

## **Systems Biology of Insulin Action**

## March 3 @ 11:00 am - 12:00 pm KST

ZOOM ID: 997 8258 4700 (Biomedical Mathematics Online Colloquium), (pw: 1234) + Google Map https://www.ibs.re.kr/bimag/event/systems-biology-of-insulin-action/

## SPEAKER

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## Abstract:

1. The "temporal information code" of insulin action: a bottom-up approach One of the essential elements of signaling networks is to encode information from a wide variety of inputs into a limited set of molecules. We have proposed a "temporal information code" that regulates a variety of physiological functions by encoding input information in temporal patterns of molecular activity, and based on this concept, we are analyzing biological homeostasis by insulin signaling. Taking blood insulin as an example, we will explain how the temporal information of blood insulin is selectively decoded by downstream networks.

2. Transomics of insulin action: a top-down approach In order to obtain a complete picture of insulin action, we performed transomics measurements integrating metabolomics and transcriptomics, and found that metabolism is regulated by allosteric regulation in the liver of normal mice and by compensatory gene expression in the liver of obese mice. (Top-down approach). I will talk about approach the principle of homeostasis of living organisms by temporal patterns, using the analysis of systems biology of insulin action using two different approaches.

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