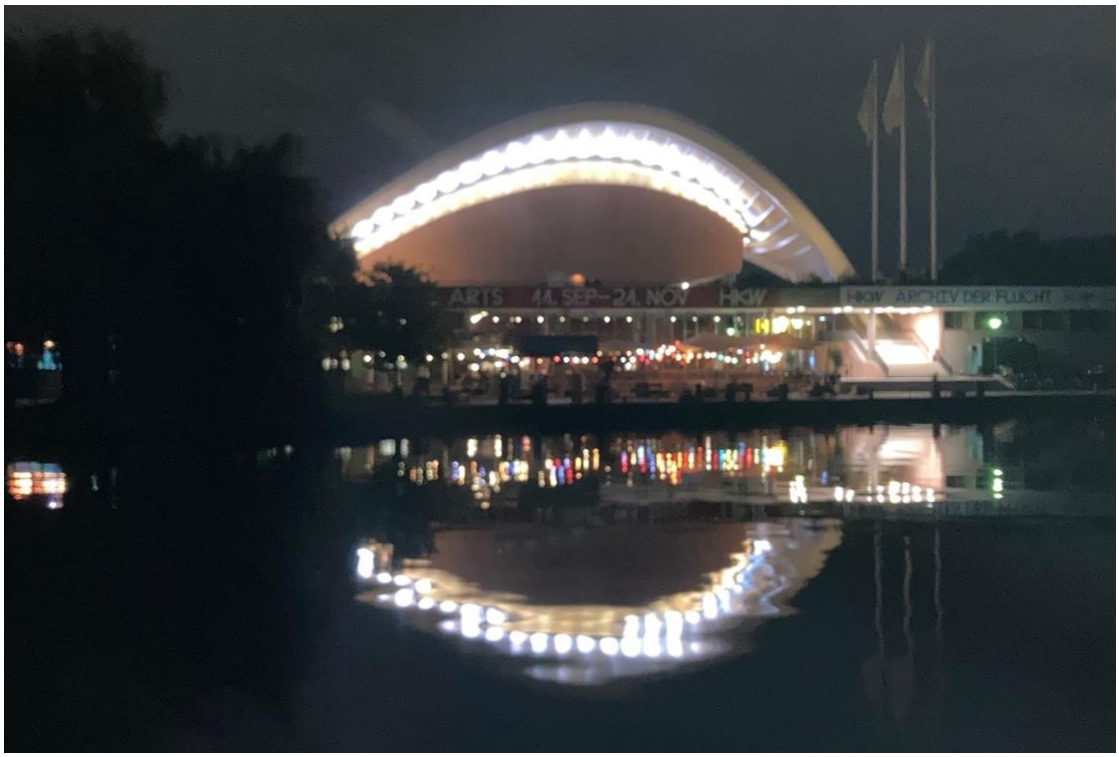
Newsletter of the Anthropocene Working Group



Anthropocene Working Group

Volume 11: Report of activities 2021

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International Union of Geological Sciences
International Commission on Stratigraphy

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AWG Newsletter 2021

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Chair's Column

Dear all,

There is no escaping that 2021 has been another difficult year to carry out scientific research as a consequence of the continued effects of the pandemic. The year started with the sad news in January of the passing of Paul Crutzen, the inspiration behind the Anthropocene concept and much of our subsequent AWG research. Our AWG meeting scheduled for May had to be postponed as it became clear that holding an in-person meeting in Berlin would be impossible. However, under Simon's expert stewardship, behind the scenes and in the most difficult of circumstances, work continued on the analysis of the now twelve candidate GSSP sites.

Fortunately, on 21st September, we were able to hold our rearranged AWG meeting at the Haus der Kulturen der Welt (HKW) in Berlin as the first day of a three-day Anthropogenic Markers Workshop. Excellent HKW coordination ensured that the hybrid meeting proved a great success, particularly for those of us who were fortunate to be at the meeting in person. The presentations were ordered to consider East to West time zones, allowing online team members to join as the day progressed in Berlin – though the earliest speakers joined us in their evening and the latest presented early the following morning. It very much felt as if we were on a time-warped tour of the world. What was apparent from the presentations on the twelve sites, plus additional details from three of the laboratories led by Irka Hajdas, Andy Cundy and Neil Rose, carrying out analysis across the sites, was how far the studies have managed to progress in spite of continued restrictions and how varied the details that in total help to endorse the recognition of a mid-20th century epoch boundary. Our thanks go out to our colleagues and friends at HKW and MPIWG for hosting and facilitating the meeting so successfully.

We learnt from Yongming Han how the IEECAS team had relocated their main site to Sihailongwan Maar lake, near the North Korean border, with a core collected in February 2021 and had already amassed large amounts of data. The independent Beppu Bay team, led by Michinobu Kuwae, continue to publish on diverse anthropogenic markers. Barbara Fiałkiewicz-Kozieł was able to introduce work previously carried out on the Śnieżka peatland, updated with work on a new core collected in 2020. Andrea Borsato reviewed the analytical work that has been previously undertaken for the Ernesto speleothem. Jérôme Kaiser and Juliana Assunção Ivar do Sul presented on the advanced progress on the East Gotland Basin core, including Pu data that had only just been analysed. Liz Thomas was able to document the amazing high-resolution chronology for the Palmer ice core and a detailed methane record. Stephen Himson showed how five invasive species have been found in the San Francisco core and how chains of correlation allow linking of species to produce a high precision correlation across the USA. Michael Wagreich presented on the Vienna Museum site which is being developed independently as a potential auxiliary stratotype. Francine McCarthy detailed the advanced analysis of Crawford Lake and some of the recent data microfossil variability across the Holocene-Anthropocene boundary. With the pandemic preventing the planned collection of coral core from Little Cayman Island, Kristine DeLong explained how the project has been redesigned to analyse the previously collected coral core from the West Flower Garden Bank Reef in the Gulf of Mexico. This will provide a

valuable inclusion along with the other coral candidate site from the Flinders Reef of Australia, that Jens Zinke was able to describe earlier in the day. The final presentation from Allison Stegner showed that work on the Searsville Reservoir site is almost complete, with an auxiliary site at Upper Lake with a longer archive. Details on progress of the sites is provided by Simon Turner later in this Newsletter.

Individually and in small groups we continue to publish on a wide range of Anthropocene themes. A key multi-authored AWG publication led by Jan (and with welcome external contributors) investigated use of the term Anthropocene in chronostratigraphy and the much broader conceptualizations of the term, allowing for a diverse authorship. One area of activity related to a response, led by Martin Head, on a critical paper in *Episodes* by Ron Nielsen using mathematics to attempt to undermine the Great Acceleration concept. Similarly, some members of the group, led by Phil Gibbard, forwarded an argument for the Anthropocene to be considered an informal event, further instigating the majority of members to compile two responses.

Additional highlights included a session at the EGU General Assembly 2021 on the Stratigraphy, Sedimentology & Palaeontology (SSP) programme; SSP2.6 The physical record of the Anthropocene in geological archives, convened by Michael Wagreich, Irka Hajdas, Kira Lappé and Colin Waters. Congratulations too to Michael Wagreich, whose project IGCP 732: "LANGUAGE of the Anthropocene (Acronym: LANGUAGE - Lessons in anthropogenic impact: a knowledge network of geological signals to unite and assess global evidence of the Anthropocene)" was accepted by the UNESCO board/IGCP committee. The project is one of 18 new projects to join the International Geoscience Programme in 2021. AWG provided support for the application and involvement in the inaugural workshop in October and in addition to Michael, Juliana Ivar do Sul and Barbara Fiałkiewicz-Kozieł are co-PIs.

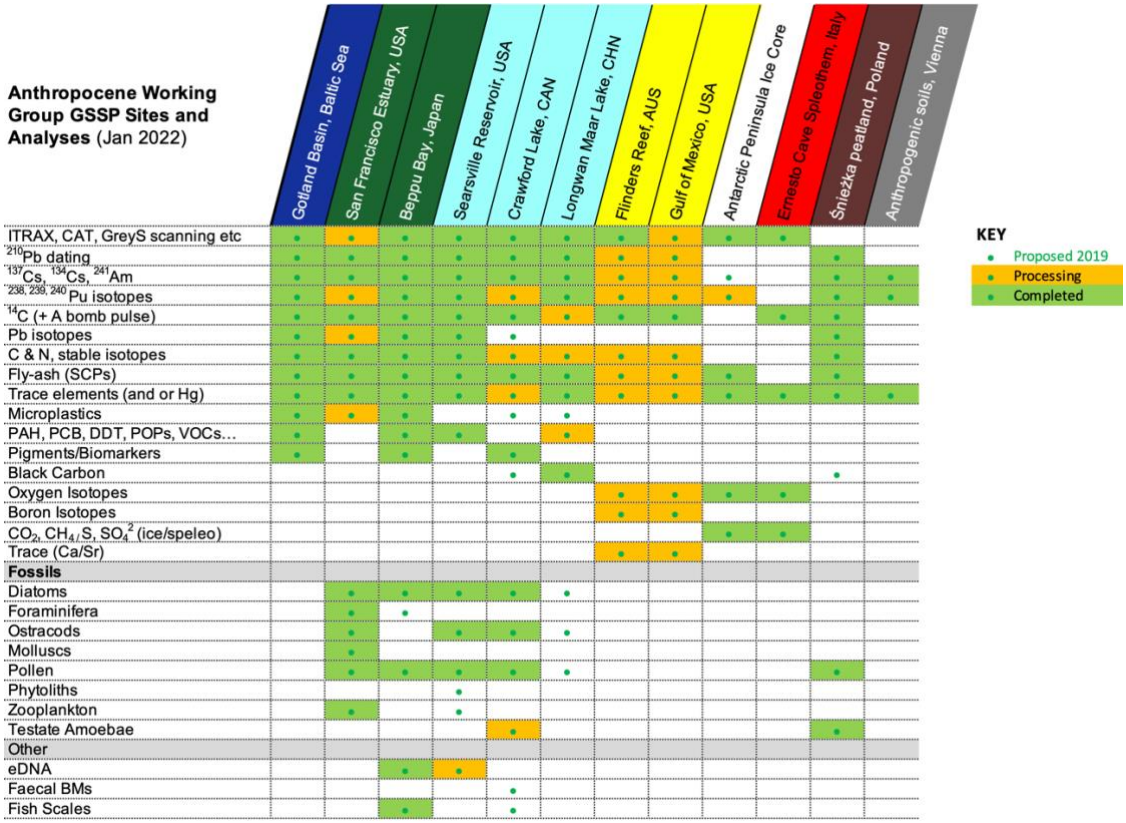
The schedule of activities in 2022 related to completion of the GSSP work has also become clearer. The key meeting in our calendar will be the AWG meeting at HKW, Berlin on 18th to 19th May. AWG members will be invited to attend in person or remotely. The results of the studies will then be published as separate chapters within a special thematic issue of The Anthropocene Review to be edited by Waters, Turner, Zalasiewicz and Head. This should allow the formal AWG voting process to take place over October and November 2022. There is no doubt that this is a very ambitious timetable, and it will make for 2022 to be a fascinating year in the history of our group.

Anthropocene GSSP Project Update

Considering the impacts of the global pandemic on daily life and work over the last year, our GSSP teams have been able to continue processing samples and accumulating stratigraphic data. Much of the data gathering has been completed (Figure 1, below) and the aim remains to have GSSP data and results ready by the Berlin event in May 2022. I have been in the lucky position the last year to see the results come in from all the groups; and there is some spectacular stratigraphic data being interpreted currently. As with any investigation, there have been some disappointments when various proxies/markers have not worked as well as hoped, but such is the nature of science. We have a few more results to come in during the next month or so, but the focus is now

on interpreting and writing the results up, ready for the Berlin May event and subsequent submission of papers in July. Before May, for those of you wanting a reminder of the nature of the sites and results so far can be got from reviewing the filmed presentations made at HKW in September 2021. These were released only for review by AWG members and not for public release. Please contact me (ST, ucfasdt@ucl.ac.uk) if you have mislaid the link sent out following the September event.

Figure 1. Matrix providing a summary of analyses being processed and completed as of January 2022. The majority of analyses proposed in 2019 during the initial planning of the analytical work have been completed.



New Members Details

Barbara Fiałkiewicz-Kozieł

I am an assistant professor in the Biogeochemistry Unit Research, Faculty of Geographical and Geological Sciences of Adam Mickiewicz University in Poznań. I am an environmental geochemist, working mainly on geochemistry of peatlands. I am interested in the impact of human activities on release, transport, and deposition of elements in different compartments of the Earth and I always try to explain observed changes in a holistic way, considering local, regional, and global variables.

My research proves the utility of peatlands as valuable records of anthropogenic signals. Currently I am a leader of project: EARTH-Anthropocene, where, together with my co-authors, we investigate sources and patterns of deposition of long range transported chemical and mineralogical markers using peatlands located in Northern Hemisphere. I am also a co-PI of IGCP 732 (International Geoscience Programme): LANGUAGE of the Anthropocene (Lessons in anthropogenic impact: a knowledge network of geological signals to unite and assess global evidence of the Anthropocene).

SELECTED AWG PUBLICATIONS

AWG Multi-Authors

Bauer, A.M., Edgeworth, M., Edwards, L.E., Ellis, E.C., Gibbard, P. and Merritts, D.J., (2021). Anthropocene: event or epoch?. Nature, 597(7876), pp.332-332.

Gibbard, P.L., Bauer, A.M., Edgeworth, M., Ruddiman, W.F., Gill, J.L., Merritts, D.J., Finney, S.C., Edwards, L.E., Walker, M.J.C., Maslin, M. and Ellis, E.C. (2021). A practical solution: the Anthropocene is a geological event, not a formal epoch. Episodes -0001, https://doi.org/10.18814/epiiugs/2021/021029

Gibbard, P.L., Walker, M.J.C, Bauer, A.M., Edgeworth, M., Edwards, L.E., Ellis, E.C., Finney, S.C., Gill, J.L., Maslin, M., Merritts, D.J. and Ruddiman, W.F. (2022). The Anthropocene as an Event not an Epoch. Journal of Quaternary Science (online) https://doi.org/10.1002/jqs.3416

Head, M.J., Steffen, W., Fagerlind, D., Waters, C.N., Poirier, C., Syvitski, J., Zalasiewicz, J.A., Barnosky, A.D., Cearreta, A., Jeandel, C., Leinfelder, R., McNeill, J.R., Rose, N.L., Summerhayes, C., Wagreich, M. and Zinke, J. (2021). The Great Acceleration is real and provides a quantitative basis for the proposed Anthropocene Series/Epoch. Episodes. https://doi.org/10.18814/epiiugs/2021/021031

Zalasiewicz, J., Waters, C. N., Ellis, E. C., Head, M. J., Vidas, D., Steffen, W., Thomas, J. A., Horn, E., Summerhayes, C. P., Leinfelder, R., McNeill, J. R., Gałuszka, A., Williams, M., Barnosky, A. D., Richter, D. deB., Gibbard, P. L., Syvitski, J., Jeandel, C., Cearreta, A., Cundy, A. B., Fairchild, I. J., Rose, N. L., Ivar do Sul, J. A., Shotyk, W., Turner, S., Wagreich, M., and Zinke, J. (2021). The Anthropocene: comparing its meaning in geology (chronostratigraphy) with conceptual approaches arising in other disciplines. Earth's Future, 9(3), e2020EF001782 https://doi.org/10.1029/2020EF001896

Here also of particular note is the anthology of Paul Crutzen's texts on the Anthropocene (of which AWG members contributed to) that was released in December 2021. It was completed just prior to his death in January 2021.

Benner, S., Lax, G., Crutzen, P. J., Pöschl, U., Lelieveld, J., & Brauch, H. G. (Eds.). (2021). Paul J. Crutzen and the Anthropocene: A New Epoch in Earth's History. https://doi.org/10.1007/978-3-030-82202-6

Other Anthropocene-related papers/books published by AWG members over 2021, or in press (alphabetically by AWG author):

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Cearreta, A. (2021). The Anthropocene perspective. A geological approach to climate change. Mètode Science Studies Journal, 12: 17 https://doi.org/10.7203/metode.12.18741

Cearreta, A.; Irabien, M.J.; Gómez Arozamena, J.; El bani Altuna, N.; Goffard, A., (2021). Environmental evolution of the Basque Coast Geopark estuaries (southern Bay of Biscay) during the last 10,000 years. Journal of Marine Systems, 219: 103557. https://doi.org/10.1016/j.jmarsys.2021.103557

Sanchez-Cabeza, J.-A.; Rico-Esenaro, S.D.; Corcho-Alvarado, J.A.; Röllin, S.; Carricart-Ganivet, J.P.; Montagna, P.; Ruiz-Fernández, A.C.; **Cearreta, A.,** (2021). Plutonium in coral archives: A good primary marker for an Anthropocene type section. Science of the Total Environment, 771: 145077. https://doi.org/10.1016/j.scitotenv.2021.145077

Cearreta, A. in press. Sea level change. In: (Wallenhorst, N. & Wulf, C., eds) Handbook of the Anthropocene.

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Ellis, E.C. (2021). Land Use and Ecological Change: A 12,000-Year History. Annual Review of Environment and Resources, 46:1, 1-33 https://doi.org/10.1146/annurev-environ-012220-010822

Ellis, E.C. Anthropocene: a very short introduction (2018) – Now translated to French and German).

Gałuszka, A. (2021) "Anthropocene, a geological perspective" Filozofuj! no. 5(41). https://filozofuj.eu/agnieszka-galuszka-antropocen-w-ujeciu-geologicznym/

Han, Y., An, Z., Arimoto, R., **Waters, C.N.,** Schneider, T., Yao, P., Sarli, E., Zhou, W., Li, L. and Dusek, U. In press. Sediment soot radiocarbon indicates recent pollution controls slowed fossil fuel emissions in southeastern China. Environmental Science & Technology.

Leinfelder, R. (2021/22): "Auch Maschinen haben Hunger" - Biosphäre als Modell für die Technosphäre im Anthropozän.- In: Carmen Sippl & Erwin Rauscher. (Hrsg.) Kulturelle Nachhaltigkeit lernen und lehren. Reihe: Pädagogik für Niederösterreich, Bd. 11, S.S 489-521 Innsbruck, Wien (StudienVerlag), ISBN 978-3-7065-6180-8, (Available since 18 Dec 2021, officially released 2022 according to impressum).

Leinfelder, R. (2021): Biosphäre als Modell für die Technosphäre im Anthropozän. "Denkt endlich in Kreisläufen!"- Politische Ökologie, Menschengemacht. Streifzüge durch das Anthropozän, 167, 66-72, München (oekom-Verlag) (Dec 2021).

Leinfelder, R. (2021): Die Zukunft im Museum ausstellen?.- In: Mohr, Henning & Modarressi-Tehrani, Diana (Hsg.) Museen der Zukunft. Trends und Herausforderungen eines innovationsorientierten Kulturmanagements. S. 363-399, Bielefeld (Transcript-Verlag, ISBN 978-3-8376-4896-6 (ebook/print 3/7 Dec 2021) (comment: I especially suggest exhibitions in the context of the Anthropocene)

Leinfelder, R. (2022, in press): Geleitwort: Die Unswelt und die möglichen Zukünfte.- In: Melanie Laibl & Corinna Jegelka, WErde wieder wunderbar. 9 Wünsche fürs Anthropozän. Ein Mutmachbuch, 64 S., Edition Nilpferd, G&G-Kinderbuchverlag (Wien). ISBN: 978-3-7074-5272-3, preview, incl. Geleitwort (planned release date Feb.2022

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McCarthy, Francine (in press). Chapter 9. Stratigraphy: Finding Global Markers in a Small Canadian Lake, in Thomas, J.A. (Ed.), Altered Earth: Getting the Anthropocene Right. Cambridge University Press. Publication anticipated May 2022.

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Knierzinger, W., Huang, J-J.S., Strasser, M., Knorr, K.-H., Drescher-Schneider, R., **Wagreich, M.,** (2021). Late Holocene periods of copper mining in the Eisenerz Alps (Austria) deduced from calcareous lake deposits. Anthropocene, 33, 100273. https://doi.org/10.1016/j.ancene.2020.10027

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Williams, M. & Zalasiewicz, J. (2021). Tending the forest gardens beneath Anthropocene Seas. Oceans Rising, A companion to Territorial Agency: oceans in transformation. ISBN 978-3-9502064-9-4, Sternberg Press, Berlin.

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Pineda-Munoz, S., Jukar, A.M., Tóth, A.B., Fraser, D., Du, A., Barr, W. A., Amatangelo, K. L., Balk, M. A., Behrensmeyer, A. K., Blois, J., Davis, M., Eronen, J. T., Gotelli, N. J., Looy, C., Miller, J. H., Shupinski, A. B., Soul, L. C., Villaseñor, A., **Wing, S. L.,** and Lyons, S. K. (2021). Body mass-related changes in mammal community assembly patterns during the late Quaternary of North America. Ecography 44: 56-66. https://doi.org/10.1111/ecog.05027

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Zalasiewicz, J., Waters, C.N. & Steffen, W. (2021). Remembering the extraordinary scientist Paul Crutzen (1933-2021). *Scientific American*.

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Zalasiewicz, J. & Williams, M. (2021). Climate Change through Earth's history. Chapter 3, pp. 49-65 *in:* (Letcher, T.P., ed.) *Climate Change: Observed Impacts on Planet Earth*. Elsevier, 832 pp. (3rd edition).

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There is an explicit mention of the AWG (p.53) in the recently published document by the United Nations Environment Programme (2021). Making Peace with Nature: A scientific blueprint to tackle the climate, biodiversity and pollution emergencies. Nairobi. https://www.unep.org/resources/making-peace-nature

United Nations Environment Programme (2021). From Pollution to Solution. A global assessment of marine litter and plastic pollution. Nairobi. https://www.unep.org/resources/pollution-solution-global-assessment-marine-litter-and-plastic-pollution

EU-Horizon 2020-Project "Marine Coastal Ecosystems Biodiversity and Services in a Changing World" (Task-Leader Reinhold Leinfelder) also focuses on the Anthropocene, https://macobios.eu

United Nations Development Programme (2022). New threats to human security in the Anthropocene: Demanding greater solidarity. https://hdr.undp.org/sites/default/files/srhs2022.pdf

CONFERENCES/LECTURES

Alejandro Cearreta

Date	Conference/Meeting/Lecture Title	Organisation/Venue
12-15 May 2021	Gardoki, J.; Cearreta, A.; García-Artola, A.; Irabien, M.J.; Gómez-Arozamena, J.E.; Villasante, V., Evolución ambiental reciente de un estuario industrializado: el registro sedimentario de Avilés (Asturias),	XIX Encuentro de Jóvenes Investigadores en Paleontología, Coimbra (P)
05-07 Jul 2021	Fernández Martín-Consuegra, A.; Pérez-Díaz, S.; Cearreta, A. Impacto humano y cambios naturales en la vegetación de la Costa Cantábrica oriental durante el Antropoceno y el Holoceno,	X Congreso Geológico de España, Vitoria-Gasteiz (E)
05-07 Jul 2021	Gardoki, J.; Cearreta, A.; García-Artola, A.; Irabien, M.J.; Gómez-Arozamena, J.E.; Villasante, V., El registro sedimentario antropoceno en la Ría del Nalón: Impacto histórico de la minería de carbón y mercurio,	X Congreso Geológico de España, Vitoria-Gasteiz (E)
05-07 Jul 2021	Irabien, M.J.; Cearreta, A.; Serrano, H.; Gómez Arozamena, J., Identificación de impactos antropogénicos en el registro sedimentario estuarino: aplicación en la ría de Suances,	X Congreso Geológico de España, Vitoria-Gasteiz (E)

Date	Conference/Meeting/Lecture Title	Organisation/Venue
05-07 Jul 2021	Villasante-Marcos, V.; Cearreta, A.; Irabien, M.J., Mineralogía magnética del depósito beachrock de Tunelboca (Ría de Bilbao, norte de España): Interrelación entre procesos sedimentarios naturales y desechos industriales ricos en hierro,	X Congreso Geológico de España, Vitoria-Gasteiz (E)
06-08 Sep 2021	Fernández Martín-Consuegra, A.; Pérez-Díaz, S.; Cearreta, A., Vegetal anthropogenic dynamics from the Holocene to the Anthropocene on the Cantabrian coast (northern Iberia),	2021 Mediterranean Palynological Societies Symposium, Modena (I) (online)
08-11 Sep 2021	Gardoki, J.; Cearreta, A.; García-Artola, A.; Gómez-Arozamena, J.E.; Villasante, V.; Irabien, M.J., El registro sedimentario reciente de la costa asturiana: una transición del estado natural preindustrial al impacto minero,	XXIV Bienal Real Sociedad Española de Historia Natural, Valencia (E)
26-28 Nov 2021	Gardoki, J.; Cearreta, A.; Irabien, M.J.; Gómez-Arozamena, J.; Villasante-Marcos, V. & García-Artola, A., Cambios en las asociaciones recientes de foraminíferos bentónicos en el estuario del Nalón (Asturias),	71 Sesión Científica de la Sociedad Geológica de España, Seoane do Courel (E)

Barbara Fiałkiewicz-Kozieł

Date	Conference/Meeting/Lecture Title	Organisation/Venue
18 Oct	Globally Distributed Peatlands as Valuable Deposits of the Anthropocene Signal	IGCP 732 LANGUAGE. Online.
Dec 2021	Globally Distributed Peatlands as Valuable Deposits of the Anthropocene Signal	AGU (American Geophysical Union) Fall Meeting, New Orleans, USA

Agnieszka Gałuszka

Date	Conference/Meeting/Lecture Title	Organisation/Venue
08 Jun 2021	Anthropocene - human imprint on Earth's history" https://uniwersytetotwarty.ujk.edu.pl/antropocen-slad-czlowieka-w-dziejach-ziemi/ on YouTube https://www.youtube.com/watch?v=6tJQ949YxDw	Open University/ Uniwersytet Otwarty, Poland.

Irka Hajdas

Date	Conference/Meeting/Lecture Title	Organisation/Venue
05 Jul 2021	Irka Hajdas, Simon Turner & Colin Waters "^{14}C "Bomb peak" and the onset of the Anthropocene"	The 3rd Radiocarbon in the Environment Conference (RIE III), Gliwice, Poland
05 Jul 2021	Irka Hajdas, Simon Turner & Colin Waters "^{14}C "Bomb peak" and the onset of the Anthropocene"	The 3rd Radiocarbon in the Environment Conference (RIE III), Gliwice, Poland

Martin Head

Date	Conference/Meeting/Lecture Title	Organisation/Venue
01 Nov 2021	Head, M.J., McCarthy, F.M.G., Patterson, R.T. (conveners), 2021. The Anthropocene – its signature.	Special Session. Geological Association of Canada / Mineralogical Association of Canada, Joint Annual Meeting, London, Ontario,
08 Nov 2021	Head, M.J. with contributions from the Anthropocene Working Group, 2021. The Anthropocene Epoch: a proposed new unit of the Geological Time Scale underpinned by the Great Acceleration.	AGH University of Science and Technology, Kraków, Poland, [Invited talk].
09 Nov 2021	Head, M.J. with contributions from the Anthropocene Working Group, 2021. The Anthropocene and Great Acceleration: the geological and humanities debate.	Hevre Club, Kraków, Poland, [Invited talk].

Juliana Ivar do Sul

Date	Conference/Meeting/Lecture Title	Organisation/Venue
18 Oct 2021	The archaeology of Plastics: plastics artefacts, human's culture and the geological Anthropocene	IGCP 732 LANGUAGE. Online.
Dec 2021	Lessons from the past: biological fossils as models to understand technofossils transport and preservation in the Anthropocene	AGU (American Geophysical Union) Fall Meeting, New Orleans, USA

Reinhold Leinfelder

Date	Conference/Meeting/Lecture Title	Organisation/Venue
Jan 2021	Das Anthropozän-Konzept - Mehrebenenansatz und Zukunftsrelevanz. Thematic Research Network,	Uni Heidelberg (online-lecture)
9 Mar 2021	The Anthropocene Concept - An Integrated Approach. Tuesday Discussions	Rachel Carson Center - Ludwig Maximilians-Universität München, online-lecture and discussion round
13 Apr 2021	Das Anthropozän-Konzept - Von der erdsystemaren Analyse zur Zukunftsverantwortung.	Invited talk Rotary Club München-Martinsried (online-lecture, intern)
22/23 Apr 2021	Keynote: "Auch Maschinen haben Hunger" - Biosphäre als Modell für die Technosphäre im Anthropozän. (22.4.21) sowie Round Table Ästhetik und Anthropozän (23.4.21) Keynote zum Symposium "Kulturelle Nachhaltigkeit lernen und lehren", Original-Abstract (pdf); extended abstract with illustrations in english (pdf)	Pädagogische Hochschule Niederösterreich, (online-Symposium)
01 Jul 2021	Das Anthropozän-Konzept - Von der Umwelt zur Unswelt. Colloquium Fundamentale, Presseinfo zur Vortragsreihe (online)	Karlsruher Institut für Technologie (KIT), ZAK | Zentrum für Angewandte Kulturwissenschaft und Studium Generale.
06 Jul 2021	Über Leben im Klimawandel. Vortragsreihe Dürrehauptstadt Berlin: Können wir uns mit dem Klima wandeln?,	Wissensstadt Berlin 2021, Platz vor dem Roten Rathaus

Date	Conference/Meeting/Lecture Title	Organisation/Venue
29 Jul 2021	Willkommen im Anthropozän. Von der Umwelt zur Unswelt.	Lions Club Rheingoldstraße (intern), Oberwesel, Mittelrhein
07 Aug 2021	Von der Biosphäre lernen - Die Zukunft der Technosphäre im Anthropozän?. Science Slam der Freien Universität Berlin, (-> Bericht)	Wissensstadt Berlin 2021, Platz vor dem Roten Rathaus.
23 Sep 2021	Von der Umwelt zur Unswelt - Leben, Produzieren und Wirtschaften im Anthropozän.	Workshop im Themenfeld Umwelt. Nachhaltige Prozesse für eine Circular Economy, Bundesanstalt für Materialforschung und -prüfung (BAM), Ort (BAM Adlershof) (hypbrid)
4 Nov 2021	Planetary scale change to the biosphere recorded in the fossil record can be used to identify the Anthropocene (by Mark Williams (presenter), Reinhold Leinfelder, Anthony D Barnosky, Martin J Head, Francine McCarthy, Alejandro Cearreta, Kristine L DeLong, Stephen Himson, Rachael Holmes, Jens Zinke).	>GAC-MAC 2021 London Conference on "Exploring Geosciences through Time And Space, Track 22-SS10
10 Nov 2021	Von der Umwelt zur Unswelt - Leben, Produzieren und Wirtschaften im Anthropozän Transparency for Sustainability, X-Tutorial zum Thema "Unternehmenstransparenz und CO2-Emissionen - Climate Science Meets Business".	Berlin University Alliance, Wirtschaftswiss. Fakultät der HU-Berlin (face to face lecture)
16 Nov 2021	Nov 2021, Was bedeutet der Anthropozän-Diskurs für den Umgang mit Natur und die Strategie zur Biologischen Vielfalt? Wachsende Stadt im Anthropozän und biologische Vielfalt, Veranstaltung im Rahmen des Projekts "Berliner Strategie zur Biologischen Vielfalt - "Die Strategie als Prozess".	Senatsverwaltung für Umwelt, Verkehr und Klimaschutz und bgmr Landschaftsarchitekten. Online Conference, Berlin

Francine McCarthy

Date	Conference/Meeting/Lecture Title	Organisation/Venue
1-5 Nov 2021	McCarthy, F.M.G., Heyde, A., Pilkington, P.M., Head, M.J., Krueger, A.M., McAndrews, J.H., Turton, C.L., Finlayson, W., Riddick, N.L., 2021. The palynological record of Crawford Lake (Ontario, Canada) and its application to the stratigraphic definition of the Anthropocene Epoch.	Geological Association of Canada / Mineralogical Association of Canada, Joint Annual Meeting, London, Ontario.
01 Nov 2021	Llew-Williams, B.M., Heyde, A., Lafond, K., McCarthy, F.M.G., MacKinnon, M.D., Brand, U., Patterson, R.T., and Head, M.J., 2021. Preservation of Varved Couplets in the Oxygenated Monimolimnion of Crawford Lake: Implications for defining the Anthropocene Epoch. In: Head, M.J., McCarthy, F.M.G., Patterson, R.T. (conveners), 2021.	The Anthropocene – its signature. Special Session. Geological Association of Canada / Mineralogical Association of Canada, Joint Annual Meeting, London, Ontario, (virtual), 2021.
1-5 Nov 2021	Lafond, K.M., Patterson, R.T. McCarthy, F.M.G., Walsh, C.R., Nasser, N.A., 2021. High-resolution photography as a tool to detect climate trends and cycles archived in a 500-year annually deposited varve record from Crawford Lake.	Geological Association of Canada / Mineralogical Association of Canada, Joint Annual Meeting, London, Ontario.

Date	Conference/Meeting/Lecture Title	Organisation/Venue
1-5 Nov 2021	Llew-Williams, B.M., Heyde, A., Lafond, K., McCarthy, F.M.G., MacKinnon, M.D., Brand, U., Patterson, R.T., and Head, M.J. 2021. Preservation of Varved Couplets in the Oxygenated Monimolimnion of Crawford Lake: Implications for defining the Anthropocene Epoch.	Geological Association of Canada / Mineralogical Association of Canada, Joint Annual Meeting, London, Ontario
1-5 Nov 2021	Marshall, M., Lafond, K., Patterson, R.T., and McCarthy, F.M.G. 2021. Impact of the mid-20th Century Great Acceleration on Chrysophyte (Golden-Brown Algae) community structure in Crawford Lake, Ontario, Canada- implications for the search for an Anthropocene GSSP.	Geological Association of Canada / Mineralogical Association of Canada, Joint Annual Meeting, London, Ontario
Jul 2021	Riddick, N.L., Heyde, A., Pilkington, P.M., Boyce, J.I., Krueger, A.M., Llew-Williams, B.M., McCarthy, F.M.G., Patterson, R.T., 2021. Spatial and temporal changes in the palynological record of Crawford Lake: historical connections.	AASP- The Palynological Society Virtual

John McNeill

Date	Conference/Meeting/Lecture Title	Organisation/Venue
21 Mar 2021	The Anthropocene Concept	Sun Yat-sen University, Guangdong (via Zoom)
25 May 2021	Introduction to the Anthropocene: Concept and Debates	Fundação Oswaldo Cruz, Rio de Janeiro (via Zoom)

Will Steffen

Date	Conference/Meeting/Lecture Title	Organisation/Venue
26 Feb 2021	The Anthropocene: Where on Earth are we going?	Royal Society of Victoria (Melbourne)
22 Mar 2021	The Anthropocene, the human dimensions and global change	Fenner School of Environment & Society, Australian National University
21 Apr 2021	The Anthropocene: Biosphere, Climate, Planetary Boundaries	Crawford School of Economics, Australian National University
21 May 2021	The Anthropocene, Great Acceleration, Planetary Boundaries	University of Vienna, Austria
21 Jun 2021	Defining the Holocene and the Anthropocene	ERA (Earth Resilience in the Anthropocene) conference, Potsdam, Germany
24 Aug 2021	Earth System and the Anthropocene	Engineers Australia
04 Oct 2021	The Anthropocene and Climate Change	Malaysia Trade Organisation, Kuala Lumpur
10 Nov 2021	The Earth System and the Anthropocene	University of Bologna, Italy
19 Nov 2021	The Earth System and the Anthropocene	Swiss Geoscience Meeting

Date	Conference/Meeting/Lecture Title	Organisation/Venue
15 Dec 2021	The Anthropocene: Where on Earth are we going	AGU (American Geophysical Union) Fall Meeting, New Orleans, USA

Colin Summerhayes

Date	Conference/Meeting Title	Organisation/Venue
05 Jan 2021	Climate Change Update.	PROBUS Shepperton
11 Jan 2021	Melting ice – Rising Seas.	Fugelmere Probus club of Fleet.
16 Feb 2021	Melting ice – rising seas.	Fairmile Probus, East Horsley.
04 Mar 2021	Understanding and Predicting Climate Change.	LEISURE LEARNING, a Surrey Current Affairs Group.
10 Mar 2021	Global warming and what we can do about it.	Surrey Branch of Society of Local Council Clerks.
11 Mar 2021	Melting Ice – Rising Seas.	Hart Rotary in Hartley Witney.
30 Mar 2021	Melting Ice Rising Seas.	West Wickham Rotary.
20 May 2021	Concern for our planet: climate change, plastics and other human impacts.	Epsom Wives Fellowship, Epsom.
25 May 2021	Melting ice – rising seas.	Moleside Probus, Cobham
09 June 2021	Melting Ice Rising Seas.	Epsom Probus.
12 Aug 2021	Melting ice rising seas.	Billingshurst Probus. Billingshurst.
21 Sep 2021	The Anthropocene. ZOOM talk now available on https://www.youtube.com/watch?v=cvm3dze2FEg	Thames Valley Regional Group of GSL.
23 Sep 2021	Concern for our Planet (based on Welcome to the Anthropocene). Talk as part of the 'Great Big Green Week'	Guildford Environmental Forum and 'Zero Carbon Guildford'.
07 Oct 2021	Climate Change.	Guildford Spike WI.
13 Oct 2021	Melting ice – rising seas.	Hale WI, Farnham.
15 Oct 2021	Melting Ice – Rising Seas: Saving Earth's Refrigerator.	Emsworth U3A, Emsworth, near Portsmouth.
19 Oct 2021	Humans are changing our world.	Haselmere Morning WI.
04 Nov 2021	Melting ice - rising seas.	The eight o' clock circle ladies group, Chessington.
12 Nov 2021	Melting ice rising seas: Saving Earth's Refrigerator.	Guildford Environmental Forum and Zero Carbon Guildford, at the ZERO, Guildford.
16 Nov 2021	Climate Change	The Edron School, Mexico City. ZOOM.

Simon Turner

Date	Conference/Meeting Title	Organisation/Venue
28 Apr 2021	Progress in the formalisation of the Anthropocene GSSP https://meetingorganizer.copernicus.org/EGU21/EGU21-3226.html	vEGU 2021
27 May 2021	Recognising the Anthropocene Epoch in geological strata: the ongoing process of collecting and archiving a potential "golden-spike" section. https://natsca.org/natsca-2021	Changing the World: Environmental Breakdown and Natural Science collections, NatSCA Online conference
18 Oct 2021	Recognising the Anthropocene Epoch in geological strata: the ongoing process of detecting a potential "golden- spike" section.	IGCP 732 LANGUAGE 18-19 October, 2021. Online.
15 Dec 2021	Defining stratigraphic Anthropocene U31B: Exploring the Anthropocene	AGU Fall Meeting, New Orleans

Michael Wagreich

Date	Conference/Meeting Title	Organisation/Venue
Summer 2021	Lecture Series "Anthropocene" supported by the Vienna Anthropocene Network, and Forum Anthropocene. Lecturers included Jan Zalasiewicz, Will Steffen, Michael Wagreich and Eva Horn	University of Vienna
28 April 2021	Session SSP2.6 EDI (co-organized by CL3.1/GM12) "The physical record of the Anthropocene in geological archives", convened by Michael Wagreich, Irka Hajdas, Kira Lappé and Colin Waters. https://meetingorganizer.copernicus.org/EGU21/session/39687#vPICO_presentations	vEGU 2021
28 April 2021	Meszar, M., Hain, K., Wagreich, M., Lappé, K., Mosser, M., Hornek, K., Koukal, V., Litschauer, C., and Piperakis, N.: Tracing the Anthropocene bomb-spike in urban strata of Vienna, EGU21-11930, https://doi.org/10.5194/egusphere-egu21-11930, 2021.	vEGU 2021
28 May to 3 Oct 2021	Cooperation with artists Nikolaus Eckhard and Christoph Weber on concrete	Vienna Biennale for Change, Climate Care, MAK, Vienna,
18-19 October 2021	The first workshop and thus Kick-Off-meeting of UNESCO-IGCP 732 "LANGUAGE of the Anthropocene" The IGCP732 was established by UNESCO in spring 2021. The Kick-Off-meeting was a success with more than 50 participants from 19 countries, thereof 10 from developing countries.	University of Vienna, Department of Geology.
13-17 Dec 2021	"GC55L - UNESCO IGCP732 Lessons in Anthropogenic Impact: A Knowledge Network of Geological Signals to Unite and Assess Global Evidence of the Anthropocene (LANGUAGE)", convened by Michael Wagreich, Catherine Russell, Veronika Koukal.	AGU fall meeting 2021

Date	Conference/Meeting Title	Organisation/Venue
13-17 Dec 2021	Bibi, M., Iqbal, S., Wagreich, M.: Precious and trace metals as markers for historical anthropogenic contamination: Evidence from the Peshawar Basin, Pakistan. GC55L-04.	AGU fall meeting 2021
13-17 Dec 2021	Wagreich, M., Meszar, M., Hain, K., Lappé, K., Mosser, M., Hornek, K., Koukal, V., Litschauer, C., Piperakis, N.: The Anthropocene bomb-spike in urban strata of Vienna, Austria. AGU fall meeting 2021, 13-17 December 2021, GC55L.	AGU fall meeting 2021

Colin Waters

Date	Conference/Meeting Title	Organisation/Venue
April 2021	Himson, S, Williams, M, McGann, M, Rose, N, Wilkinson, I, Zalasiewicz, J. and Waters, C. 2021. A biostratigraphic record of Anthropocene ecological change in one of the world's most invaded aquatic ecosystems, San Francisco, CA.	EGU General Assembly Conference Abstracts, EGU21-15133
28 Apr 2021	Waters, C.N., Zalasiewicz, J. and Williams, M. 2021. Progress in assessment of the Anthropocene Series in the Geological Time Scale (GTS).	EGU General Assembly Conference Abstracts, EGU21-9491
2 Jul 2021	Waters, C.N. 2021. Artificial radionuclide fallout: a marker for the start of the Anthropocene Epoch.	Preparatory commission for the comprehensive nuclear-test-ban treaty organization (CTBTO) Science and Technology Conference, 2nd July 2021.
18 Oct 2021.	Waters, C.N. and Turner, S. 2021. The role of the Anthropocene Working Group (AWG) in assessing the Anthropocene as a potential Geological Time Unit.	IGCP 732: LANGUAGE, Start-up meeting.
01 Nov 2021	Waters, C.N., Head, M.J., Turner, S., and Zalasiewicz, J., 2021. Progress on the appraisal and definition of the proposed Anthropocene Series/Epoch. In: Head, M.J., McCarthy, F.M.G., Patterson, R.T. (conveners), 2021. The Anthropocene – its signature.	Special Session. Geological Association of Canada / Mineralogical Association of Canada, Joint Annual Meeting, London, Ontario, Nov. 1–5 (hybrid), Nov. 1 (virtual), 2021.
20 Dec 2021	Himson, S, Williams, M, Zalasiewicz, J., Barnosky, A, Waters, C, and McGann, M, 2021. A second 'Great American Biotic interchange' signals the Anthropocene impact of humans.	Palaeontological Association Meeting
Dec 2021	Russell, C., Waters, C. and Zalasiewicz, J. 2021. Anthropocene Rivers. Abstract ID:976434. AGU2021 Fall meeting.	AGU2021 Fall meeting.

Mark Williams

Date	Conference/Meeting Title	Organisation/Venue
Feb 2021	'Boosting biodiversity: conserving UK nature' Invited speaker	Industry and Parliament Trust,

Date	Conference/Meeting Title	Organisation/Venue
Apr 2021	Invited talk, 'The legacy of the Anthropocene' https://www.youtube.com/watch?v=_gE5o1tLifk	Northern Energy Transition Conference, Durham Energy Institute (Durham University) and the North of England Institute of Mining and Mechanical Engineers
May 2021	Invited Talk, 'Tending the forest gardens beneath the Anthropocene seas' Oceans Rising, A companion to territorial agency: oceans in transformation book launch conversation https://www.ocean-space.org/activities/oceans-rising	Ocean Space, Venice
Sep 2021	Invited speaker in the debate 'The Civilization Trap' https://howthelightgetsin.org/events/the-civilisation-trap-3044	'Howthelightgetsin' festival London,
Oct 2021	Invited speaker on the theme of 'The Anthropocene' https://www.efni.pl/en-us/program/91FBBFC57912	European Forum for New Ideas, Sopot, Poland
Oct 2021	Keynote talk 'Anthropocene planet'	Association of Polish Geomorphologists, Annual meeting, Gdansk
01 Nov 2021	Williams, M., Leinfelder, R., Barnosky, A.D., Head, M.J., McCarthy, F., Cearreta, A., Himson, S., Holmes, R., Zinke, J., 2021. Planetary scale change to the biosphere recorded in the fossil record can be used to identify the Anthropocene. In: Head, M.J., McCarthy, F.M.G., Patterson, R.T. (conveners), 2021. The Anthropocene – its signature. https://gacmac2021.ca/wp-content/uploads/2021/11/GAC-MAC-2021-Scientific-Program.pdf	Special Session. Geological Association of Canada / Mineralogical Association of Canada, Joint Annual Meeting, London, Ontario, Nov. 1–5 (hybrid), Nov. 1 (virtual), 2021.
Nov-Dec 2021	'Cities and the Anthropocene' https://globalurbanhistory.org/content.aspx?page_id=22&club_id=803980&module_id=487351	Global Urban History Project, Dream conversations
19 Dec 2021	A second 'Great American Biotic Interchange' signals the Anthropocene impact of humans Stephen Himson, Mark Williams, Jan Zalasiewicz, Anthony Barnosky, Colin Waters, Mary McGann	Annual Palaeontological Association meeting in Manchester

Jan Zalasiewicz

Date	Conference/Meeting Title	Organisation/Venue
4 Apr 2021	The Anthropocene Working Group and the Stratigraphic Definition of the Anthropocene	University of Vienna: VAN Vienna Anthropocene Network.
16 Jun 2021	The Anthropocene.	Anthropocene Forum of the Portuguese Presidency of the European Union, Foz Côa, Portugal.

Date	Conference/Meeting Title	Organisation/Venue
23 Jun 2021	Zalasiewicz, J., Bertini, A., Head, M.J., Turner, S., Waters, C., and Liping Zhou, L. From the Gelasian to the Anthropocene: Progress in refining formal Quaternary chronostratigraphy.	AIQUA (Italian Association for the Study of Quaternary) Annual Assembly, Virtual. [Invited]
17 Nov 2021	The Anthropocene: a new chapter in Earth's history? Conference: Phosphor –	Ein Kritische Rohstuff mit Zukunft, Stuttgart.

MEDIA (websites, internet news, radio)

Alejandro Cearreta

Date	Details
05 May 2021	-"Huella humana en la Geología" online conference, Comisión Mujeres y Geología-Sociedad Geológica de España, https://youtu.be/ADG--JaVeCs
27 Oct 2021	"El futuro del mar", El Cambio TV programme, Basque Television ETB2, https://www.eitb.tv/es/video/ekin-klima-el-cambio/7875/197391/el-futuro-del-mar/
11 Nov 2021	"Cambio Climático y Antropoceno", Interview, Fundación Cursos de Verano de la UPV/EHU, Palacio Miramar, Donostia-San Sebastián, https://www.youtube.com/watch?v=ZYMNHf_hWsw

Ian Fairchild

Date	Details
Feb 2021	Geological Time and the Anthropocene and Introducing the Anthropocene: Warwickshire Geological Conservation Group, 2021 https://www.youtube.com/channel/UCf0fXO5P2BlsTFBsj9NWQrw/videos

Juliana Ivar Do Sul

Date	Details
4th Oct 2021	Can we get rid of plastic for good? https://www.bbc.com/reel/video/p09tnxlw/can-we-get-rid-of-plastic-for-good-

Reinhold Leinfelder

Date	Details
28 Jan 2021	Tagesspiegel, Der Entdecker des Ozonlochs. Paul Crutzen im Alter von 87 Jahren gestorben. tagesspiegel.de/wissen/der-entdecker-des-ozonlochs-paul-crutzen-im-alter-von-87-jahren-gestorben/26863638.html
4 Feb 2021	Spektrum SciLogs, Paul ist nicht mehr unter uns! Oder doch? Ein persönlicher Nachruf auf den "Vater des Anthropozäns", Nobelpreisträger Paul Crutzen. "Der Anthropozäniker"-Blog: scilogs.spektrum.de/der-anthropozaeniker/paul-crutzen-nachruf

Date	Details
4 Feb 2021	Forum Grenzfragen: Nachruf auf Paul Crutzen - Vater des "Anthropozän", Interview R. Leinfelder, Videoblog von H.-H. Peitz zum Blog oder direkt im youtube channel
9 Feb 2021	Berliner Zeitung, Überlebensplan für Korallenriffe. Die Kinderstube vieler Fischarten ist bedroht, deshalb müssen sich die Rahmenbedingungen ändern, fordern Forscher. print, Nr. 33, S. 23, oder online-Version (â‚¬)
27 Mar 2021	HR Info Funkkolleg Mensch und Tier, Folge 14: Raus aus dem Wald! Die Stadt als Lebensraum der Tiere /Wh 28.3.2021, 8:35/14:35/20:35) oder als Podcast
14 Apr 2021	Deutschlandfunk Nova, Sendung Update (18:00-20:00), darunter "Paläontologie der Zukunft: Was von unseren Städten bleiben wird Podcast, ab Min 22:40
20 Apr 2021	Niederösterreichische Nachrichten (NÖN, Baden: Kulturelle Nachhaltigkeit lernen und lehren. noen.at/baden/...
24 Apr 2021	Der Tagesspiegel, Die Erde als Untertan? Der Geowissenschaftler Reinhold Leinfelder fordert ein Umdenken für das Leben im Anthropozän . print, Nr. 24 516, B2, oder online-Version (via FU-Berlin)
20 May 2021	Hessisches Fernsehen, Alles Wissen: Superkiller Mensch: Ist die Erde noch zu retten? ARD-Mediathek
20 May 2021	“Dominion Over the Earth? Geoscientist Reinhold Leinfelder urges rethinking our role as humans in the Anthropocene era. Nr 20/2021, Featured Research at Freie Universität, https://www.fu-berlin.de/en/featured-stories/research/2021/anthropocene-leinfelder/index.html/
17 Jun 2021	Deutschlandfunk Kultur, Studio 9: Archäologie der Zukunft. Was wir einmal hinterlassen haben werden. Text-Feature / Audio-Mediathek
9 Aug 2021	campus.leben, Gassi gehen mit der Künstlichen Intelligenz. Beim Science Slam der Wissensstadt Berlin 2021 traten Expertinnen und Experten der Freien Universität an. Bericht von Jonas Krumbein, fu-berlin.de/campusleben/campus/2021/210809-science-slam-wissensstadt-berlin-2021
14 Aug 2021	Spektrum der Wissenschaft , Riffe in schwerer See von R. Leinfelder. Print, 9/2021, (online-version)
18 Sep 2021	European Museum Academy, Winners European Museum Academy Awards Announced / Luigi Micheletti Award goes to Futurium, EMA Press Release (Press release with mention RL)
12/13 Nov 2021	Süddeutsche Zeitung, Die Stadt als Goldgrube. Gebäude, Straßen, Brücken: In Deutschland sind enorme Mengen an Material verbaut. Das könnte man nach einem Abriss für Neues nutzen - wären da nicht ein paar Probleme, Print, 12 Nov 2021, Nr. 263, S.46, Online SZ+, 12 Nov 2021 (Feature)
2-6 Dec 2021	Tagesspiegel, Ziemlich komplexe Freunde - Politikberatung: Was Forscherinnen und Forscher sagen. Tagesspiegel-Beilage der FU-Berlin, B5 (Print, 4 Dec). Online-Version via FU-Webseiten, 2 Dec, Online Version Tagesspiegel, 6 Dec.(interview with RL and others)
19 Dec 2021	ZDFinfo, Terra X: Anthropozän - Das Zeitalter des Menschen, Teil 1-3", Fachberatung durch H.R. Bork, M. Glaubrecht, R. Leinfelder, R. Simek. Infos, Mediathek, (Wh. 20.12.2021, 3:00-5:25) (TV-Series) (Expert advise by RL)

Date	Details
	Hamann, A., Zea-Schmidt, C., Leinfelder, T. (2021): Ο μεγάλος μεταχηματισμός: Κλίμα - Μπούμε να αλλάζουμε πορεία; , O megálos metaskimatismós: Klíma - Borúme na aláxume poría? (orig. Vers: The great transformation: Climate - Can we beat the heat?), 148 pp, Athens (Bank of Greece, Centre for Culture, Research and Documentation, also for translation), ISBN: 978-618-5536-07-7, > Info, eBook download (comment: this includes a chapter on the Anthropocene where I am protagonist, other protagonists are John Schellnhuber, Stefan Rahmstorf and many others)
14 Mar 2021	Leinfelder, R. (2021): Die menschengemachte Masse - Darf's ein bisschen mehr sein?. - In: Der Anthropozäniker, Scilogs Spektrum (adapted preview excerpt of a submitted paper), scilogs.spektrum.de/der-anthropozaeniker/die-menschengemachte-masse-darfs-ein-bisschen-mehr-sein/
11 Apr 2021	Leinfelder, R. (2021): Das Anthropozän - Was bin ich und wenn ja, wie viele?. - In: Der Anthropozäniker, Scilogs Spektrum (Featuring a new AWG paper), scilogs.spektrum.de/der-anthropozaeniker/das-anthropozan-was-bin-ich-und-wenn-ja-wie-viele//
	Leinfelder, R. (2021): "Machines are Hungry Too" - The Biosphere as a Model for the Technosphere in the Anthropocene.- 11 pp, Refubium (open source), Freie Universität Berlin dx.doi.org/10.17169/refubium-32073; for German version see scilogs.spektrum.de/der-anthropozaeniker/auch-maschinen-haben-hunger/
	Leinfelder, R. (2021): The human-made mass - "Would you like a little more?". - 9 pp, Refubium (open source), Freie Universität Berlin http://dx.doi.org/10.17169/refubium-32100

John McNeill

Date	Details
12 Dec 2021	“Проблема изменений климата растворилась в политических декларациях и позерстве” нефть и капитал 42-47. [Interview, mainly about climate change politics, with Russian magazine Oil and Capital].

Simon Turner

Date	Details
17 March 2021	Simon Turner and Colin Waters: National Public Radio station and also more broadly in the US. Scientists Search For The Anthropocene https://www.npr.org/2021/03/17/974774461/drawing-a-line-in-the-mud-scientists-debate-when-age-of-humans-began
20th May 2021	‘Have we entered the Anthropocene – a new epoch in Earth’s history? Guardian Podcast https://www.theguardian.com/science/audio/2021/may/20/have-we-entered-anthropocene-new-epoch-in-earths-history-podcast
15 Dec 2021	Antropocæn - menneskets tidsalder’ R4DIO Denmark Kraniebrud Podcast interview (in Danish) https://www.radio4.dk/program/kraniebrud/?id=antropocn-menneskets-tidsalder_ep_15_12_21

Colin Waters

Date	Details
25 Jan 2022	UK Geologists to pinpoint official birthplace of the Anthropocene in 2022, New Scientist https://www.newscientist.com/article/2305801-geologists-to-pinpoint-official-birthplace-of-the-anthropocene-in-2022/
Feb 2021	Interview with Rachel Brazil on 'Marking the Anthropocene' in Chemistry World, February 2021, p. 24-29.
26 Feb 2021	Interviews with Cécile Dumas: Episode 3 Adieu le Dodo, vive le poulet, 26th February 2021, Heidi News https://www.heidi.news/explorations/la-quete-du-clou-d-or-de-l-anthropocene-ou-quand-l-humain-a-commence-a-transformer-la-planete/adieu-le-dodo-vive-le-poulet
5th Mar 2021	Episode 4, Charrue ou machine à vapeur? À quand remonte l'Anthropocène https://www.heidi.news/explorations/la-quete-du-clou-d-or-de-l-anthropocene-ou-quand-l-humain-a-commence-a-transformer-la-planete/charrue-ou-machine-a-vapeur-a-quand-remonte-l-anthropocene 5th March 2021, Heidi News.
12 Mar 2021	Episode 5, La «grande accélération», c'est où? https://www.heidi.news/explorations/la-quete-du-clou-d-or-de-l-anthropocene-ou-quand-l-humain-a-commence-a-transformer-la-planete/la-grande-acceleration-c-est-ou 12th March 2021, Heidi News.
19 Mar 2021	Episode 6, Le défi de la géologie au présent https://www.heidi.news/explorations/la-quete-du-clou-d-or-de-l-anthropocene-ou-quand-l-humain-a-commence-a-transformer-la-planete/le-defi-de-la-geologie-au-present 19th March 2021, Heidi News
26 Apr 2021	EGU blog by Colin Waters, Colin Summerhayes and Simon Turner on "How humans are influencing climate change and its significance in defining a new geological epoch: the Anthropocene" https://blogs.egu.eu/divisions/cl/2021/04/26/how-humans-are-influencing-climate-change-and-its-significance-in-defining-a-new-geological-epoch-the-anthropocene/
29 Apr 2021	Japanese bay full of fish scales could mark start of the Anthropocene, New Scientist https://www.newscientist.com/article/2276229-japanese-bay-full-of-fish-scales-could-mark-start-of-the-anthropocene/

Mark Williams

Date	Details
Oct 2021	Opening session of the European Forum for New Ideas, Sopot Poland, October 2021,Media interview after the event https://www.youtube.com/watch?v=st6Kwe0vu-o

Scott Wing

Date	Details
Temporary Exhibit (Until Mar 2022)	Smithsonian Natural History Temporary Exhibit - *Unsettled Nature: Artists Reflect on the Age of Humans* (co-curated with Joanna Marsh, National Museum of American Art, Smithsonian Institution). With three associated web-seminars. https://naturalhistory.si.edu/exhibits/unsettled-nature-artists-reflect-age-humans

Jan Zalasiewicz

Date	Details
26 Apr 2021	Un grupo de expertos plantea que se reconozca una nueva época de la Tierra: el Antropoceno by Roberto Andrés, Perfil online, Argentina https://www.perfil.com/noticias/ecologia/un-grupo-de-expertos-plantea-que-se-reconozca-una-nueva-epoca-de-la-tierra-el-antropoceno.phtml
25 Oct 2021.	Jan Zalasiewicz and Eva Horn The Case for the Anthropocene: 20 years later. Cosmic Conversations https://www.youtube.com/watch?v=3xEKf_19UZ4

NEWS

The AWG/HKW/MPIWG Anthropogenic Markers, Berlin, was held on 22-24th September 2021. https://www.mpiwg-berlin.mpg.de/event/anthropogenic-markers-workshop

The first day consisted of presentations by AWG GSSP project members to provide an update on work in progress at the proposed GSSP candidate sites.

Time (Berlin)	Presentations from candidate GSSP locations and project members
8:30 – 9:00 am	Welcome and Introduction: Bernd Scherer, Katrin Klingan, Christoph Rosol (HKW, MPIWG) Simon Turner, Colin Waters (AWG)
9:00 – 9:30 am	Flinders Reef, Australia (Jens Zinke and Australian Institute of Marine Science)
9:30 – 10:00 am	Beppu Bay, Japan (Michinobu Kuwae, Yoshiki Saito)
10:30 – 11:00 am	Sihailongwan Maar Lake, China (Yongming Han)
11:00 – 11:30 am	Śnieżka peatland, The Sudetes, Poland (Barbara Fiałkiewicz-Kozieł)
11:30 – 12:00 am	Ernesto Cave, Italy (Andrea Borsato)
1:15 – 1:45 pm	East Gotland Basin, Baltic Sea (Jérôme Kaiser, Juliana Assunção Ivar do Sul)
1:45 – 2:15 pm	Antarctic Peninsula, Antarctica (Liz Thomas)
2:15 – 2:45 pm	San Francisco Estuary, USA (Stephen Himson, Mark Williams)
2:45 – 3:05 pm	Urban stratigraphy, Vienna, Austria (Michael Wagreich)
3:25 – 3:55 pm	Plutonium isotope analysis of GSSP samples (Andy Cundy)
3:55 – 4:25 pm	^{14}C analysis of GSSP samples (Irka Hajdas)
4:25 – 4:55 pm	SCP analysis of GSSP samples (Neil Rose & Sarah Roberts)
4:55 – 5:25 pm	Crawford Lake, Canada (Francine McCarthy)
5:35 – 6:05 pm	West Flower Garden Bank Reef, USA (Kristine DeLong)
6:05 – 6:35 pm	Searsville Reservoir, California, USA (Allison Stegner, Anthony Barnosky, Liz Hadly)
6:35 – 6:50 pm	Project review and plans (Simon Turner)
6:50 – 7:10 pm	Anthropocene Review paper template (Colin Waters)
7:10 – 7:40 pm	Presentation of artistic project on GSSP-research (Giulia Bruno, Armin Linke)

AWG group photo (socially distanced) of those physically attending the AWG/HKW/MPIWG Anthropogenic Markers meeting in Berlin. The photo is from the riverside of the HKW, seen resplendently lit in the evenings. On the final day of the meeting, time was taken out of the lunch interval to attend the Fridays for Future Climate Strike outside of the Reichstag.

Other News

John McNeill – "While one cannot know why such things happen, it could well be that participation over the years in AWG activities helps explain my election, in 2021, to the Academia Europaea".

Yongming Han – An Anthropocene division of the Geological Society of China has been formally founded by Professor Zhisheng An and Yongming Han in Xi'an. The organization will help to get more people involved in Anthropocene studies in China. Academic exchanges spreading the Anthropocene concept and connotation will be carried out and it is hoped will play an active role in connecting Chinese scholars with the international community of Anthropocene research

Spotted by Irka Hajdas - The Anthropocene radical: the scientist who saved the world https://www.abc.net.au/radionational/programs/sciencefriction/paul-crutzen-anthropocene-climate-v2/13616478 First broadcast February 2021. *"Few scientists can say they saved the planet. Paul Crutzen did. Legit. And his work up ended our understanding of our place in Nature. If politicians hadn't listened to him, we'd be fried. But what would he want us to do now? From the ozone hole to the Anthropocene — the radical influence of Paul Crutzen"*

MEMBERSHIP TO DATE

Listed here are names of members to date and their contact details (as of 20th January 2022). New members in 2021 are denoted by an asterisk. Membership is distinguished between voting and advisory. Voting members will vote on the GSSP candidate selection.

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ANTHROPOCENE WORKING GROUP: PROGRAMME FOR 2022

- GSSP candidate sites will present their results at an exhibition at HKW, Berlin on 18th to 19th May. Digital data should be deposited in advance of this meeting. AWG members will be invited to attend in person or remotely.

- Each of the sites will be published as a discrete paper within a special thematic issue of The Anthropocene Review to be edited by Waters, Turner, Zalasiewicz and Head. The manuscripts will need to be submitted by no later than the 1st July.

- The AWG voting process is intended prospectively to commence on 1st October 2022. The initial one-month interval of AWG discussion (October 2022) authors can provide further elucidation of the content of the proposal to clarify queries and then voting to select the GSSP candidate will be completed in November.

- Online publication of the thematic set of papers in December 2022 is hoped to be timed for the planned AWG announcement of the proposed GSSP at a further meeting at HKW.

Colin Waters (AWG Chair)
Simon Turner (AWG Secretary)
February 2022