

Centre de recherches mathématiques
Université de Montréal

Atelier «Les graphes et l'arithmétique»
Du 8 au 12 mars 2010

Workshop on Graphs and Arithmetic
March 8-12, 2010

HORAIRE / PROGRAM

Conférences : salle 6214
Pauses-café : salle 6245

Lectures: Room 6214
Coffee Breaks: Room 6245

Le lundi 8 mars 2010 / *Monday, March 8, 2010*

09:00 - 10:00 Inscription (salle 5345) et café-croissants (salle 6245) / *Registration (Room 5345) and Coffee & Croissants (Room 6245)*

10:00 - 11:00 **Harald Andrés Helfgott** (University of Bristol)
“Growth in simple groups of Lie type”

11:00 - 11:20 Pause-café / *Coffee break*
(Salle / *Room* 6245)

11:20 - 12:00 **Jerome William Hoffman** (Louisiana State University)
“Zeta functions of buildings and algebraic geometry”

12:00 - 14:00 Pause-déjeuner / *Lunch break*

14:00 - 14:40 **Chian-Jen Wang** (National Tsing Hua University)
“Zeta functions of finite complexes from $PGL(3)$ ”

14:45 - 15:25 **Boris Bukh** (University of Cambridge)
“Sum-product theorems for polynomials”

15:30 - 16:00 Pause-café / *Coffee break*
(Salle / *Room* 6245)

16:00 - 16:40 **Elena Fuchs** (Princeton University)
“Counting problems in Apollonian circle packings”

Le mardi 9 mars 2010 / *Tuesday, March 9, 2010*

09:00 - 10:00 Café croissants (6245) / *Coffee & Croissants (6245)*

10:00 - 11:00 **Alex Kontorovich** (Brown University)
“Recent progress on affine sieves”

11:00 - 11:20 Pause-café / *Coffee break*
(Salle / Room 6245)

11:20 - 12:00 **Yang Fang** (Penn State University)
“The zeta functions of complexes from $GSP(4)$ ”

12:00 - 14:00 Pause-déjeuner / *Lunch break*

14:00 - 14:40 **Anne de Roton** (Université Henri Poincaré Nancy I)
“Improving Roth’s theorem in the primes”

14:45 - 15:25 **Ming-Hsuan Kang** (Penn State University)
“Zeta functions of complexes arising from PGL_n ”

15:30 - 16:00 Pause-café / *Coffee break*
(Salle / Room 6245)

16:00 - 17:00 **Mei-Chu Chang** (UC Riverside)
“Incomplete character sums over finite fields”

Le mercredi 10 mars 2010 / *Wednesday, March 10, 2010*

09:00 - 10:00 Café croissants (6245) / *Coffee & Croissants (6245)*

10:00 - 11:00 **Alex Lubotzky** (The Hebrew University)
“Expanders and geometry”

11:00 - 11:30 Pause-café / *Coffee break*
(Salle / *Room 6245*)

11:30 - 12:30 **Tamar Ziegler** (Technion - Israel Institute of Technology)
“The inverse conjecture for the Gowers norms”

12:30 Pause-déjeuner et après-midi libre / *Lunch Break and Free Afternoon*

Le jeudi 11 mars 2010 / *Thursday, March 11, 2010*

09:00 - 10:00 Café croissants (6245) / *Coffee & Croissants (6245)*

10:00 - 11:00 **Jean Bourgain** (Institute for Advanced Study)
“Expansion in Lie groups and applications”

11:00 - 11:20 Pause-café / *Coffee break*
 (Salle / Room 6245)

11:20 - 12:00 **Peter Varju** (Princeton University)
“Expansion in $SL_d(\mathbb{Z}/q\mathbb{Z})$, q square-free”

12:00 - 14:00 Pause-déjeuner / *Lunch break*

14:00 - 14:40 **Adrian Ubis** (Universidad Autónoma de Madrid)
“An effective Dani theorem”

14:45 - 15:25 **Gilles Zémor** (Université Bordeaux 1)
“Algebraic constructions of graphs and error-correcting codes, classical and quantum”

15:30 - 16:00 Pause-café / *Coffee break*
 (Salle / Room 6245)

16:00 - 16:40 **Dubi Kelmer** (University of Chicago)
“A uniform strong spectral gap for congruence covers of a compact quotient of $PSL(2, \mathbb{R})^d$ ”

Session - Conférence du lauréat du Prix André-Aisenstadt 2010 / 2010
André-Aisenstadt Prize Recipient Lecture

16:50 - 17:50 **Omer Angel** (University of British Columbia)
“Local and global properties of graphs”

18:00 Réception (6245) / *Reception (6245)*

Le vendredi 12 mars 2010 / *Friday, March 12, 2010*

09:00 - 10:00 Café croissants (6245) / *Coffee & Croissants (6245)*

10:00 - 11:00 **László Pyber** (Hungarian Academy of Sciences)
“Growth in simple groups of Lie type of bounded rank”

11:00 - 11:20 Pause-café / *Coffee break*
 (Salle / Room 6245)

11:20 - 12:00 **M. Ram Murty** (Queen’s University)
“Ramanujan graphs and gaps between primes”

12:00 - 14:00 Pause-déjeuner / *Lunch break*

14:00 - 14:40 **Alexey Glibichuk** (Universidad Nacional Autonoma de México)
“Properties of sum and product sets in an arbitrary finite fields”

14:45 - 15:25 **Igor Shparlinski** (Macquarie University)
“Graphs and matrices with integral spectrum in some families”

15:30 - 16:00 Pause-café / *Coffee break*
 (Salle / Room 6245)

Session - Colloque CRM-ISM / *CRM-ISM Colloquium*

16:00 - 17:00 **Wen-Ching Winnie Li** (The Pennsylvania State University)
“Recent progress on the arithmetic of noncongruence modular forms”

17:00 Réception vin et fromages (6245) / *Wine-and-cheese reception (6245)*