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Drug Discovery and AI: Artificial Intelligence models have been recently applied to drug discovery in the United States of America. The AI model can be used to predict drug interactions, discover new drugs, and find new treatment targets. This can revolutionize the pharmaceutical drug discovery process, with the potential for implementing personalized treatments and speeding-up drug clinical trials. Additionally, time and costs involved in drug development by pharmaceutical companies can be cut down, while still increasing the success and precision of certain treatments. This model has been implemented by large companies in the United States, including Pfizer and IBM¹.

Discovery of New Species: 27 new species were discovered by Conservation International's Rapid Assessment Program, during a 38-day expedition in Peru's Alto Mayo Landscape. The over 2,000 species found in the area include mammals, amphibians, fish, butterflies, and plants. Amongst them include 27 species completely new to scientists. Scientific research on these organisms can give insights into evolution, ecology, and environmental adaptation. Plus, some species may hold potential for medical or biotechnological advancements².

Carbon Capture via Baking Soda: A new method for reducing greenhouse gases has been developed in Cranfield University in the United Kingdom. This solution captures atmospheric CO² and converts it to baking soda, which can be safely stored in the ocean. This technique offers a promising pathway for mitigating climate change³.

Solar-Powered Water Purification: Researchers in Kenya have recently developed a solar-powered system that uses ozone to decontaminate drinking water. This system has shown to effectively clean highly contaminated surface water. Using this system, a study was conducted in Kisumu County involving the decontamination of 1000 liters of water, revealing a significant decrease in E. coli levels and cloudiness. The effectiveness of this treatment is promising and could improve water quality in areas with limited access to clean drinking water⁴.

New Covalent Bond: Researchers at the University of Tokyo and Hokkaido University in Japan have recently discovered a stable single-electron covalent bond shared between two carbon atoms within a larger hydrocarbon molecule. This one electron removal made it energetically unfavorable for other electrons to replace it, therefore stabilizing the one electron bond. X-ray and light-based techniques were used to confirm its existence. This discovery challenges our current knowledge of chemical covalent bonds, which may lead to the development of new molecular materials and structures in the near future⁶.

Discovery of Megaraptorid Fossils: Paleontologist in Australia have discovered the oldest known fossil of a "mega raptor" known as a Megaraptorid, proving its existence 120 million years ago, which is earlier than previously thought. They also found first concrete evidence of Carcharodontosaurus, revealing that both theropods roamed Earth during the Cretaceous Period. This discovery helps refine our understanding of how these dinosaurs adapted to different environment and migrated across prehistoric landmasses. These findings may help in discovering new species and better understanding Cretaceous ecosystems⁵.

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