Recently in chemistry:

- Man-made climate change is consistently at the forefront of energy policy decisions, and more importantly possibly portends damage to the future of the human species. Shuvo Jit Datta et al. have synthesized a microporous copper silicate that adsorbs CO₂ from humid flue (exhaust) gases and the atmosphere. A number of other developed microporous materials have CO₂-adsorbing capability, but most of them suffer from either structure degradation upon adsorption of H₂O, and thus require the (costly, energy-intensive) dehydration of the gases prior to adsorption of CO₂. The copper silicate (SGU-29) was synthesized by making separate copper and silicate source solutions, mixing them together and aging the mixture, adding seed into the resulting gel, and transferring it into Teflon-lined autoclaves before heating.¹

- Physicists are going to retire “Le Grand K”, the sincerely named cylinder of platinum-iridium as the long-standing physical definition of the kilogram. The experiments required to come up with a mathematical definition had been devised in the 1970s, but only recently were values of the kilogram produced with three independent measurements that agreed to a significant enough degree, according to the International Bureau of Weights and Measures (CIPM). The new techniques, which derive from measurements of Planck’s constant (deriving an object’s energy from its frequency and with E = mc² giving mass). The new definition of the kilogram, along with new definitions of the ampere, mole and kelvin, will be implemented in 2018, to everyone’s delight.²

- The Nobel Prize in Chemistry for 2015 went to three scientists: Dr. Tomas Lindahl of the Francis Crick Institute and Clare Hall Laboratory in Hertfordshire, UK, Dr. Paul Modrich from the Howard Hughes Medical Institute, and Dr. Aziz Sancar from UNC Chapel Hill. The prize was awarded for “mechanistic studies of DNA repair”. Dr. Lindahl first pondered the inherent instability of DNA, and came up with the mechanism of (enzymatic) base excision repair to account for damaged nitrogenous bases in nucleotides. Dr. Sancar pieced together the nucleotide excision repair mechanism, which accounts for UV-damaged DNA, and Dr. Modrich came up with mismatch repair, which corrects for mistakes during DNA replication in cell division.³

² http://www.nature.com/news/kilogram-conflict-resolved-at-last-1.18550
³ http://www.nobelprize.org/nobel_prizes/chemistry/laureates/2015/
BU Chemia News & Events:

- Free tutoring every **Wednesday 6-8pm** and **Thursday 6-8pm** in SCI 294!

- Stay tuned for our discussion with Profs. John Snyder and Arturo Vegas on Wednesday, 11/18, at 6pm! Prof. Snyder will talk about undergraduate research at BU and how to get involved in research labs, and afterward Prof. Vegas will introduce and discuss his lab! **If you are interested in joining a research lab, this would be a great discussion to attend!!**

- Thank you to everyone who came to our talk with Dr. Rich Cummings and Dr. Michael Hewitt of Constellation Pharmaceuticals on Thursday, 11/5!

BU Chemistry:

- Monday Colloquium Series:
  - **November 16:** Prof. Qui Wang (Duke University) hosted by Prof. James Panek
  - **November 23:** Prof. Robert Knowles (Princeton University) hosted by Prof. James Panek
  - **November 30:** Prof. Andrei Kutateladze (University of Denver) hosted by Prof. John Porco

- Physical Chemistry Seminars:
  - **November 18:** Prof. Leeor Kronik (Weizmann Institute of Science)
  - **December 2:** Mi Kyung Lee (Boston University, Coker Group)

- Over the summer:
  - Congratulations to both **Prof. Linda Doerrer** and **Prof. Mark Grinstaff** on receiving BU Ignition Awards! These awards, given by the BU Office of Technology Development, are awarded to fund early-stage projects that show great commercial potential. The award to the Doerrer group went jointly to Prof. Doerrer and fourth-year **Steven Hannigan**, for their determination of the electrocatalytic reduction of nitrate with a fully fluorinated copper (II) compound. The award to the Grinstaff group, received by Prof. Grinstaff and postdoctoral scientists **Dr. Aaron Colby**, was to develop a nanoparticle-based drug delivery system for the treatment of the cancer mesothelioma.

- Congratulations to **Prof. Adrian Whitty**, who received tenure!
Chemia Board:

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Tutors wanted! Stop by our regular Chemia tutoring times and you can help out!

Happy Thanksgiving, everybody!