nuclear Science and Technology

Organisation

Yaroslav Kuzmin · Russian Academy of Sciences

Steven W. Leavitt · University of Arizona

Ann P. McNichol · Woods Hole Oceanographic Institution

Mihály Molnár · Hertelendi Laboratory of Environmental  
Studies, Hungary

Toshio Nakamura · Nagoya University

Jesper Olsen · Aarhus AMS Center

Charlotte Pearson · University of Arizona

Pavel Povinec · Comenius University

Paula J. Reimer · Queen's University Belfast

E. Marian Scott · University of Glasgow

John R. Southon · University of California-Irvine

Jocelyn Turnbull · GNS Science

Johannes van der Plicht · Groningen University

Antoine Zazzo · Muséum national d'Histoire naturelle

Weijian Zhou · Institute of Earth Environment, Chinese

Academy of Science

*Radiocarbon* (ISSN 0033-8222) is published quarterly by Cambridge University Press, One Liberty Plaza 20th Floor New York, NY 10006. © 2020 by the Arizona Board of Regents on behalf of the University of Arizona. All rights reserved.

### Editorial Office

Communications should be addressed to the Managing Editor, *Radiocarbon*, Department of Geosciences, The University of Arizona, 4717 East Fort Lowell Road, Tucson, AZ 85712-1201 USA. Tel.: +1 (520) 621-0641; Fax: +1 (520) 621-0584; Email: kimelliott@email.arizona.edu. Contributors should consult the Instructions for Contributors, which is available on the journal's Web site: [cambridge.org/rdc](http://cambridge.org/rdc).

### Subscriptions

Annual subscription rates for Volume 62, 2020: Institutional rate is (print and electronic) \$579 in the USA, Canada, and Mexico, £373 + VAT elsewhere. Institutional rate (electronic only) \$422 in the USA, Canada, and Mexico, £271 + VAT elsewhere. Individual rate is (print and electronic) \$191 in the USA, Canada, and Mexico, £123 + VAT elsewhere. Individual rate (electronic only) \$146 in the USA, Canada, and Mexico, £50 + VAT elsewhere. Please direct subscription inquiries and requests for back issues to Customer Services at Cambridge University Press, email: [subscriptions\\_newyork@cambridge.org](mailto:subscriptions_newyork@cambridge.org) (USA, Canada, and Mexico) or [journals@cambridge.org](mailto:journals@cambridge.org) (outside of USA, Canada, and Mexico).

### Advertising

To advertise in the journal email [advertising@cambridge.org](mailto:advertising@cambridge.org) or telephone +1 (212) 337 5062 in the USA, Canada, or Mexico; email [ad\\_sales@cambridge.org](mailto:ad_sales@cambridge.org) or telephone +44 (0)1223 325898 in the rest of the world.

### Abstracting and indexing

*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*.

### List of laboratories

Our comprehensive list of laboratories is published annually, and is also available at [www.radiocarbon.org](http://www.radiocarbon.org). We ask all laboratory directors to provide their laboratory code designation, as well as current telephone and fax numbers, and email addresses. Changes in names or addresses, additions or deletions should be reported to the managing editor. Conventional and AMS laboratories are arranged in alphabetical order by country, and we include laboratories listed by code designation.

### Permissions

No part of this publication may be reproduced, in any form or by any means, electronic, photocopying or otherwise, without permission in writing from Cambridge University Press. Policies, request forms and contacts are available at: <http://journals.cambridge.org/action/rightsAndPermissions>. Permission to copy (for users in the USA) is available from Copyright Clearance Center: <http://www.copyright.com>, email: [info@copyright.com](mailto:info@copyright.com).

**Postmaster:** Send address changes to *Radiocarbon*, Cambridge University Press, One Liberty Plaza, New York, NY 10006, USA.

# Radiocarbon

Vol 62, Nr 2, 2020

## CONTENTS

### BOOK REVIEW

- The Extinction of Late Pleistocene Large Mammals from North Eurasian Perspective –  
Review of Ross D.E. MacPhee  
*Yaroslav V Kuzmin* ..... 265

### RESEARCH ARTICLES

- Anomalous Radiocarbon Dates from the Early Medieval Cremation Graves from Broechem  
(Flanders, Belgium): Reservoir or Old Wood Effects?  
*Rica Annaert, Mathieu Boudin, Koen Deforce, Anton Ervynck, Kristof Haneca,  
An Lentacker, Christophe Snoeck* ..... 269
- Dinocysts as a Tool for Palaeoenvironmental Reconstruction in Vitória Bay, Brazil  
*Alex da Silva de Freitas, Javier Helenes Escamilla, Cintia Ferreira Barreto,  
Alex Cardoso Bastos, Estefan Monteiro da Fonseca, José Antônio Baptista Neto* ..... 289
- Radiocarbon Dating of Small-Sized Foraminifer Samples: Insights into Marine  
Sediment Mixing  
*L Missiaen, L Wacker, B C Lougheed, L Skinner, I Hajdas, J Nouet, S Pichat,  
C Waelbroeck* ..... 313
- Aragonite Fraction Dating of Vermetids in the Context of Paleo Sea-Level Curves  
Reconstruction  
*Vinicius N Moreira, Kita D Macario, Renato B Guimarães, Fábio F Dias,  
Julia C Araujo, Perla Jesus, Katerina Douka* ..... 335
- Pretreatment of Terrestrial Macrofossils  
*Margaret W Norris, Jocelyn C Turnbull, Jamie D Howarth, Marcus J Vandergoes* ..... 349
- Emergence of Hilltop Settlements in the Southeastern Baltic: New AMS <sup>14</sup>C Dates from  
Lithuania and Revised Chronology  
*Ytēnis Podēnas* ..... 361
- Bayesian Modeling of Wood-Age Offsets in Cremated Bone  
*Helene Agerstov Rose, John Meadows, Mogens Bo Henriksen* ..... 379
- <sup>14</sup>C Dated Chronology of the Thickest and Best Resolved Loess/Paleosol Record of the LGM  
from SE Hungary Based on Comparing Precision and Accuracy of Age-Depth Models  
*Pál Sümegei, Sándor Gulyás, Dávid Molnár, Gábor Szilágyi, Balázs P Sümegei,  
Tünde Töröcsik, Mihály Molnár* ..... 403

A Direct-Dated Ceramic AMS Sequence from the Gaspereau Lake Reservoir Site Complex, Maine–Maritimes Region, Northeastern North America <i>Cora A Woolsey</i> .....	419
Compound-Specific Radiocarbon Analysis of Organic Compounds from Mount Fuji Proximal Lake (Lake Kawaguchi) Sediment, Central Japan <i>Shinya Yamamoto, Yosuke Miyairi, Yusuke Yokoyama, Hisami Suga, Nanako O Ogawa, Naohiko Ohkouchi</i> .....	439
Unravelling Quasi-Continuous <sup>14</sup> C Profiles by Laser Ablation AMS <i>C Yeman, M Christl, B Hattendorf, L Wacker, C Welte, N Brehm, H-A Synal</i> .....	453

#### CASE STUDIES

Radiocarbon Dating of the Neolithic Settlement at Makriyalos, Pieria, North Greece <i>Yannis Maniatis, Maria Pappa</i> .....	467
An Atypical Medieval Burial at the <i>Monte Dei Cappuccini</i> Monastery in Torino (Italy): A Case Study with High-Precision Radiocarbon Dating <i>Sara Rubinetti, Irka Hajdas, Carla Taricco, Silvia Alessio, Luca P G Isella, Roberto Giustetto, Rosa Boano</i> .....	485

#### DATE LIST

Carbon Isotopic Research of <i>Pinus sylvestris</i> L. Growing in the Southern Poland (Near Kędzierzyn-Koźle, Dąbrowa Górnicza Katowice and Olesno) <i>Barbara Sensula, Natalia Piotrowska</i> .....	497
--	-----

#### RESEARCH ARTICLE

Pressure Knapping and the Timing of Innovation: New Chrono-Cultural Data on Prehistoric Groups of the Early Holocene in the Maghreb, Northwest Africa ( <i>online only</i> ) <i>Thomas Perrin, Tiphaine Dachy, Colas Guéret, David Lubell, Yasmina Chaïd-Saoudi, William Green</i> .....	e1
--	----