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기타소속:

강연제목: 생분해성 의료장치를 위한 유연소재 / Soft Materials for Bioresorbable Medical Devices

Abstract:

Modern integrated circuit technology has an impressive ability to maintain stable operation with exceptional reliability, often without undergoing any physical or chemical changes. However, a new class of electronic materials offers the opposite outcome - transient devices that can dissolve, disintegrate, or disappear at specified times or rates. Water-soluble transient electronics present intriguing possibilities for bioresorbable medical implants, which can be tailored to dissolve based on an individual's body chemistry. In my presentation, I will introduce fundamental concepts in chemistry, materials science, and assembly processes related to the development of bioresorbable medical devices. As an illustrative example, I will discuss wireless electronic stimulators designed to treat temporary bradycardia.

Brief Biosketch

Prof. Choi is an Assistant Professor in the Department of Materials Science and Engineering at Yonsei University (Seoul, South Korea). He spent 2011-2015 as a senior researcher in the TECH R&D center at LG Chem. Ltd., developing advanced carbon nanotube nanocomposites. As a Cambridge Trust Scholar, he completed his PhD in the Department of Materials Science and Metallurgy at the University of Cambridge (2015-2018) on novel functional polymeric nanomaterials for energy harvesting applications. He was NIH K99 postdoctoral fellow in Querrey Simpson Institute for Bioelectronics (Advisor: John A. Rogers) at Northwestern University, working on creating bioresorbable electrotherapeutic implants.