

서울대학교 화학부 [BK21-MSRI 특별세미나]

May 23 (Tue) at 11 AM/Mogam Hall, Bldg 500

## Comparative structural analysis of sensory receptors that drive octopus and squid predatory behavior

Guipeun Kang

*University of Texas Southwestern Medical Center*

Sensory systems uniquely reflect an organism's needs and reveal environmental adaptations. Cephalopods' sensory systems are a striking example of evolutionary adaptation to the marine environment that can be leveraged to understand the relationship between novel sensory receptors and animal behavior. Here, we present the structure of an octopus chemotactile receptor that the organism uses in exploratory predation. We next define a squid receptor structure that drives a wildly different predation strategy from an octopus. This comparative biology will help us understand the sensory receptors' fundamental molecular mechanism during evolution.



### References

1. **Kang G\***, Allard C\*, van Giesen L\*, Valencia-Montoya WA, Kim JJ, Bai A, Bellono NW, Hibbs RE. Sensory specializations drive octopus and squid behavior. *Nature*, 2023; 61, 378-383. *\*equal contribution*.
2. Allard C\*, **Kang G\***, Kim JJ\*, Valencia-Montoya WA, Hibbs RE, Bellono NW. Structural basis of sensory receptor evolution in octopus. *Nature*, 2023, 616, 373-377. *\*equal contribution*.

Contact: Woon Ju Song (woonjusong@snu.ac.kr)