Name: Yoshiki Oshima

Research field: Lie groups / Lie algebras / Representation theory

Key words: semisimple Lie groups / unitary representations / branching laws / homogeneous spaces / harmonic analysis

Present research: I have been studying on representations of Lie groups and Lie algebras. In particular, I have worked about
· restrictions of unitary representations of semisimple Lie groups to subgroups in terms of realizations of representations as D-modules, and
· inductions and restrictions of representations by utilizing a relationship between coadjoint orbits and unitary representations of Lie groups (so-called the orbit method).

Recently, I am also studying about the collapse of Kähler manifolds and compactifications of moduli spaces.

Notice for the students: Understanding of Linear algebra, undergraduate level of theories of groups, algebras, modules and manifolds is necessary. It would be good to learn the basic theory of Lie groups, Lie algebras and representation theory before entering the graduate school. Representation theory is related to various other fields. If you also have an interest on other subjects, it can be an advantage in your study of representation theory.