

Seminar Announcement

Title: THE COMBINATORICS OF LINEAR DEPENDENCE

Speaker: Professor Andreas Dress, Director of CAS-MPG Partner Institute for Computational Biology

Time: 5 pm – 6:30 pm, May 28; 4 pm – 6 pm, June 4;
4 pm – 6 pm, June 11; 4 pm – 6 pm, June 18.

Venue: Seminar Room of the Institute of Complex Systems, Xuhui Campus of Shanghai Jiao Tong University

Abstract: Beginning with the ground-breaking work by Hassler Whitney in the 1930s, it was observed that certain properties relating to linear-dependence and linear-independence relationships within subsets of vector spaces can be treated successfully in an abstract fashion highlighting the essentially purely combinatorial character of these relationships.

The resulting investigations culminated in the “Theory of Matroids with Coefficients” that we will be outlined in these lectures based on the series of joint papers with Walter Wenzel and Werner Terhalle which appeared in the 1990s.

Special emphasis will be given to the special case of Valuated Matroids, also treated in: “K. Murota, *Matrices and Matroids for Systems Analysis*, Algorithms and Combinatorics **20**, Springer Verlag, 2000.” and, in a disguised form, in “D. Speyer, B. Sturmfels, *The tropical Grassmannian*, Adv. in Geom. **4**, 2004, 389–411.”

ALL ARE WELCOME!