



Jointly organized by :
The Institute of Mathematical Sciences, CUHK
Department of Mathematics, CUHK
Institute of Mathematical Research HKU
Department of Mathematics HKUST

For Favour of Posting

Hong Kong Geometry Colloquium

March 15, 2025 (Saturday)

Venue: G03, Academic Building No. 1, CUHK

Organizers: Professor Man-Chun Lee, Professor Conan Leung

Schedule

9:30am - 10:30am

Speaker: Prof. Konstanze Rietsch (King's College London)

Title: A tropical Edrei Theorem

Abstract: A classical theorem proved by Edrei in the 1950's (building on work with Aissen, Schoenberg and Whitney) gives a parametrisation for infinite upper-triangular totally positive Toeplitz matrices using pairs of sequences of positive real parameters with finite sum. These infinite Toeplitz matrices (and their parameters) are central for understanding characters of the infinite symmetric group, as was discovered by Thoma, who reproved Edrei's theorem in the 1960's. There is also a totally different (totally positive) theorem about Toeplitz matrices that relates to quantum cohomology of flag varieties and mirror symmetry [R,06]. This talk will be about new tropical versions of these parametrisation results and the relationship between them. This work builds on results of Judd and Ludenbach and relates also to Lusztig's parametrisation of his canonical basis.

10:30am - 11:00am

Tea Reception

11:00am - 12:00pm

Speaker: Prof. James Pascaleff (University of Illinois)

Title: Toward Higher Fukaya Categories

Abstract: We investigate a possible theory of higher Fukaya categories associated to n -shifted symplectic stacks, where $n \geq 0$. We consider two paradigmatic cases, the shifted cotangent stack of a smooth manifold and the coadjoint stack of a compact Lie group, drawing connections to the work of Teleman and 3D mirror symmetry. This is joint work with Nicolò Sibilla.

12:00pm - 2:00pm

Lunch

All are Welcome



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