

**Lie Groups and Representation Theory Seminar
at the University of Tokyo**

リー群論・表現論セミナー

- DATE January 15 (Tue), 2008, 16:30–18:00
- PLACE Room 126, Graduate School of Mathematical Sciences
- SPEAKER **Fulton Gonzalez** (Tufts University)
- TITLE Group contractions, invariant differential operators and the matrix Radon transform
- ABSTRACT Let $M_{n,k}$ denote the vector space of real $n \times k$ matrices. The matrix motion group is the semidirect product $(O(n) \times O(k)) \ltimes M_{n,k}$, and is the Cartan motion group associated with the real Grassmannian $G_{n,n+k}$. The matrix Radon transform is an integral transform associated with a double fibration involving homogeneous spaces of this group. We provide a set of algebraically independent generators of the subalgebra of its universal enveloping algebra invariant under the Adjoint representation. One of the elements of this set characterizes the range of the matrix Radon transform.