Circular 2

International Conference on

Volcanism, Impacts and Mass Extinctions: Causes and Effects

The Natural History Museum, London, March 27-29, 2013

Early registration Deadline: January 15, 2013
Abstract submission deadline: January 15, 2013

General conference information:
http://massextinction.princeton.edu/

Official registration and submission of abstracts:
http://www.minersoc.org/mass-extinctions.html

Instructions for abstracts & posters:
http://www.minersoc.org/files/abstract-instructions-me.doc

Hotel information:
Each delegate is responsible for organizing his/her own accommodation.

Information about hotels within easy walking distance of The Natural History Museum can be found at the following links:

http://www.booking.com/landmark/gb/natural-history-museum1.en.html

http://www.lastminute.com/hotels-d10073-poi2140_natural-history-museum_-london-hotels

http://www.expedia.co.uk/London-Natural-History-Museum-Hotels.0-l501537-0.Travel-Guide-Filter-Hotels

In March 2013 London's Natural History Museum (NHM) will host an international, multi-disciplinary conference that brings together researchers across the geological, geophysical, and biological disciplines to assess the state of research into the causes of mass extinction events. The main goal of this conference will be to evaluate the respective roles of volcanism, bolide impacts, sea level fluctuations and associated climate and environmental changes in major episodes of species extinction.

Over the last 30 years considerable research efforts have been directed toward understanding the context and nature of environmental changes that occurred immediately prior to, at, and after the five major Phanerozoic mass extinctions. In particular, important new data and observations have been published that bear on the interpretation of these events from the fields of palaeontology, stratigraphy, sedimentology, geochronology, geochemistry, mineralogy, volcanology, geophysics (notably palaeomagnetism) and astrophysics. Consequently, a critical review of these data/observations — along with a thorough consideration of their implications with respect to identifying the causes of these eco-evolutionary events — is warranted.

In this context the end-Cretaceous extinction event is particularly noteworthy because it serves as the benchmark for understanding the types of research projects that need to be undertaken throughout the geologic column in order to achieve a genuinely comprehensive understanding of major extinction episodes. Improving our understanding of these events is important not only because of its intrinsic link to understanding the history of life, but also because of the link that is often drawn between ancient mass extinctions and the modern biodiversity crisis.

Don Davis/NASA

In addition to reviewing the physical and biotic evidence, this conference will assess the present status of disagreements between proponents of different mass extinction cause hypotheses by integrating, refining, and evaluating discrepancies in the evidence from different disciplines. The conference is intended to foster a new, collaborative, interdisciplinary, community-wide approach to resolving outstanding problems in this field. The data and concepts presented and discussed at this conference are sure to have broad implications that will extend throughout, and well beyond, the geosciences because they will summarize the baseline data necessary for understanding both ancient and modern species extinction events.

Finally, since palaeontology, space science, volcanism and mass extinction events in particular are high-profile and very popular science topics, we expect this conference to attract considerable media attention. As a result, it will provide an outstanding opportunity to foster engagement between scientists and the general public. This opportunity will be realized not only in the context of the conference programme itself, but also through links between the conference topic and a new NHM public exhibition – Extinctions: Not the End of the World?

Publication

An edited volume of keynote review articles drawn from the conference presentations will be published. To ensure inclusion, completed articles should be received no later than two months after the conference (May 30, 2013).

Donors

In addition to the proposed hosting and organizational support of the conference by The Natural History Museum and the Mineralogical Society of Great Britain and Ireland, financial donations to offset conference expenses is committed from the Solid Earth Composition and Evolution Working Group of the International Mineralogical Association, the Volcanic and Magmatic Studies Group (VMSG) of the UK, the Society for Sedimentary Geology (SEPM) USA, and the Institut des Sciences de la Terre et de l'Environnement (ISTE), Lausanne University, Switzerland.

Technical Programme

The conference programme will be organized to cover all aspects of the major geological extinction events and their hypothesized causes. Keynote lectures, invited overview presentations, and contributed presentations/ posters will be included. (See below for a list of confirmed speakers.) Regular sessions will focus on presentation of the data that must be accounted for in any comprehensive theory of mass extinction causal mechanisms and their effects. Presenters in these sessions will be able to offer their interpretations and opinions regarding likely causal scenarios consistent with their data, but a clear separation between presentation of data and observations and interpretations will be encouraged. Please note that conference seating/space is limited and early registration and submission of abstracts is encouraged.

These presentations will be followed by focused discussions and debate. The conference will end with a series of three invited presentations that will draw on data presented for all extinction events to set out the cases for various generalized mass extinction causal scenarios. The conference will also feature a debate between proponents of the various mass extinction causal models whose purpose will be to encourage the audience to think critically about the extent to which mass extinctions can be seen as arising from a set of generalized causes intrinsic to the Earth or are the products of unique conditions imposed from outside the Earth systems.

Conference Organization

Local Organizing Committee:

Norman MacLeod (The Natural History Museum), **Andrew Kerr** (Cardiff University),
Mike Widdowson (Open University)

Scientific Committee:

Gerta Keller (Princeton University), **Andrew Kerr** (Cardiff University), **Norman MacLeod** (The Natural History Museum), Mike Widdowson (Open University), **Vincent Courtillot** (Institut de Physique du Globe de Paris), **Ashok Sahni** (Panjab University), **Thierry Adatte** (University of Lausanne).

Dr. Gerta Keller
Professor, Department of Geosciences, Princeton University, Princeton, New Jersey 08540, USA. Expertise: Paleontology, evolution and mass extinctions (particularly KT mass extinction), oceanic anoxic events, stratigraphy, sedimentary environments, stable isotopes.
Email: gkeller@princeton.edu

Dr. Andrew Kerr
Reader, School of Earth & Ocean Sciences, Cardiff University, Cardiff UK. Expertise: Large igneous provinces, geochemistry, mass extinctions, anoxia, black shales.
Email: KerrA@cardiff.ac.uk

Dr. Norman MacLeod
Dean of Post-Graduate Education and Training, The Natural History Museum, London; Prof. Dept. Earth Sciences, University College, London, UK. Expertise: Paleontology, morphometrics, mass extinctions.
Email: N.MacLeod@nhm.ac.uk

Dr. Mike Widdowson
Department of Earth Sciences, The Open University, Walton Hall, Milton Keynes, MK7, UK. Expertise: Volcanology, particularly Deccan Traps and causes of mass extinctions.
Email: m.widdowson@open.ac.uk

Dr. Vincent Courtillot
Professor and former Director of the Institut de Physique du Globe de Paris, France. Expertise: Geophysics, volcanology, causes of mass extinctions.
Email: courtil@ipgp.fr

Dr. Ashok Sahni
Professor Emeritus, Center for Advanced Study in Geology, Panjab University, Chandigarh, India. Expertise: Paleontology and Evolution (particularly vertebrates), major extinction events in Earth History.
Email: ashok.sahni@gmail.com

Dr. Thierry Adatte
Institut de Géologie et Paléontologie, Université de Lausanne, Lausanne, Switzerland. Expertise: Sedimentology, Mineralogy, Geochemistry.
Email: thierry.adatte@unil.ch

Keynote and Invited Speakers with Institutional Affiliations

Speaker	Institutional Affiliation
Dallas Abbott	Lamont-Doherty Earth Observatory of Columbia University New York, New York, USA
Thierry Adatte	Institut de Géologie et Paléontologie, Université de Lausanne, Lausanne, Switzerland
Dave Archibald	San Diego State University, San Diego, California, USA
Howard Armstrong	Dept of Earth Sciences, Durham University, Durham, UK
Mike Benton	Dept. of Earth Sciences, University of Bristol, Bristol, UK
Samuel Bowring	Dept. Earth, Atmospheric and Planetary Sciences, Massachusetts Institute of Technology, Cambridge, MA, USA
Vincent Courtillot	Institut de Physique du Globe de Paris, Paris–Diderot University, Paris, France
Linda Elkins-Tanton	Department of Terrestrial Magnetism Carnegie Institution of Washington 5241 Broad Branch Road, NW Washington, DC 20015
Frederic Fluteau	Institute Physics du Globe de Paris, University of Paris, Paris, France
Brian Gertsch	Dept. Earth, Atmospheric and Planetary Sciences, Massachusetts Institute of Technology, Cambridge, MA, USA
Iain Gilmour	Planetary and Space Sciences Research Institute, The Open University, Milton Keynes, UK
Anthony Hallam	Dept. of Geography, Earth & Environmental Sciences, University of Birmingham, Birmingham, UK
Michael Joachimski	Institut für Geologie und Mineralogie, University of Erlangen, Germany
Simon Kelley	Department of Physical Sciences, The Open University, Milton Keynes, UK
Gerta Keller	Department of Geosciences, Princeton University, Princeton, New Jersesy, USA
Andrew Kerr	School of Earth and Ocean Sciences, Cardiff University, Cardiff, UK
Norman MacLeod	The Natural History Museum, London, UK
G. McGhee	Rutgers University, New Brunswick, NJ USA
William Napier	Center for Astrobiology, Buckingham University, Buckingham, UK
Jozsef Palfy	Dept. of Physical and Applied Geology, Eötvös University, Budapest, Hungary
Paul Renne	Director, Berkeley Chronology Center, University of California, Berkeley, California, USA
Ashok Sahni	Natural History Museum, Panjab University, India
Andrew Saunders	Department of Geology, University of Leicester, Leicester, UK

Stephen Self Department of Earth Sciences, The Open University, Milton Keynes, UK

Robert Spicer Centre for Earth, Planetary, Space and Astronomical Research, Department of Earth Sciences, The Open University, Milton Keynes, UK

Duncan Steel Australian Centre for Astrobiology, University of New South Wales, Australia

Mike Widdowson Department of Earth Sciences, The Open University, Milton Keynes, UK

Paul Wignall School of Earth and Environment, University of Leeds, Leeds, UK