

**Program of the 5th MSJ-SI Schubert Calculus  
Summer School**

**July 17th to 20th**

- 9:30-10:30 Takeshi Ikeda  
Equivariant Schubert polynomials
- 10:50-11:50 Allen Knutson  
Schubert calculus and puzzles
- 14:00-15:00 Sara Billey  
Consequences of the Lakshmibai-Sandhya Theorem;  
the ubiquity of permutation patterns in Schubert calculus  
and related geometry
- 15:30-16:30 Thomas Lam  
Affine Schubert calculus
- 16:45-17:45 Frank Sottile  
Experimentation in the Schubert Calculus

**Conference**

**July 23rd (Mon.)**

- 9:30-10:30 Anders Buch  
The Puzzle conjecture for 2-step flag varieties
- 10:50-11:50 Alexander Yong  
Schubert calculus via root datum and sliding laws
- 14:00-15:00 Peter Fiebig  
Parity sheaves, Moment graphs and KL-polynomials
- 15:30-16:30 Mark Shimozono  
Chevalley rule for equivariant K-theory of Kac-Moody  
flag manifolds
- 16:45-17:45 Dave Anderson  
Equivariant quantum Schubert polynomials, transversality  
and positivity

**July 24th (Tue.)**

- 9:30-10:30 Leonardo Mihalea  
Curve neighborhoods of varieties in flag manifolds
- 10:50-11:50 K. N. Raghavan  
RSK Correspondence and KL Cells
- 14:00-15:00 Masaki Nakagawa  
 $K$ -homology of the space of loops on a symplectic group

- 15:30–16:30 Bumsig Kim  
J-functions of GIT quotients
- 16:45–17:45 Valentina Kiritchenko  
Convex geometric Demazure operators

**July 25th (Wed.)**

- 9:30–10:30 Alain Lascoux  
Eulerian structure of the Symmetric Group and Tableaux
- 10:50–11:50 Syu Kato  
PBW bases and KLR algebras

**July 26th (Thu.)**

- 9:30–10:30 Nicolas Perrin  
Spherical multiple flags
- 10:50–11:50 Masaki Kashiwara  
Infinite-dimensional Schubert cells versus finite-dimensional  
Schubert cells
- 14:00–15:00 Satoshi Naito  
On an intrinsic description of level-zero Lakshmibai-Seshadri  
paths and the quantum Schubert calculus
- 15:00–16:00 Poster session
- 16:00–16:45 Sami Assaf  
Multiplying Schubert polynomials by Schur functions
- 17:00–17:45 Kelli Talaska  
Networks and the Deodhar decomposition of real Grassmannians

**July 27th (Fri.)**

- 9:30–10:30 Julianna Tymoczko  
Billey's formula and geometric Schubert calculus
- 10:50–11:50 Maxim Kazarian  
Polylinear expansions in Schubert calculus
- 14:00–15:00 Toshiaki Shoji  
Character sheaves on a symmetric space and Kostka polynomials
- 15:30–16:30 Piotr Pragacz  
Positivity in Schubert calculus

## Poster Session

Hiraku Abe, Tomoo Matsumura (TMU, KAIST) Schubert calculus for weighted Grassmannian orbifolds

Chris Berg, Franco Saliola, Luis Serrano (LaCIM, Universite du Quebec a Montreal) Pieri operators on the affine nilCoxeter algebra

Anna Bertiger (Cornell Univ.) Unions of Matrix Schubert Varieties

Bryan Bischof (Kansas State Univ.) Deformations of differential operators on the big cell

Li Cai (Kyushu Univ.) Calculation of the cohomology of generalized moment-angle complexes

Alexander Caviedes Castro (Univ. of Toronto) Upper bounds for Gromov width of coadjoint orbits of type A

Avinash Dalal (Drexel Univ.) The ABC's of Affine Grassmannians and Hall-Littlewood Polynomials

Chayapa Darayon (Univ. of Illinois) Gorenstein Richardson Varieties in the Grassmannian

Elizabeth Drellich (Univ. of Massachusetts) Natural Bases of the Cohomology of Regular Nilpotent Hessenberg Varieties

Yukiko Fukukawa (Osaka City Univ.) GKM graph cohomology of flag varieties

Nickolas Hein (Texas A & M Univ.) A mod four congruence in the symmetric real Schubert calculus and the Hermitian Grassmannian

Thomas Hudson (Universitaet Duisburg-Essen) Thom-Porteous formulas in algebraic cobordism

Erik Insko (Univ. of Iowa) Schubert calculus and the cohomology ring of the Peterson variety

Shizuo KAJI (Yamaguchi Univ.) Ordinary vs double Schubert polynomials

Masahide Konishi (Nagoya Univ.) Counting the number of primitive idempotents of cyclotomic KLR algebras of type  $A_n^{(1)}$

Jennifer Koonz (Univ. of Massachusetts, Amherst) Poincare Polynomials of Singular Schubert Varieties

Karine Kuyumzhiyan (National Research University Higher School of Economics) Simple  $G$ -modules with normal closures of maximal torus orbits

Martina Lanini (FAU Erlangen-Nuernberg) Periodic patterns on parabolic moment graphs

Norihiro Nakashima (Hokkaido Univ.) Coxeter arrangements and Cauchy-Sylvester's compound determinants

Edward Richmond (Univ. of British Columbia) Coxeter groups and palindromic Poincare polynomials

Kaisa Taipale (St. Olaf College/Mathematical Sciences Research Institute) Quantum Schubert calculus: combinatorial variations on a rimhook theme

Nicholas Teff (Univ. of Iowa) Hessenberg varieties and chromatic symmetric functions

Haggai Tene (POSTECH) Equivariant Poincare Duality and Tate Cohomology for compact Lie group actions