#### 大学院特別講義

### 新潟脳神経研究会特別例会の御案内

日時:<u>平成26年6月2日(月)18:00~19:00</u> 場所:**脳研究所 1F 検討会議室** 

## Evolution and Function of Olfactory Receptor Repertoires

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Olfaction is a phylogenetically ancient sense with many vital functions in food localisation, predator evasion, reproduction and intraspecies communication. Several families of olfactory receptor molecules serve for detection of odors. Most of these families evolve rapidly, following a birth-and-death mode of evolution. We have phylogenetically characterized the fish taar gene family and find this family to be an extreme example of evolutionary dynamics, with several instances of positive selection. At the other extreme lies the V1R-related ora gene family, which we found to be highly conserved, with orthologues of individual genes detectable in species as far apart as shark, zebrafish and frog. We have deorphanized receptors from both families. Receptors were found to be narrowly tuned to high affinity ligands, which are able to elicit distinct innate behavior.

