

# 화학고 세미나

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## A physical chemist working in an engineering department studying materials science

Surface chemistry and characterization principles have advanced fundamental understanding of chemical processes governing heterogeneous catalysis, biomaterial performances, nanomaterial applications, and so on. Although less known, the same principles can be employed to address important questions in tribology, glass science, and plant biology. Being an outsider in each of these research fields (an alumnus of Yonsei Chemistry, 85-hakbun), a surface scientist naturally brings radical views as well as new scientific tools to solve decades-old, highly-elusive fundamental questions that engineers and scientists equipped with traditional tools and methodologies could not solve. This talk will cover a few examples of such journeys: (i) How can friction activate chemical reactions that normally do not occur? (ii) Does the structure of a hard silicate glass remain intact after “elastic” contact with a physical object is made? (iii) Why do plants produce cell walls with cell-specific nano-to-mesoscale 3D structures? The studies of these seemingly disparate and unfamiliar subjects are all enabled by an extension of the physical chemistry principles developed in surface chemistry.

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