Tuesday, February 18, 2020
10:00 – 11:00 a.m.; BRK 1001

Water is one of the essential enablers of life on earth. Beginning with the origin of the earliest form of life in seawater, it has been central to the evolution of human civilizations. Recently, water quality has been associated with the development index of society. Several chemical and biological contaminants have endangered the quality of drinking water. Realizing the molecular nature of contamination in drinking water, significant progress has been made to utilize the chemistry of nanomaterials for water purification. Recently we found that noble metal nanoparticles degrade halocarbons efficiently to amorphous carbon and metal halides at room temperature and at low concentrations. This discovery has led to the world’s first nano-chemistry based water filter for pesticide removal as many pesticides are halocarbons. We have developed several technologies to remove other contaminants from drinking water. Combining such materials, an all-inclusive affordable drinking water purifier has been developed. This technology, named AMRIT, is being implemented now in the arsenic affected regions of India. About 600,000 people have been benefitted from these installations. Several other drinking water technologies have been rolled out from our lab. To take such technologies forward, four companies have been incubated with the participation of IIT Madras. This activity is now being expanded globally.

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