

Environmental and Water Resources Engineering Seminar Series Presents:



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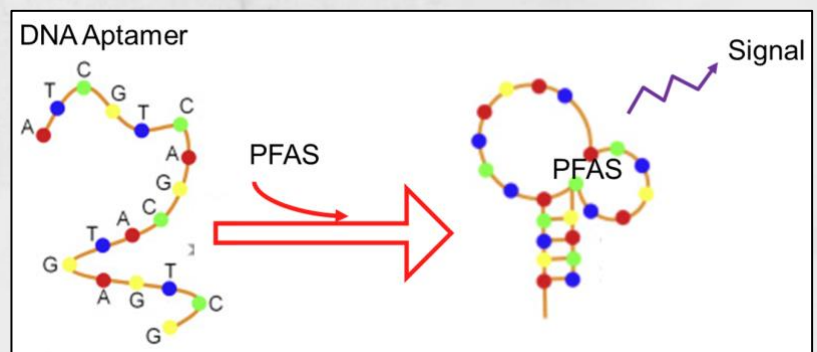
Development of selective aptamers for detection of perfluorinated alkylated substances (PFAS)

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Abstract

Per- and polyfluorinated alkyl substances (PFASs) are a class of emerging micropollutants that are widely detected in water and wastewater. To safely manage water containing PFAS, there is a need for exploring materials that can selectively interact with these compounds and utilize them for development of monitoring and treatment technologies for PFAS. This presentation will cover our recent and ongoing efforts to develop selective aptamers for PFOA, PFOS, and PFHxS. For selection and optimization of these aptamers, we have utilized analytical characterization techniques, computational chemistry, and machine learning techniques. Applications of these aptamers as a sensor receptor as well as identification of potential sites for genotoxic effect of PFAS will also be discussed.



Background

Dr. Jong Kwon Choe is an associate professor in the Department of Civil and Environmental Engineering at Seoul National University. He received a B.Eng. in the Department of Civil Engineering from The Cooper Union and M.S. and Ph.D. in the Department of Civil and Environmental Engineering from the University of Illinois Urbana-Champaign. His main research focuses on the development of water treatment and monitoring technologies as well as environmental technologies for energy/resource recovery and production using catalyst-assisted reductive and oxidative processes.