

Victor Rothschild Memorial Symposium

MIDRASHA MATHEMATICAE

ON

GROUPS AND PROBABILITY

March 15-20, 1998

The Institute for Advanced Studies
Hebrew University, Givat Ram, Jerusalem

All lectures are held at the Institute for Advanced Studies, Feldman Building, Room 130

Sunday, March 15

- 10:00-10:50 **Persi Diaconis** (1) (Harvard and Cornell)
Random walks and random elements in finite groups I
- 10:50-11:20 Coffee
- 11:20-12:10 **Gary Seitz** (1) (Eugene, OR)
The subgroup structure of groups of Lie type I
- 12:20-13:00 **Peter Neumann** (Oxford)
Cyclic matrices in classical groups
- 13:00-15:10 Lunch Break
- 15:10-15:50 **Cheryl Praeger** (Perth, Australia)
Derangements and eigenvalue-free matrices in finite classical groups
- 15:50-16:30 **Moshe Jarden** (Tel Aviv)
Probability in Galois groups
- 16:30-17:00 Coffee
- 17:00-17:40 **Avi Wigderson** (CS, Jerusalem)
Group theoretic problems of computational significance

Monday, March 16

- 10:00-10:50 **Gary Seitz** (2)
The subgroup structure of groups of Lie type II
- 11:00-11:50 **Martin Liebeck** (1) (Imperial College, London)
Random generation of finite simple groups

- 11:50-12:20 Coffee
- 12:20-13:10 **Persi Diaconis (2)**
Random walks and random elements in finite groups II
- 13:10-14:20 Lunch Break
- 14:20-15:00 **Charles Leedham-Green (QMW, London)**
Non-random walks and non-random elements in finite groups
- 15:00-15:40 **David Gluck (Wayne State)**
First hitting times for some random walks on finite groups
- 15:40-16:10 Coffee
- 16:10-16:50 **Eric Schmutz (Drexel U)**
Applications of classical group cycle indices
- 16:50-17:30 **Jason Fulman (Dartmouth)**
Hall-Littlewood polynomials and probabilistic algorithms for the finite classical groups

Tuesday, March 17

- 10:00-10:50 **Laci Babai (1) (Chicago)**
Statistical methods in matrix group algorithms I
- 11:00-11:50 **Persi Diaconis (3)**
Random walks and random elements in finite groups III
- 11:50-12:20 Coffee
- 12:20-13:10 **Martin Liebeck (2)**
Probabilistic methods for permutation groups, and applications
- 13:10-14:20 Lunch Break
- 14:20-15:00 **Gil Kalai (Jerusalem)**
Threshold intervals under actions of primitive permutation groups
- 15:00-15:40 **Saharon Shelah (Jerusalem)**
0-1 laws and permutations
- 15:40-16:10 Coffee
- 16:10-16:50 **Alex Lubotzky (Jerusalem)**
Random normal subgroups of free pro-finite groups
- 16:50-17:30 **Avinoam Mann (Jerusalem)**
Positively finitely generated groups and their zeta-functions

Wednesday, March 18

- 9:10-10:00 **Martin Liebeck** (3)
Methods and proofs
- 10:00-10:30 Coffee
- 10:30-11:20 **Laci Babai** (2)
Statistical methods in matrix group algorithms II
- 11:30-12:10 **Eamonn O'Brien** (Auckland, New Zealand)
Questions arising from recent matrix group algorithms

Thursday, March 19

- 10:00-10:40 **Bob Beals** (Tuscon, AZ)
On the diameter of random cayley graphs of the symmetric group
- 10:40-11:20 **Laci Pyber** (Budapest)
The diameter of primitive graphs
- 11:20-11:50 Coffee
- 11:50-12:30 **Nati Linial** (CS, Jerusalem)
Covering maps among graphs and random lifts
- 12:30-14:00 Lunch Break
- 14:00-14:40 **Christine Altseimer** (Freiburg)
On the use of involutions in the matrix recognition project
- 14:40-15:20 **Ákos Seress** (Ohio State)
Finding the field size of black box classical groups
- 15:20-15:50 Coffee
- 15:50-16:30 **Yuval Roichman** (Bar Ilan)
Randomized operators and Hecke algebra representations
- 16:30-17:10 **Bob Brooks** (Technion)
Finite nilpotent groups and isospectral Riemann surfaces

Friday, March 20

- 10:00-10:50 **Laci Babai** (3)
Statistical methods in matrix group algorithms III
- 11:00-11:40 **Yoav Segev** (Beer Sheva)
Wedderburn's factorization and anisotropic groups of type A_n
- 11:40-12:10 Coffee

- 12:10-12:50 **Yiftach Barnea** (Jerusalem)
Random generation in pro- p groups and Hausdorff dimensions
- 12:50-13:30 **Peter Pálffy** (Budapest)
Probabilistic properties of the symmetric p -groups