



# Biomedical Engineering Seminar Series

1st Semester, Academic Year 2018

Date: November 27, 2018

Time: 11.00 AM – 12.00 PM

Room 6373, 3<sup>rd</sup> level, Building 3,

Faculty of Engineering; Mahidol University



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### "2-D and 3-D cell culture system for nanobiotechnology and drug discovery"

Two dimensional (2-D) cell culture of different cell types in vitro has traditionally been used for the past decades for studying drug screening and testing. 2-D cell culture system is simple and valuable for the cell-based study. However, it does not simulate the environment and complexity observed in vivo. Therefore, the results gathered with 2-D cell culture system might be missing, misleading and non-predictive for in vivo applications. Three-dimensional cell culture, a technique that mimics more precisely the natural environment in which cells presenting in vivo has been developed and validated for cell growth, and cell-cell interaction. Together with nanobiotechnology, it is a realistic approach to establish an accurate in vitro cell- based system for studying cell behavior and drug responses. The advantage, disadvantage and their applications will be discussed. .

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