

# Geometry in Nara

## - Around Subriemannian Geometries -

August 19 (Tuesday) - 21 (Thursday), 2014  
Nara Women's University, Lecture Room G202

### Program

#### August 19 (Tuesday)

- 10:30–11:20:**     **Yuri Sachkov**  
Left-invariant sub-Riemannian geometry on Engel group,
- 11:30–12:130:**   **Kenro Furutani**  
Towards a construction of the heat kernel for a higher step Grushin operator
- 14:00–14:50:**     **Yumiko Kitagawa**  
The duality of geodesics on sub-Riemannian Cartan structures
- 15:00–15:50:**     **Tohru Morimoto**  
How to define the curvatures of a subriemannian manifold

#### August 20 (Wednesday)

- 9:30–10:20:**     **Yoshinori Machida**  
Geometry of  $D_4$  conformal triality
- 10:35–11:25:**   **Chisato Iwasaki**  
Construction of the fundamental solution for degenerate operators of Grushin type
- 11:40–12:30:**    **Masato Ishikawa**  
Control of nonholonomic robot systems
- 14:00–14:50:**    **Yuri Sachikov**  
Free nilpotent sub-Riemannian geometry

#### August 21 (Thursday)

- 9:30–10:20:**     **Atsuhide Mori**  
Foliations and contact structures on  $S^3$  and  $S^5$
- 10:35–11:25:**   **Daisuke Tarama**  
Stability Analysis for the Free Rigid Body Dynamics on  $U(n)$
- 11:40–12:30:**   **Toshihiro Iwai**  
Control systems – the falling cat and the inverted pendulum –

Organizers:  
Junichi Matsuzawa, Tohru Morimoto