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BSAC Researcher Seminar Series

Large-Scale Nanoplasmonic PCR on Chip for Rapid Precision Molecular Diagnostics

Dr. Youngseop Lee of the Luke Lee Research Group

June 11, 2019 | 12:15 PT

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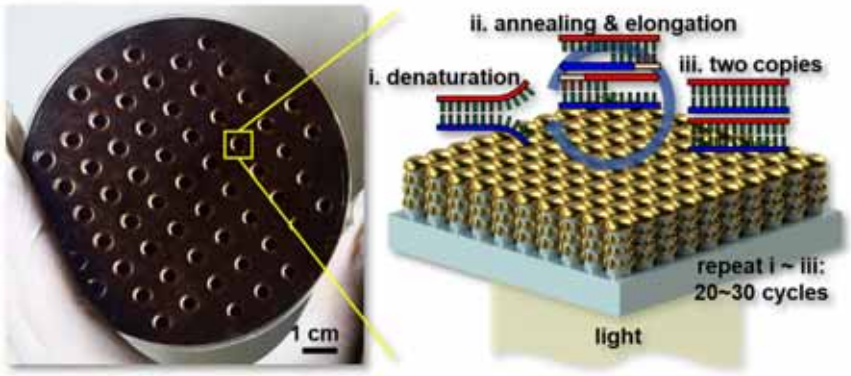

Nanoplasmonic PCR on chip for rapid precision molecular diagnostics.

The June BSAC Researcher Seminar Series will feature Dr. Youngseop Lee of BSAC Co-Director Professor Luke Lee's group.

Emerging molecular diagnosis requires ultrafast polymerase chain reaction (PCR) on chip for rapid precise detection of infectious diseases in point-of-care (POC) tests. Commercial benchtop PCR thermal cyclers are too bulky and time-consuming to achieve POC diagnosis. Ohmic or laser-induced heater-based thermal cyclers require complicated interconnection for miniaturized PCR platforms for POC applications. The novel nanoplasmonic PCR on chip, created by the Luke Lee research group, can provide a solution for ultrafast precision molecular diagnostics.

In this presentation, Dr. Youngseop Lee will discuss the development of the ultrafast photonic PCR on chip on chip which enables rapid precision molecular diagnosis at the POC level, along with recent research in POC molecular diagnostics, numerical analysis, optical properties, and DNA amplification research results.

Dr. Youngseop Lee is a postdoctoral researcher in Prof. Luke Lee's group in the Department of Bioengineering. His research interests include nanophotonic materials and devices for biomedical sensing and diagnostics applications. Prior to Berkeley, he was a postdoc at the Korea Advanced Institute of Science & Technology (KAIST). Dr. Lee received his Ph.D., M.S., and B.S. in Bio and Brain Engineering from KAIST in 2017, 2012, and 2010, respectively.

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