THIS WEEK IN CHEMISTRY

5TH NOVEMBER 2017 – 11TH NOVEMBER 2017

Links to articles & studies for the featured stories are provided at: https://goo.gl/cejUDd

MATERIAL KEEPS YOU WARM ON ONE SIDE, COOL ON THE OTHER

US scientists have produced a material made from two layers. One layer is made from carbon, while the other is made from copper. When the metallic side faces skin, body heat is easily emitted to the surroundings; when it's turned around it keeps body heat in.

UK BACKS EUROPE-WIDE NEONICOTINOID PESTICIDE BAN

The UK will support a Europe-wide ban on three neonicotinoid pesticides: clothianidin, imidacloprid, and thiamethoxam. The decision is based on recent reviews of honey bee exposure to neonicotinoid pesticides and their effects on bee health.

HOLLOW CARBON NANOSPHERES USED IN NOVEL BATTERY

Chinese researchers have found a new way to make hollow carbon nanospheres. They used the nanospheres as a capacity-enhancing cathode material in a potassium-ion battery. However, problems with the efficiency of the battery still need to be addressed.

MODEL SHOWS THAT ICE FORMS FROM DISORDERED SEEDS

Ice has a hexagonal structure. Researchers had assumed ice forms from seeds of water molecules packed together in a similar manner. A new study suggests ice seeds begin as a mix of hexagonal and cubic layers, with implications for models of ice formation in clouds.

ATMOSPHERIC CHEMISTRY LINK TO ANCIENT EGYPTIAN UNREST

Ice core data suggests that volcanic eruptions disrupted rainfall and Nile floods, leading to riots during the Ptolemaic dynasty. Spikes in ice core sulfur levels allow dates of volcanic eruptions to be determined. In eruption years summer flooding of the Nile was lower.