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ROYAL SOCIETY OF CHEMISTRY | Celebrating IYPT 2019

Further Reading List for Joint *'Year of Carbon'* and *'International Year of the Periodic Table'* Public Lecture with the Royal Society of Chemistry: What made the ocean turn red 200 Million years ago?
Professor Ros Rickaby, University of Oxford
Wednesday 16th October 2019

The reading list can be found at: http://www.geolsoc.org.uk/GSL-Lecture-Oct

Background Resources

1. **The Geological Society's Themed 'Year of Carbon'** - https://www.geolsoc.org.uk/yearofcarbon
2. **International Year of the Periodic Table (IYPT)** - https://iypt2019.org/
3. **The Geological Society's Earth Science Week -** https://www.geolsoc.org.uk/earthscienceweek
4. **Royal Society of Chemistry's IYPT resources** - https://www.rsc.org/iypt/
5. **The Geological Society's Year of Carbon Posters -** https://www.geolsoc.org.uk/Education-and-Careers/Resources/Posters
6. **'Chemical Equilibrium': Ros explains how chemistry can affect the evolution of life** - https://www.youtube.com/watch?v=Io4EwK3KDAE
7. **Thin Ice: The Inside Story of Climate Science** - https://thiniceclimate.org/
8. **The Royal Society Science Stories:** 'Adaptability' - https://youtu.be/xqXawm9m9Gg

Journal Articles & Books

1. **Evolution's Destiny: Co-evolving Chemistry of the Environment and Life** by R J P Williams & Ros Rickaby. Publisher: Royal Society of Chemistry, 20th July 2012, 336 pages. https://pubs.rsc.org/en/content/ebook/978-1-84973-558-2
2. **Carbonate chemistry in tiny carbonate organisms – what can the geochemical record tell us?** - Rickaby, R. E. M., J. Henderiks, and J. N. Young, Perturbing phytoplankton: response and isotopic fractionation with changing carbonate chemistry in two coccolithophore species, Clim. Past, 6, 771-785, 2010 https://doi.org/10.5194/cp-6-771-2010
3. **Untangling the CO_2 and O_2 concentration over the last 2.4 Gyr by studying the physiology and ecology of cyanobacteria and algae** - Raven John A., Giordano Mario, Beardall John and Maberly Stephen C. Algal evolution in relation to atmospheric CO2: carboxylases, carbon-concentrating mechanisms and carbon oxidation cycles. 367. Phil. Trans. R. Soc. B https://doi.org/10.1098/rstb.2011.0212
4. **Determining the timing of adaptation of the CO_2–O_2 sensitive enzyme, Rubisco: a novel approach in understanding the biological response to changing atmosphere** - J. N., Rickaby R. E. M., Kapralov M. V. and Filatov D. A. Adaptive signals in algal Rubisco reveal a history of ancient atmospheric carbon dioxide. 367. Phil. Trans. R. Soc. B https://doi.org/10.1098/rstb.2011.0145
5. **Can scientists accelerate weathering reactions of minerals that consume CO_2 when they dissolve to remove excess CO_2 from our atmosphere?** - Bach LT, Gill SJ, Rickaby REM, Gore S and Renforth P (2019) CO2 Removal With Enhanced Weathering and Ocean Alkalinity Enhancement: Potential Risks and Co-benefits for Marine Pelagic Ecosystems. Front. Clim. 1:7. https://doi.org/10.3389/fclim.2019.00007