

---

## Enumeration II

(Chair/Président: **Marie-Louise Bruner** (Vienna University of Technology, Austria))

---

---

**VALENTIN FÉRAY**, CNRS, Université Bordeaux 1

*Multi-parameter hook formula for labelled trees*

Several hook summation formulae for binary trees have appeared recently in the literature. In this talk we present an analogous formula for unordered increasing trees of size  $r$ , which involves  $O(r^2)$  parameters, while most formulae in the literature have a fixed number of parameters. The right-hand side can be written nicely as a product of degree 1 or 2 factors. The proof of the formula is bijective, involving some new operation of "stitching" chains to reconstruct a tree.

---

**JOON YOP LEE**, POSTECH

*Eulerian and Stirling numbers over multisets*

By combinatorially analyzing identities of Eulerian and Stirling numbers, we define Eulerian and Stirling numbers over multisets and generalize these identities. Using these generalized identities, we also compute Eulerian and Stirling numbers over multisets and provide  $q$ -analogs some of these generalized identities. The main tools to derive these results are products of simplexes and their triangulations.

---

**JOSÉ PLÍNIO SANTOS**, State University of Campinas-UNICAMP-Brazil

*Further Applications of the two-line array for representing partitions*

Santos, J.P.O.

Abstract: In a joint paper with Brietzke and Silva we gave combinatorial Interpretations as two-line array for many of the classical mock theta functions. In the present paper we present further results that one can obtain by making use of this new form of representing the coefficients of the generating functions for a number of partitions functions.