

## Division of Biosciences

### Department of Integrated Biosciences

Laboratory	Faculty	Introduction of research activities and laboratory	Key words	Projects or activities summer program students can participate
<a href="#">Molecular recognition Laboratory</a>	<a href="#">Dr. Shinji NAGATA</a>	<p>My research interest is to find out endocrine control in feeding behavior via the ligand and receptor recognition. Among the GPCRs, one receptor can recognize several different ligands in vivo, eventually harmonizing the biologically crucial events. We use insects, which possess the open circulating system as a model animal, in order to address a receptor-sharing system. Our final investigation goal is to understand the comprehensive ligand-receptor interaction in the body to exert biological processes.</p>	<p>Ligand-receptor recognition Peptide Insect Knockdown MALDI-TOF MS</p>	<p>To know the different ligand recognition in a single receptor, the summer program students first perform calcium imaging to reveal the intracellular response against some ligands, which you chemically synthesized peptidyl factor. The students will experience the confocal-microscope, MALDI-TOF MS, RT-PCR, qRT-PCR, HPLC, Fmoc peptide synthesis, measurement of the biological activity in insects. To further investigate biological function, the program students can experience RNA interference targeting on those receptor gene using that crickets as well.</p>