

today. Bill's seminal contributions to understanding the mechanisms of past climate changes, including the links between orbital forcing, tectonics and climate as well as the role of the Atlantic Ocean in climate change have been hugely influential across the decades. However, he is best known for his "early Anthropocene" hypothesis that proposes that humans began to alter the course of climate change as early as 8000 years ago, much earlier than the industrial era. He has proposed a possible role of early agriculture in explaining the divergence of greenhouse gas concentrations from their natural trends, and proposed that an incipient ice age would have started several thousand years ago, if not forestalled by the activities of early farmers. His insight in paleoclimate research put him in a leadership position in two cornerstone paleoclimate research projects: CLIMAP in 1970s and COHMAP in 1980s. His leadership within the broader community and his mentoring of students is legend. Finally, his textbook "Climates of Past, Present and Future", now in its third edition, brings our entire field alive every day in college classrooms across the nation.

## Conference Reports

### ***The 2016 INQUA LoessFest in western Wisconsin***

*By Randy Schaetzl, Michigan State University*

On this past September 22-25, the annual meeting of the INQUA Loess Focus Group was convened by Randy Schaetzl, Michigan State University. This "LoessFest" marked the first such meeting ever held on American soil. In all, 75 participants from 10 different nations were represented. The conference featured two days of papers and posters, followed by two full-day field trips. Faculty from the University of Wisconsin, both the Eau Claire and Madison campuses, participated in field

trip planning and presentations. Participants got to see the beautiful, rolling landscapes of western Wisconsin, which are covered with up to 3 m of loess, and to meet several of the farmers who make their living on this land. It was announced at the meeting that the 2017 LoessFest will be in northern Iran. Details can be found at the Loess Focus Group website: <http://www.inqua-loess.org/>



John Attig, Wisconsin Geological and Natural History Survey, discusses ice-walled lake plain formation atop such a lake plain. These features were not insignificant loess sources for some parts of the state.



Doug Faulkner, UW-Eau Claire faculty member, discusses the geomorphic history of the Chippewa River, which was a major loess source for western Wisconsin

## News about Laboratories

### ***Amino acid racemization lab now at the Paleontological Research Institution (PRI), Ithaca, New York***

In 2013, John Wehmiller retired from the University of Delaware, Department of Geological Sciences. While continuing his research, he has relocated a large fraction of the Delaware field collection (primarily mollusks from Quaternary coastal sites in North and South America) to various museums around the country, as described in Wehmiller and Pellerito (2015; see Recent Publications). In addition, the amino acid racemization (AAR) lab at Delaware has now been transferred to the Paleontological Research Institution (PRI), Ithaca, NY, where it is now fully operational.



### ***Records of Environment and Disturbance Lab, University of Utah***

The Records of Environment and Disturbance (RED) Lab is part of the Department of Geography at the University of Utah. Graduate and undergraduate students work on projects that include reconstructions of fire and vegetation regimes, past bark beetle outbreaks, desert wetlands, and human paleoecology. Ongoing projects include multiproxy-analysis of multiple desert spring cores in the West Desert, paleoenvironmental reconstruction of an oxbow lake near the Rio Mesa field station, reconstructions of fire from aspen dominated settings, and surface pollen/modern vegetation calibrations and multiple paleoenvironmental reconstructions in The Range Creek Canyon field station. This lab uses a multiproxy approach for paleoenvironmental reconstructions, which include the use of pollen, charcoal, magnetic susceptibility, loss on ignition, grain size analysis, packrat midden analysis, and X-ray fluorescence. Funding for these projects

include support from the National Science Foundation, the Department of Defense, and the Environmental Protection Agency.



## Recent Graduates

Joanne Ballard (2015) Evidence of Late Quaternary Fires from Charcoal and Siliceous Aggregates in Lake Sediments in the Eastern U.S.A. PhD thesis, University of Tennessee, Knoxville. Advisor: Sally Horn.

Jeremiah Marsicek (2016) The Spatial and Temporal Evolution of Holocene Temperatures in North America and Europe. PhD thesis, University of Wyoming, Laramie, Wyoming. Advisor: Bryan Shuman.

## Recent Publications

Bajc, A.F., Karrow, P.F., Yansa, C.H., Curry, B.B., Nekola, J.C., Seymour, K.L., Mackie, G.L. (2015) Geology and paleoecology of a Middle Wisconsin fossil occurrence in Zorra Township, southwestern Ontario, Canada. *Canadian Journal of Earth Sciences* 52, 386-404.

Bravo-Cuevas, V.M., Priego-Vargas, J., Cabral-Perdomo, M.Á., Pineda Maldonado, M.A. (2016) First occurrence of *Panthera atrox* (Felidae, Pantherinae) in the Mexican state of Hidalgo and a review of the record of felids from the Pleistocene of Mexico. *Fossil Record* 19, 131-141.

Bravo-Cuevas, V.M., Arroyo-Cabrales, V., Priego-Vargas, J. (2016) The record of camelids (Artiodactyla, Camelidae) from the Valsequillo Basin, late Pleistocene of Puebla state, central Mexico: taxonomy, diet, and geographic distribution. *Revista Brasileira de Paleontologia* 19, 243-258.

Cannon, K.P., Byrd Finley, J., Boeka Cannon, M., eds. (2016) Memoir 43: Rocky Mountain Archaeology: A Tribute to James Benedict. *Plains Anthropologist* 60, 287-430.

Ballard, J.P., Horn, S.P., Li, Z.-H. (2016) A 23,000-year microscopic charcoal record from Anderson Pond, Tennessee, USA. *Palynology*. DOI: <http://dx.doi.org/10.1080/01916122.2016.1156588>.

Nichols, H., Stolze, S. (2016) Migration of legacy data to new media formats for long-time storage and maximum visibility: Modern pollen data from the Canadian Arctic (1972/1973). *Research Ideas and Outcomes* 2: e10269. DOI: 10.3897/rio.2.e10269

Occhietti, S., Lamothe, M., Karrow, P.F., Richard, P.J.H., Clet, M. (2015) New studies on the interglacial to early stadial Don and Scarborough formations of the Toronto area, Canada. *Geological Society of America, Abstracts with Programs* 47, 3.

Reams, M.W. (2016) Microclimate controls on weathering, based on rephotography of an outcrop in Kansas, USA, with educational applications. *Zeitschrift für Geomorphologie* 60, 45-57.

Stolze, S. (2015) Rapid determination of the pollen content in lake sediment cores as a tool in paleoenvironmental research. *Journal of Paleolimnology* 54, 161-170.

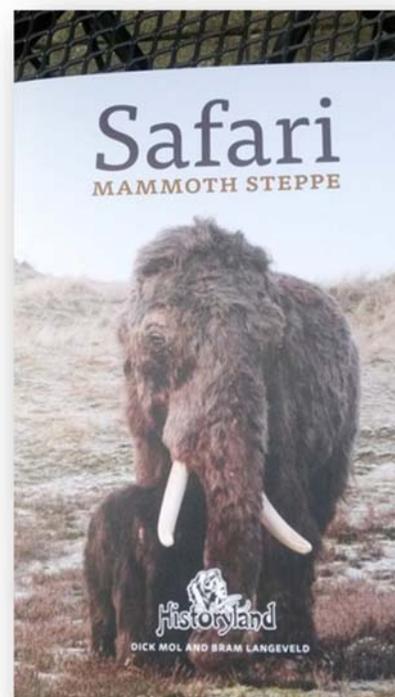
Taylor, K.J., Stolze, S., Beilman, D.W., Potito, A.P. (2016) Response of chironomids to Neolithic land-use change in north-west Ireland. *The Holocene*. DOI: 10.1177/0959683616675935

Wehmiller, J.F., Pellerito, V. (2015) An evolving database for Quaternary aminostratigraphy. *GeoResJ* 6, 115-123.

## Book Review

A museum book about Pleistocene fossils - from the bottom of the North Sea: Mol, D., Langeveld, B. (2016) Safari: Mammoth Steppe. Stichting Historyland, Hellevoetsluis, 48 pp.

By Joanne P. Ballard, Pellissippi State Community College



Some of you may be aware of the large quantities of mammoth and mastodon molars brought up from the Atlantic continental shelf as a by-catch in fishermen's nets over the years (Whitmore et al. 1967). Apparently many other types of Pleistocene fossils have been found, but no systematic study has been done for the U.S. coast. In 2010, David Parris, curator of natural history at the New Jersey State Museum, wanted to collaborate with local clam and scallop fishermen in order for the museum to collect and preserve any fossils they recovered in their dredges (Miller 2010).

On the other side of the Atlantic, Dutch fishermen dredging for flatfish in the North Sea have been collaborating with museum curators and fossil collectors; they bring their fossil by-catch back to the docks. The fossil-rich sites in places such as the Eurogully and Brown Bank are recorded with the ship's GPS. Until some 8,000 years ago, the bottom of the North Sea was dry land. In addition to recovering this treasure trove of Pleistocene fossils from their watery resting places, a surprising new opportunity for discovery of Pleistocene fossils has emerged. The Eurogeul channel into Rotterdam harbor must regularly be dredged to keep the bottom clear for large ships to pass through. The dredged sand is sprayed onto beaches (Maasvlakte 2 and Hoek van Holland), and new land is formed, laden with many Pleistocene fossil treasures. The Maasvlakte 2 beach opened to the public in 2012. People come to comb the beaches, and they are finding the small fossils that would have fallen through the holes in the fishing nets.

Paleontologists organize regular fossil identification days at sites such as the Historyland museum in Hellevoetsluis, The Netherlands. Hobby fossil hunters can bring their finds for identification and advice on how to learn about fossils and how best to preserve their finds. In this way, the experts can identify and report any unusual finds and expand our knowledge of Pleistocene fauna in Europe. No

grants have to be written to pay for the manpower to collect specimens or to do the research.

The story of this remarkable collaboration can be found in *Safari Mammoth Steppe*, a museum book that just been published in The Netherlands. The authors are Bram Langeveld and Dick Mol. This book deals with the submerged mammoth steppe under the North Sea and the replica mammoth steppe at Historyland. It is beautifully illustrated with many photographs and drawings. The Historyland museum is featured; it displays a nice collection of Pleistocene fossils, along with life-sized replicas of megafauna such as a woolly rhino, woolly mammoth, steppe bison and sabertoothed cat, all constructed by artist Remie Bakker.

Bram Langeveld is the new curator at the Rotterdam Natural History Museum. Dick Mol has over forty years of experience researching Pleistocene fossils, and mammoths in particular. He has been knighted by the Queen of The Netherlands for his public outreach in the field of paleontology.

#### References

Miller, M. (2010) Fishing dredges often bring up fossils, and museum is very interested. *New Jersey*, May 11, 2010. [http://www.pressofatlanticcity.com/news/press/new\\_jersey/fishing-dredges-often-bring-up-fossils-and-museum-is-very/article\\_db23eea-5d74-11df-a846-001cc4c002e0.html](http://www.pressofatlanticcity.com/news/press/new_jersey/fishing-dredges-often-bring-up-fossils-and-museum-is-very/article_db23eea-5d74-11df-a846-001cc4c002e0.html)

Whitmore Jr., F.C., Emery, K.O., Cooke, H.B.S., Swift, D.J.P. (1967) Elephant Teeth from the Atlantic Continental Shelf. *USGS Staff - Published Research*, Paper 236.

## Conference Announcements

The 44<sup>th</sup> *Annual Meeting of the Alaska Anthropological Association* will be held February 6<sup>th</sup> – March 2<sup>nd</sup>, 2017 in Fairbanks, Alaska. The theme of the conference this year is "Bridging Humanities and Sciences through Studies of Circumpolar Societies". As a broadly inclusive, dynamic, and perpetually experimental field anthropology is inherently multi-disciplinary. The thematic and temporal breadth of anthropological engagement reaches across many forms of scholarship, communicated through diverse forms of expression. For its 44<sup>th</sup> annual meeting, the Alaska Anthropological Association aims to facilitate exchanges between practitioners in the fields of social and natural sciences, visual and literary arts, performance, environmental humanities, local and Indigenous knowledge, and cultural resource and heritage preservation, whose work focuses on the human experience in Alaska and Circumpolar regions. Please visit the Alaska Anthropology Association's website for further information: <http://www.alaskaanthropology.org/annual-meeting/>



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The **OSM** is an international and multi-disciplinary platform for sharing latest research results on past global changes and the venue for discussing and defining the role of past global change science in the coming years.

**Deadline for abstract submission:  
20 December 2016**

**Deadline for early registration:  
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## Quaternary Research in Ireland and the Irish Quaternary Association (IQUA)

Ireland's famously beautiful landscape contains a wealth of evidence for a dynamic Quaternary history. With dramatic glacial landforms, varied coastlines, extensive peatlands, innumerable lakes, and a rich archaeological heritage, the island has long fascinated Quaternary scientists. Indeed, Ireland has a history of Quaternary research dating back to the nineteenth century, including famous visits by Agassiz in 1840 and Carvill Lewis in 1885, and its diverse Quaternary archives continue to provide fruitful avenues for research.



*Life on the Edge*

### XX INQUA Congress 2019

25th – 31st July 2019  
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The Royal Irish Academy (RIA) 'Committee for Quaternary Research in Ireland' was established in 1934, providing a key stimulus for the study of Ireland's Quaternary history. In the 1970s, the Irish Quaternary Association (IQUA) was founded with a view to co-ordinating and energising all aspects of Quaternary research in Ireland and passing on existing expertise through conferences and especially field excursions. Notable contributors over the lifetime of the Association include Frank Mitchell, Francis Syngé, Alan Smith, Bill Watts, Marshall McCabe and Willie Warren. The INQUA Congress held in Birmingham in 1977, which included excursions to Ireland led by Watts and Syngé, gave a further impetus to Quaternary studies in Ireland. Frank Mitchell, as President of INQUA for the intercongress period 1969–1973, and later through his classic book, *Reading the Irish Landscape*, also greatly helped in highlighting the multi-dimensional character of the Quaternary record in Ireland.

Currently, IQUA is a thriving organisation with well over 100 members, and disseminates information about its activities through its webpage ([www.iqua.ie](http://www.iqua.ie)) and email list. The link between the RIA and INQUA continues to be positively fostered by active Quaternary scientists represented via the RIA's Geoscience Committee (formerly the National Committee for Geology), and by funding IQUA's national delegates to attend INQUA congresses. Furthermore, the recipient of IQUA's inaugural Frank Mitchell Award for Distinguished Service to Quaternary Research and Teaching, Pete Coxon, has served as both IQUA President (2008–2012) and as Secretary-General of INQUA (2003–2011), thus strengthening the link between IQUA and INQUA.

**The following links will give you a sample of the Congress facilities and Ireland's Quaternary science community and landscape:**

The Irish Quaternary Association (IQUA): <http://www.iqua.ie>

IQUA Field Excursions: <http://www.iqua.ie/publications.html>

The Convention Centre Dublin (the Congress Venue): <http://www.theccd.ie>

Wild Atlantic Way (Ireland's scenery): <http://www.wildatlanticway.com/home/>

Sign up for Congress Newsletters: [www.inqua2019.org](http://www.inqua2019.org)



New to Cambridge in 2017

# QUATERNARY RESEARCH



The Quaternary Research Center (QRC) and Cambridge University Press are delighted to announce the formation of a new publishing partnership beginning in January 2017. Under the new partnership Cambridge University Press will publish the journal Quaternary Research on behalf of QRC.

QRC will continue to partner with AMQUA to ensure that as the official AMQUA journal, QR remains available to AMQUA members at a reduced rate for the foreseeable future. Specific details are being worked out and will be announced in the near future.

For more information about the journal, please visit:  
[cambridge.org/qua](http://cambridge.org/qua)

