



# CNeuro2024 Lecture Abstracts

Tianming Yang

## Abstract 1 – Basic Lecture:

### Neural Mechanism of Decision-Making — Basic Frameworks: Signal Detection Theory and Drift-Diffusion Models

Much progress has been made in the study of the neural mechanism underlying decision-making. In this lecture, we will learn the basic frameworks used in the field. We will start with the signal detection theory and discuss how it is applied in the study of decision-making. Next, we will move on the drift-diffusion model and the related Sequential Probability Ratio Test. Finally, we will look at a few experimental applications of these frameworks.

## Abstract 2 – Advanced Lecture:

### Attention, Value, and Confidence – Extending Drift-Diffusion Model

We have discussed models for perceptual decision-making in the basic session. This advanced session will broaden that discussion, exploring additional factors such as attention, value, and confidence in decision-making. We will delve into ways of extending the drift-diffusion model to accommodate these factors, aiming to enhance our understanding of how they are integrated by the brain during decision-making, and thereby offering a more comprehensive model of cognitive processing in decision-making contexts.