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**강연제목: 면역위장 생체재료를 이용한 삽입형 의료기기 부작용 및 감염 방지 기술
(Facile biofouling-free lubricant-skin coatings for biomedical implants and
biosensors)**

Abstract:

Implantable biomedical devices and biosensors have been widely adopted and developed for clinical continuous monitoring of patients' health status. When the biomedical biosensors are introduced to patient's body, foreign body reaction occurs diminishing immune system, and the body becomes highly vulnerable to bacterial infection and complications. Hence, an anti-biofouling coating which could prevent adhesion of bacteria and immune cells has been of great interest. However, the durability, and the complex fabrication systems such as high vacuum chamber limited its usage. Here, we developed an anti-biofouling coating for biomedical implants including orthopedic implants and urethral catheters, and neural probes with chemical modification. The developed coating exhibits excellent durability and anti-biofouling property while being facile to be coated on any materials with complex shapes. The developed coating can be easily applied on currently used biomedical sensors and medical implants (i.e. orthopedic implants, urethral catheters, neural probes) while exhibiting super antibiofouling, and antibacterial property.

Brief Biosketch

Prof. Jungmok Seo is an assistant professor in the electrical and electronic engineering department at Yonsei University. He received his Bachelor's and a Ph.D. degree in Electrical and Electronic Engineering, from Yonsei University. Then, he served as a postdoctoral research fellow at Brigham and Women's Hospital and Harvard Medical School. His research has been focusing on the development of functional systems for bio-integrative applications using a nature-inspired approach. He is currently working on electronic drugs using stimuli-responsive drug delivery systems and integrated biosensors as well as strategies to reduce implant foreign body response and bacterial infection that improve the longevity of the implantable devices.