

In memory of Yahyaould Hamidoune

Additive Combinatorics in Paris 2012

9th-13th July 2012

Institut Henri Poincaré



Keynote Speakers

Noga Alon
Emmanuel Breuillard
Alfred Geroldinger
Tim Gowers
Ben Green
Mel Nathanson
Oriol Serra
Benny Sudakov
Tamar Ziegler

Organizers

Alain Plagne
Eric Balandraud
Benjamin Girard
Wolfgang Schmid
Julia Wolf

Additive Combinatorics in Paris 2012

Institut Henri Poincaré
9th-13th July 2012

We are delighted to welcome you to the Institut Henri Poincaré on the occasion of the conference “Additive combinatorics in Paris 2012”, which is being held in memory of our friend and colleague Yahyaould Hamidoune, who passed away last year.

The programme covers a wide range of topics in additive and combinatorial number theory, additive group theory, graph theory and probabilistic combinatorics as well as adjacent fields. It also includes a special talk on Yahya's mathematical achievements and a short movie documenting his battle against environmental destruction in his native Mauritania, to be screened on Tuesday evening.

The conference banquet will take place at the Louvre on Wednesday evening, for those who have pre-registered for the event. Further details can be found in the later pages of this booklet.

We would like to thank all participants, and in particular our speakers, for contributing their time to this event, and wish you a very enjoyable and productive week.

The organizing committee
Alain Plagne, Eric Balandraud, Benjamin Girard, Wolfgang Schmid, Julia Wolf
caparis2012@ihp.org

	Monday	Tuesday	Wednesday	Thursday	Friday
8:30-9:00	Registration and Welcome	Ben Green	Mel Nathanson	Tim Gowers	Alfred Geroldinger
9:00-9:30					
9:30-10:00	Noga Alon	Ernie Croot	Christian Elsholtz	Endre Szemerédi	Yonutz Stanchescu
10:00-10:30					
10:30-11:00	Coffee	Coffee	Coffee	Coffee	Coffee
11:00-11:30	Jacob Fox	Trevor Wooley	Jean-Marc Deshouillers	Laurent Habsieger	David Conlon
11:30-12:00	Juanjo Rué	Jozsef Solymosi	Antal Balog	Andrew Granville	Tim Austin
12:00-12:30			François Hennecart		
12:30-13:00	Lunch	Lunch	Michael Bateman	Lunch	Lunch
13:00-14:00					
14:00-14:30	Oriol Serra	Benny Sudakov		Tamar Ziegler	Emmanuel Breuillard
14:30-15:00					
15:00-15:30	Tom Sanders	Miklós Simonovits		Seva Lev	Sukumar Das Adhikari
15:30-16:00	Gilles Zémor	Harald Helfgott		Javier Cilleruelo	J.-C. Schlage-Puchta
16:00-16:30	Coffee	Coffee		Coffee	Coffee
16:30-17:00	Norbert Hegyvári	David Grynkiewicz		Gyula Károlyi	Simon Griffiths
17:00-17:30	Mate Matolcsi	Susana Lopez		Gautami Bhowmik	Matt DeVos
17:30-18:00		Documentary			
20:00-22:00			Conference Dinner		

Monday

8:30-9:30: Registration and Welcome

9:30-10:30: **Noga Alon**, Tel Aviv University.

- The chromatic number of random Cayley graphs.

11:00-11:30: **Jacob Fox**, Massachusetts Institute of Technology.

- Sparse graphs and arithmetic removal lemmas.

11:30-12:00: **Juanjo Rué**, Universidad Autónoma de Madrid.

- Lower bounds for sums of dilates.

14:00-15:00: **Oriol Serra**, Universitat Politècnica de Catalunya.

- Yahyaould Hamidoune and additive combinatorics.

15:00-15:30: **Tom Sanders**, University of Oxford.

- A non-abelian Kneser-type theorem.

15:30-16:00: **Gilles Zémor**, Université Bordeaux I.

- A structure theorem for small sumsets in non-abelian groups.

16:30-17:00: **Norbert Hegyvári**, Eötvös Loránd University Budapest.

- Iterated additive operations.

17:00-17:30: **Máté Matolcsi**, Rényi Institute.

- Difference sets and positive exponential sums.

Tuesday

9:00-10:00: **Ben Green**, University of Cambridge.

- Applications of additive combinatorics to some problems in combinatorial geometry.

10:00-10:30: **Ernie Croot**, Georgia Institute of Technology.

- Rich Lines in General Position in Grids.

11:00-11:30: **Trevor Wooley**, University of Bristol.

- Vinogradov's mean-value theorem and concentration in arithmetic progressions.

11:30-12:00: **Jozsef Solymosi**, University of British Columbia.

- Roth-type theorems in finite groups.

14:00-15:00: **Benny Sudakov**, University of California Los Angeles.

- Induced matchings, arithmetic progressions and linearity testing.

15:00-15:30: **Miklós Simonovits**, Rényi Institute.

- When do we have many triple points for 1-parameter families of curves?

15:30-16:00: **Harald Helfgott**, CNRS, Ecole normale supérieure.

- On the diameter of permutation groups.

16:30-17:00: **David Gryniewicz**, Universität Graz.

- Large sumsets and the isoperimetric method.

17:00-17:30: **Susana Lopez**, Universitat Politècnica de Catalunya.

- Large restricted sumsets in general abelian groups.

Wednesday

9:00-10:00: **Mel Nathanson**, CUNY Graduate Center.

- Problems and results in additive number theory.

10:00-10:30: **Christian Elsholtz**, Technische Universität Graz.

- Some multidimensional problems in additive combinatorics.

11:00-11:30: **Jean-Marc Deshouillers**, Université de Bordeaux I.

- A heuristic remark on the set of integers for which the sums of the digits in different prime bases are equal.

11:30-12:00: Antal Balog, Rényi Institute.

- A sum-product estimate in finite fields.

12:00-12:30: François Hennecart, Université Jean Monnet, Saint-Etienne.

- On expanding binary functions.

12:30-13:00: Michael Bateman, University of California Los Angeles.

- Rectangles and sum-product theorems.

Thursday

9:00-10:00: Tim Gowers, University of Cambridge.

- Freiman homomorphisms on sparse random sets.

10:00-10:30: Endre Szemerédi, Rutgers University and Rényi Institute.

- On subset sums.

11:00-11:30: Laurent Habsieger, CRM Montréal.

- On finite additive bases.

11:30-12:00: Andrew Granville, Université de Montréal.

- Beyond heuristics: finding out when the sieve works using additive combinatorics.

14:00-15:00: Tamar Ziegler, Technion.

- On the Möbius randomness principle.

15:00-15:30: Seva Lev, University of Haifa.

- The edge-isometric problem for Cayley graphs and the generalized Takagi function.

15:30-16:00: Javier Cilleruelo, Universidad Autónoma de Madrid.

- Dense finite B_h sequences.

16:30-17:00: Gyula Károlyi, Eötvös Loránd University Budapest.

- The exterior algebra method in additive combinatorics.

17:00-17:30: Gautami Bhowmik, Université Lille 1.

- Lattice polyhedra in additive combinatorics.

Friday

9:00-10:00: Alfred Geroldinger, Universität Graz.

- Arithmetic of Krull monoids.

10:00-10:30: Yonutz Stanchescu, Afeka Academic College, Tel Aviv.

- Inverse additive number theory and non-abelian groups.

11:00-11:30: David Conlon, University of Oxford.

- Applications of transference in random sets.

11:30-12:00: Tim Austin, Clay Mathematics Institute/Brown/NYU.

- Partial difference equations over compact abelian groups.

14:00-15:00: Emmanuel Breuillard, Université Paris-Sud (Orsay).

- On the structure of sets with small doubling in arbitrary groups.

15:00-15:30: Sukumar Das Adhikari, HRI Allahabad.

- Some weighted zero-sum problems.

15:30-16:00: Jan-Christoph Schlage-Puchta, Universiteit Gent.

- Zero-sums of medium length.

16:30-17:00: Simon Griffiths, IMPA Rio de Janeiro.

- Tight bounds on subset sums in abelian groups.

17:00-17:30: Matt DeVos, Simon Fraser University.

- On the structure of critical product sets.

Yahyaould Hamidoune

Yahyaould Hamidoune passed away in Paris on Friday March 11, 2011 after a brief illness, leaving insufficient time for his friends and colleagues to express their indebtedness to him for his kindness and generosity, both in mathematics and in everyday life.

Yahyaould Hamidoune was born in October 1948 in Atar, Mauritania. His family belong to the highly literate tribe of Oulad Daymân and his father was a famous encyclopedist, writing among other things the book on Mauritania, an encyclopedia in 42 volumes, *La vie mauritanienne* (Mauritanian Life).

At fifteen, Yahya went to Cairo to study mathematics up to the graduate level. In 1970, he returned to Nouakchott and began teaching at the Lycée National, the most famous high school in Mauritania; at that time, there was no university in Nouakchott. But Yahya needed challenges, and loved playing games. He became the national champion of Mauritanian draughts, also attaining a high level in chess, bridge and backgammon. At that time, Yahya was also involved in several revolutionary and anti-neocolonialist movements which shook Mauritanian society, and indeed the entire world, in the 70's. He would pay the price for his involvement, spending several months in jail.

In 1975, Yahya sought a fresh intellectual challenge. He went to France and started his doctoral studies in graph theory with M. Las Vergnas at the University Pierre et Marie Curie (Paris 6). Yahya's first publication, *Sur les atomes d'un graphe orienté*, appeared in the Comptes Rendus de l'Académie des sciences in 1977. He soon became an expert on graph connectivity and obtained his PhD (*Quelques problèmes de connexité dans les graphes orientés*) in February 1978. He was admitted to the CNRS (Centre National de la Recherche Scientifique) as a full-time researcher in 1979, and joined C. Berge's group at Paris 6.



© Michel Las Vergnas

Until the middle of the 80's, Yahya worked almost exclusively on connectivity problems. After reading H. B. Mann's book *Addition Theorems*, Yahya realized that certain results of his on graph connectivity generalize, in a disguised form, some classical combinatorial results of additive number theory (at that time, this body of work was not yet called additive combinatorics). The isoperimetric method was born. Yahya proceeded to investigate, in a systematic way, the classical theorems of the theory, those due to Cauchy-Davenport, Chowla, Olson, Mann, Shepherdson, Shatrowsky, Vosper, Kneser, Kemperman,.... He found new proofs, improvements, generalizations, and many applications of these theorems.

Yahya's most famous result is certainly his 1991 proof with J. A. Dias da Silva of a conjecture due to P. Erdős and H. A. Heilbronn on restricted addition of sets modulo a prime. The paper appears in the *Bulletin of the London Mathematical Society* (1994) under the slightly cryptic title *Cyclic spaces for Grassmann derivatives and additive theory*.

Very recently, Yahya answered in a brilliant way a question of T. Tao dealing with a non-commutative version of Kneser's theorem. Indeed, as I can certify, Yahya was able to answer the question very rapidly after reading it. It is likely that this or similar results already existed in his mind before the question was asked. He simply needed an opportunity to write it down!

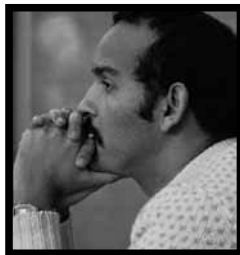
But Yahya was not only a mathematician, especially when in Mauritania, where he travelled two or three times a year. There, he was a personality, known to — and loved by — a large part of the population. When his remains arrived in Nouakchott in the middle of the night, about five thousand people were waiting for him at the airport. In fact, Yahya was well-known in Mauritania as a militant for democracy and ecology. He was a deeply honest citizen who did not fear to fight against corruption, a fight which occasionally provoked death threats. One of his preferred combats was protecting the Parc National du Banc d'Arguin, a huge Mauritanian bird sanctuary protected by UNESCO.

This is an abridged version of Alain Plagne's article *Yahyaould Hamidoune, The Mauritanian mathematician*, *Combin. Probab. Comput.* (2011), 20: 641-645.

Le texte ci-contre est un extrait de l'article *Yahyaould Hamidoune: grand Mauritanien, homme singulier, mathématicien d'exception* par Alain Plagne, *Gazette des Mathématiciens*, 129 (07/11).

Yahyaould Hamidoune est décédé à Paris vendredi 11 mars tôt dans la nuit après une brève maladie. Il a été enterré le dimanche 13 dans le cimetière "de sable" du village familial à 150 kilomètres au sud-est de Nouakchott (quelque part entre Tighent et Boutilimit).

Yahyaould Hamidoune est né en octobre 1948 à Atar en Mauritanie, au sein d'une famille érudite de la tribu des Oulad Daymân. À cette époque, Mokhtar, son père, enseigne à la medersa, l'école franco-arabe. Il deviendra par la suite le grand encyclopédiste – historien, géographe, grammairien, juriste, poète, etc... – de la Mauritanie.



© Adrian Bondy

À 15 ans, Yahya part étudier au Caire, en Égypte. En 1970, rentré à Nouakchott, Yahya enseigne au Lycée National. Yahya donne ses cours mais sa grande affaire, à cette époque, ce sont les jeux, notamment les dames mauritaniennes, dont il s'impose immédiatement comme le champion national. Durant ces années de jeunesse, on le retrouve aussi au milieu des mouvements de révolte de la société mauritanienne. Cela lui coûtera plusieurs mois de prison, dont il gardera un souvenir cuisant. Mais, peut-être paradoxalement, ses amis de l'époque voient en lui un esprit pur et très brillant mais peu intéressé par le monde matériel.

Ce n'est qu'en 1975 que, se cherchant un nouveau défi intellectuel, Yahya décide de s'essayer à la recherche en mathématiques. Il part alors en France, à Paris, où il entame une thèse à l'université Pierre-et-Marie-Curie avec Michel Las Vergnas. Ses résultats en théorie de la connectivité transforment rapidement Yahya en un expert du sujet. Il obtient sa thèse de troisième cycle en février 1978 et entre au CNRS en 1979. Il débute sa carrière dans l'équipe de C. Berge à l'Université Pierre-et-Marie-Curie et passe sa thèse d'État dès juin 1980.

Jusqu'au milieu des années 80, Yahya travaille presque exclusivement en théorie des graphes, essentiellement sur des problèmes de connexité. C'est aussi à cette époque que Yahya lit le livre *Addition theorems* de H.B. Mann. À cette lecture, il se rend compte que lorsqu'on spécialise ses résultats en connectivité à une certaine classe de graphes (graphes de Cayley), on obtient des énoncés importants en théorie additive des nombres. C'est la naissance de la très fructueuse méthode isopérimétrique. Yahya commence alors une impressionnante moisson de résultats, retrouvant, améliorant ou généralisant nombre de résultats classiques en théorie additive des nombres.

Son plus célèbre résultat reste sans doute la preuve d'une conjecture datant du début des années 60 due à Erdős et Heilbronn. Ce théorème, qui porte sur le cardinal minimal d'une somme restreinte modulo un nombre premier, est démontré avec J. A. Dias da Silva en 1991 et publié discrètement en 1994 sous le titre *Cyclic spaces for Grassmann derivatives and additive theory* dans le Bulletin of the London Mathematical Society.

Tout récemment encore, Yahya avait résolu brillamment, et de façon élémentaire, une conjecture de T. Tao portant sur une version non commutative du théorème de Kneser. En fait, je me souviens que c'est presque immédiatement à la lecture de la question qu'il a su qu'il allait pouvoir y donner une réponse. Il est probable que le résultat lui était préalablement familier et existait dans son vivier mental de résultats, ceux qu'il pouvait probablement démontrer, mais dont il ne s'attaquait à la rédaction que si l'occasion s'en présentait.

Mais Yahya n'était pas seulement un mathématicien, surtout lorsqu'il se trouvait en Mauritanie où il se rendait plusieurs fois par an. Tous les témoignages que j'ai pu recueillir dressent le portrait d'un homme célèbre malgré lui et aimé en Mauritanie (à l'arrivée de son cercueil en Mauritanie, en pleine nuit, une foule d'environ cinq mille personnes l'attendait pour lui rendre hommage). Yahya aimait passionnément son pays pour lequel il souffrait à chaque nouveau désordre politique ou mauvaise nouvelle. Profondément honnête (pas seulement en mathématiques), c'est peut-être le problème de la corruption qui le rendait le plus pessimiste. Malgré l'adversité, il aura lutté inlassablement pour la démocratie en Mauritanie. Également passionné par le combat pour l'écologie, il défendit bec et ongles le Parc National du Banc d'Arguin – inscrit au patrimoine mondial de l'UNESCO.

Participants

Sukumar Das Adhikari, HRI Allahabad
Elad Aigner-Horev, Universität Hamburg
Noga Alon, Tel Aviv University
Bodan Arsovski, University of Oxford
Tim Austin, Brown University
Maria Axenovich, Karlsruher Institut für Technologie
Paul Baginski, Smith College
Éric Balandraud, Université Paris 6
Antal Balog Rényi Institute
József Balogh, University of Illinois at Urbana-Champaign
Michael Bateman, UCLA
Olivier Bergossi, Ambassade de France en Mauritanie
Arnab Bhattacharyya, Princeton University
Gautami Bhowmik, Université Lille 1
Khodakhast Bibak, University of Waterloo
Arindam Biswas, École Polytechnique
Dakota Blair, CUNY Graduate Center
Thomas Bloom, University of Bristol
Adrian Bondy, Université Paris 6
Emmanuel Breuillard, Université Paris-Sud (Orsay)
Marius Buliga, Simion Stoilow Institute of Mathematics of the Romanian Academy
Albert Bush, Georgia Institute of Technology
Pablo Candela Pokorna, University of Cambridge
Pierfrancesco Carlucci, Università degli Studi di Roma Tor Vergata
Jean-Luc Chabert, Université de Picardie
Bernadette Charron-Bost, CNRS, École polytechnique
Javier Cilleruelo, Universidad Autónoma de Madrid
Gérard Cohen, ENS Telecom
David Conlon, University of Oxford
Giovanni Coppola, Università degli Studi di Salerno
Ernie Croot, Georgia Institute of Technology
Régis de la Bretèche, Université Paris 7
Charles Delorme, Université Paris-Sud (Orsay)
Jean-Marc Deshouillers, Université Bordeaux 1
Matt DeVos, Simon Fraser University
Mohamed Lamine Diakité, Université de Nouakchott
Sary Drappeau, Université Paris 7
Tanja Eisner, University of Amsterdam
Daniel El-Baz, Université Aix-Marseille II
Christian Elsholtz, TU Graz
Ron Erez, Tel Aviv University
Victor Falgas-Ravry, Queen Mary, University of London
Gonzalo Fiz Pontiveros, IMPA
Jacob Fox, MIT
Quentin Garchery, ENS Bretagne
Olivier Gérard, Université Paris 7
Alfred Geroldinger, Universität Graz
Nick Gill, The Open University
Benjamin Girard, Université Paris 6
Leo Goldmakher, University of Toronto
Tim Gowers, University of Cambridge
Andrew Granville, Université de Montréal
Ben Green, University of Cambridge
Georges Grekos, Université Jean Monnet (Saint-Étienne)
Simon Griffiths, IMPA
David Grynkiewicz, Universität Graz
Jarek Grytczuk, Jagiellonian University
Laurent Habsieger, CRM Montréal
Derrick Hart, Kansas State University
Omid Hatami, University of Cambridge
Tanja Haxhoviq, CUNY Graduate Center
Norbert Hegyvári, Eötvös Loránd University
Harald Helfgott, ENS
François Hennecart, Université Jean Monnet (Saint-Étienne)
Kevin Henriot, Université de Montréal
François Huard, Bishop's University, Sherbrooke
Alex Iosevich, University of Rochester
Hassan Jolany, Université Aix-Marseille II
Sidi-Mahmoud Kaber, Université Paris 6
Gyulia Károlyi, Eötvös Loránd University
Eugen Keil, University of Bristol
William Keith, Universidade de Lisboa
Giancarlo Kerg, University of Cambridge
Sandor Kiss, Technical University of Budapest
Daniel Král', Charles University, Prague
Armand Lachand, Université Henri Poincaré Nancy 1
Victor Lambert, École polytechnique
Bernard Landreau, Université d'Angers
Rida Laraki, CNRS, École polytechnique
Michel Las Vergnas, Université Paris 6
Pierre Le Boudec, Université Paris 7
Laurentiu Leustean, Simion Stoilow Institute of Mathematics of the Romanian Academy
Seva Lev, The University of Haifa at Oranim
Karla Levy, CUNY Graduate Center
Yuanlin Li, Brock University
Xiaoxi Li, Université Paris 6

Participants continued

Liangpan Li, Loughborough University
Victor Lie, Princeton University
Anita Liebenau, Freie Universität Berlin
Susana Lopez, Universitat Politècnica de Catalunya
Neil Lyall, University of Georgia
Ákos Magyar, University of British Columbia
Máté Matolcsi, Rényi Institute
Lilian Matthiesen, University of Bristol
Tamás Mészáros, Central European University
Fatimetou Mint Aghrabatt, Université de Nouakchott
Ibni Oumar Mohamed Saleh, Université Paris 8
Bojan Mohar, Simon Fraser University
Rob Morris, IMPA
Rudi Mrazovic, University of Zagreb
Eric Naslund, École Polytechnique
Mel Nathanson, CUNY Lehman College
Kim Thang Nguyen, Université d'Évry-Val d'Essonne
Thomas Nowak, École polytechnique
Kevin O'Bryant, CUNY Staten Island
Patrice Ossona de Mendez, CNRS
Mohamed Abdallahiould Beddi, Université de Nouakchott
Mohamedould Douh, Université de Nouakchott
Ishaghould Ebbatt, Université de Nouakchott
Mohamed Lemineould Mohamed Abdel Haye, Université de Nouakchott
Ram Krishna Pandey, Indian Institute of Technology Patna
George Petridis, University of Cambridge
Alain Plagne, École Polytechnique
Alexey Pokrovskiy, London School of Economics
Domingo Quiroz, Universidad Simón Bolívar, Caracas
Alex Rice, University of Georgia
Oliver Roche-Newton, University of Bristol
Øystein Rødseth, University of Bergen
Juanjo Rué, ICMAT-Universidad Autónoma de Madrid
Boualem Sadaoui, Université Jean Monnet (Saint-Étienne)
Bahman Saffari, Université Paris-Sud (Orsay)
Wojciech Samotij, University of Cambridge
Tom Sanders, University of Oxford
Paulius Sarka, Vilnius University
Jan-Christoph Schlage-Puchta, Ghent University
Wolfgang Schmid, Université Paris 8
Ákos Seress, The University of Western Australia and The Ohio State University
Oriol Serra, Universitat Politècnica de Catalunya
Fernando Shao, Stanford University
Ilya Shkredov, Steklov Mathematical Institute, Moscow
Manuel Silva, Universidade Nova de Lisboa
Miklós Simonovits, Rényi Institute
Olof Sisask, Queen Mary, University of London
Paul Smith, University of Cambridge
József Solymosi, University of British Columbia
Vera Sós, Rényi Institute
Teresa Sousa, Universidade Nova Lisboa
Yonutz Stanchescu, Afeka Academic College
Benny Sudakov, UCLA
Zhi-Wei Sun, Nanjing University
Tibor Szabó, Freie Universität Berlin
Endre Szemerédi, Rutgers University
Amadou Tall, AIMS Sénégal
Rafael Tesoro, Universidad Autónoma de Madrid
Prasad Tetali, Georgia Institute of Technology
Matt Tointon, University of Cambridge
Konstantinos Tsaltas, University of Sheffield
Colin Tucker, London
Lluís Vena, University of Toronto
Carlos Vinuesa, University of Cambridge
Dominik Vu, University of Memphis
Jeffrey Wheeler, University of Pittsburgh
Julia Wolf, École Polytechnique
Trevor Wooley, University of Bristol
Gilles Zémor, Université Bordeaux 1
Tamar Ziegler, Technion
Ana Zumalacárregui, Universidad Autónoma de Madrid

Acknowledgements

The organizers are grateful to all sponsors for their generous support. In addition, we would like to thank Aurélie Crifar, Michèle Lavallette, Sidi-Mahmoud Kaber and Tom Sanders as well as Cédric Villani and the IHP staff for their invaluable contributions to the success of this event.

Academic institutions

Institut Henri Poincaré [1]

11 rue Pierre et Marie Curie, 75005 Paris

- nearest stop: RER B Luxembourg

École normale supérieure

45 rue d'Ulm, 75005 Paris

- nearest stop: RER B Luxembourg

Université Paris 6 (Pierre et Marie Curie)

4 place Jussieu, 75005 Paris

- nearest stop: Metro Jussieu

Université Paris 7 (Denis Diderot)

175 rue du Chevaleret, 75013 Paris

- nearest stop: Metro Chevaleret

École polytechnique

91128 Palaiseau

- nearest stop: RER B Lozère

Université Paris-Sud 11 (Orsay)

91405 Orsay

- nearest stop: RER B Orsay-Ville

Université Paris 8 (Vincennes-Saint Denis)

93200 Saint Denis

- nearest stop: Metro Saint Denis Université

Université Paris 13 (Paris Nord)

93430 Villetaneuse

- nearest stop: train de banlieu H, Epinay-Villetaneuse, then bus no. 156 or 356 to Université Paris 13

Cafés & Brasseries

Instead of listing individual cafés and restaurants, we prefer to point out areas with a high density of such establishments.

rue Soufflot [2]

- nearest stop: RER B Luxembourg

place de la Sorbonne [3]

- nearest stop: RER B Luxembourg

place Edmond Rostand [4]

- nearest stop: RER B Luxembourg

place de la Contrescarpe [5]

- nearest stop: Metro Place Monge

rue de la Montagne Sainte-Geneviève [6]

- nearest stop: Maubert-Mutualité

Sandwiches

rue Saint-Jacques

- nearest stop: RER B Luxembourg

rue Gay-Lussac

- nearest stop: RER B Luxembourg

rue Mouffetard

- nearest stop: Metro Place Monge

Restaurants

rue Saint-Jacques

- nearest stop: RER B Luxembourg

rue des Fossées Saint-Jacques [7]

- nearest stop: RER B Luxembourg

rue Mouffetard

- nearest stop: Metro Place Monge

place de l'Estrapade [8]

- nearest stop: RER B Luxembourg

place Henri Mondor [9]

- nearest stop: Metro Odéon

rue de la Harpe [10]

- nearest stop: Metro Cluny-Sorbonne, RER B Saint-Michel Notre Dame

A tip for restaurants

Ask for a "carafe d'eau" if you don't want to be served expensive bottled water.

Service is generally included in the bill.

Supermarkets

There are many small convenience stores in the immediate neighbourhood. In addition, two major supermarket chains have outlets nearby.

Monoprix

24 Boulevard Saint-Michel, 75006

- nearest stop: Metro Cluny-Sorbonne, RER B Saint-Michel Notre Dame

Carrefour

34 rue Monge, 75005

- nearest stop: Metro Jussieu or Place Monge

Cash machines

Société Générale [3]

- corner rue Saint-Jacques/rue Gay-Lussac

BNP Paribas

- corner rue Saint-Jacques/rue Soufflot

Around the neighbourhood



© Google 2012

Post office

La Poste [11]

47 rue d'Ulm, 75005 Paris
Mo-Fr: 8:00-20:00, Sa: 9:00-13:00

Health care

Hôpital Cochin

27 rue du Faubourg Saint-Jacques,
75014 Paris

• nearest stop: RER B Port-Royal

Pharmacie Gay Lussac [12]

38 rue Gay-Lussac, 75005 Paris
Mo-Fr: 8:30-20:00, Sa: 9:00-14:30
• across the street from the IHP

Book shops

Gibert Jeune

Place Saint-Michel, 75005/75006
• nearest stop: Metro Cluny-Sorbonne,
RER B Saint-Michel Notre Dame

Gibert Joseph [13]

26-34 Boulevard Saint-Michel, 75006
• nearest stop: RER B Luxembourg

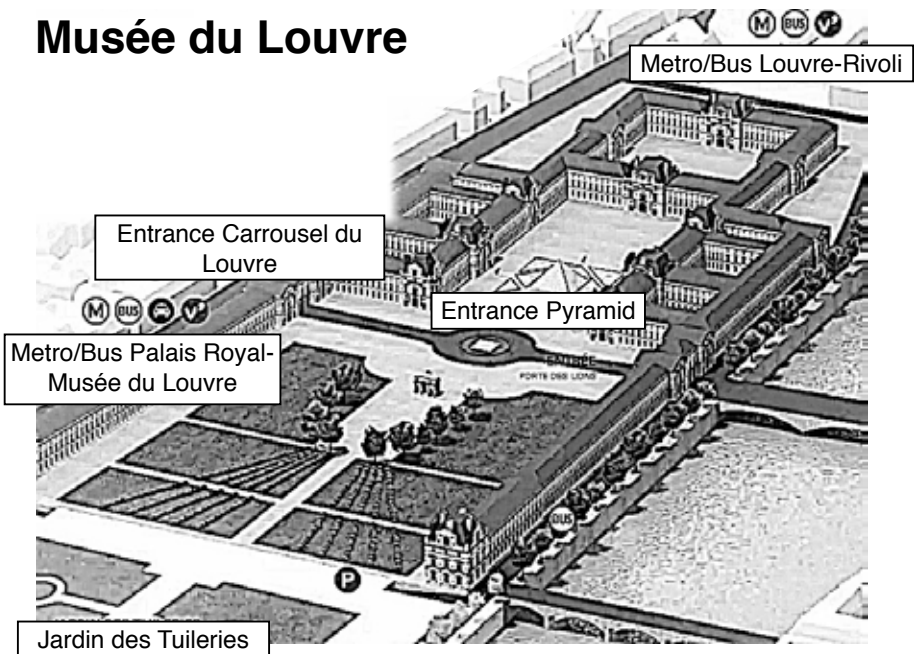
Conference dinner

You must have pre-registered to attend the banquet, and **bring along the tickets** you received when you arrived. The banquet **starts promptly at 8:00pm** on Wednesday evening, and we recommend that you arrive 15 minutes early. The restaurant is called **Cafés de la Pyramide** and is situated on the mezzanine level in the grand hall under the pyramid.

How to get there: Buses no. 21 and 27 take you directly from the IHP to the Louvre. The trip takes about 20-30 minutes, depending on traffic. Another option is to take the RER B from Luxembourg to Châtelet Les Halles, and change to metro lines 1 or 7. The walk from the IHP is very pleasant and takes about 40 minutes.

Museum visit: You can visit the museum beforehand, and buy tickets in advance online (at <http://www.louvre.fr>) or at the museum on the day. Adult admission is EUR 10 for the permanent collection. The museum is closed on Tuesdays and open until 9:45pm on Wednesdays. For those who are staying the weekend, admission to the Louvre is free on 14th July (but the museum will most likely be extremely busy).

Musée du Louvre



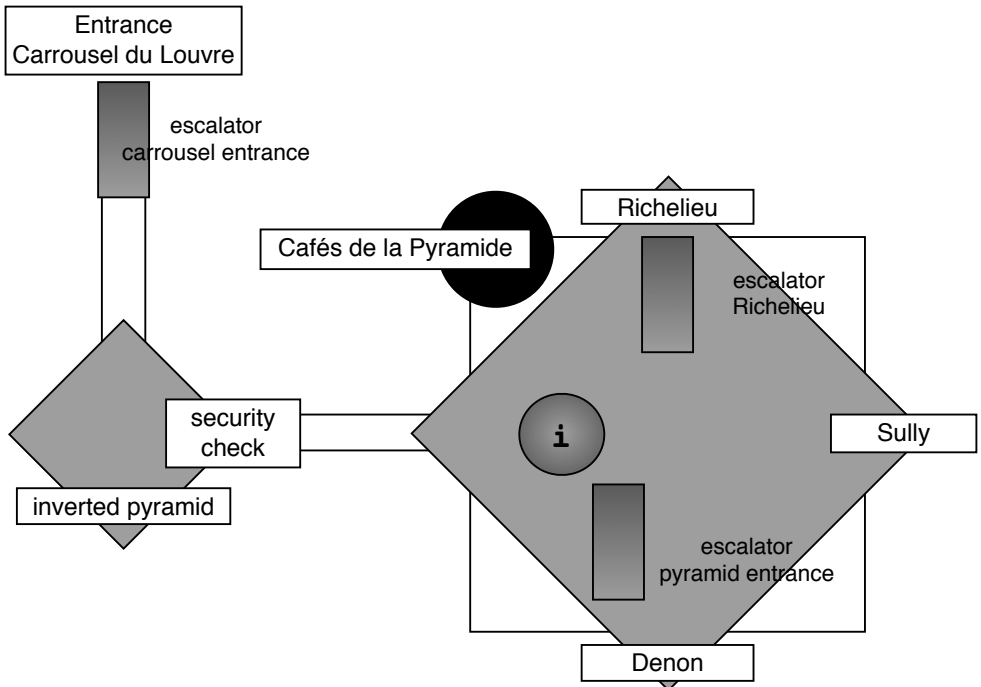
Important

You must pass security to attend the banquet, but you do not need to purchase museum admission.

Conference dinner

Access through the pyramid: This is the most direct way of getting to the restaurant. The disadvantage is that the security queues outside the pyramid can be very long, especially if you arrive earlier in the day. After entering the pyramid in the main courtyard and passing through security, go down the escalator. As you arrive at the bottom, cross the hall in a straight line and take the escalator leading up to the Richelieu wing. The restaurant is immediately to your left.

Access through the carousel: This way is particularly recommended if you arrive earlier in the day and combine the banquet with a visit to the museum since the security queues are usually significantly shorter. The entrance marked “Carrousel du Louvre” is only a few metres from the metro/bus stop Palais Royal-Musée du Louvre, hidden in one of the archways that separate the courtyard from rue de Rivoli. After going down the escalator, carry on straight ahead until you reach the inverted pyramid, then turn left and pass through security. Keep going straight until you reach the grand hall under the pyramid, then turn left and pass through security. Keep going straight until you reach the grand hall under the pyramid. Ascend the escalator leading up the Richelieu wing. The restaurant is immediately to your left.



Meeting point

For those who wish to enter as a group, there will be a clearly marked meeting point **outside the pyramid at 7:30pm.**

Documentary



Between the Oil and the Deep Blue Sea



A film by Violeta Ayala and Dan Fallshaw



BETWEEN THE OIL & THE DEEP BLUE SEA
is a story of a young African nation trying to
stamp out corruption within the oil business
and rescue their country from poverty.
The story follows the fight of the man against
an Australian oil giant.

CLASSIFICATION: EXEMPT (FOR EDUCATIONAL USE ONLY)
RONIN RECOMMENDS: FOR GENERAL EXHIBITION



On **Tuesday after the last mathematical talk** we will be showing a half-hour documentary about Yahyaould Hamidoune's battle for democracy in his native Mauritania. The film entitled *Between the oil and the deep blue sea* was produced by Violeta Ayala and Dan Fallshaw in 2006.

"Set in Mauritania this story follows the investigations of a respected Mauritanian and world renowned mathematician, Dr Yahya Hamidoune. The Professor, as he became known, introduces us to many Mauritanians, from government Ministers through to local people earning less than \$1 a day, in his campaign against an Australian company whom he sees as exploiting his country and his people.

The film is rich with glimpses of Mauritanian culture - a traditional wedding, the preparation of Mauritanian tea, traditional musicians and a visit to Chinguetti, an ancient town of a previous world."

Internet

Wireless internet at the IHP is available for participants for the duration of the conference. On the ground floor the network name is **IHPNet0** and the password is **WeAllNeedLove**. Upstairs you can log onto **IHPNet1234** with **YouLookPretty**.

IHP Library

The library is situated on the first floor of the IHP, and is open daily between 9:30am and 6pm. It is equipped with a handful of computers and a photocopier/scanner. It is possible to print a small number of pages from the public workstations, by choosing the printer "Toshiba e-Studio255" which is located next to the reception desk.

You need to sign in at the desk as you enter, and leave your bag in one of the lockers.

Telephone

In order to dial abroad from France, dial "00" and then the country code of the destination. For example, to dial the US number 857 869 5452, you would dial "00 1 857 869 5452". If someone wants to call you from abroad on a French number, they need to dial "+33" (replacing the plus sign by whatever is necessary in that country) and then the French number with the first zero omitted. For example, to dial the number 06 72 96 70 24 from the US, you would dial "011 33 6 72 96 70 24".

For your information, the French prefix 06 indicates a mobile number and 01 a landline.

Emergency calls

The French ambulance responds to the number **15**, the police to **17** and the fire brigade to **18**. The European emergency number is **112**.

Tourists (and mathematicians!) can be an easy target for pickpockets, so **please watch your belongings** while out and about.

Arrival information

Charles de Gaulle airport: Arriving at CDG, follow the “Paris by Train” signs and take the RER B in direction “Paris”. All trains stop at all inner-Paris stations between Gare du Nord and Cité Universitaire. The transit time is about 45-60 minutes, and the ticket costs EUR 9.25.

In the reverse direction, there are two stops at the airport: CDG 1 for Terminals 1 and 3 (connected by a free shuttle) and CDG 2 for Terminal 2, so make sure you know which terminal you are flying out from.

Orly airport: Arriving at Orly, take the “Orlyval” shuttle to Antony, where you change to the RER B train in direction “Charles de Gaulle aeroport” or “Mitry-Claye”. These trains stop at all inner-Paris stations between Cité Université and Gare du Nord. The total transit time is about 40-50 minutes, and the cost is EUR 10.90.

In the reverse direction, there are two stops for the shuttle, Orly West and Orly Sud, so again make sure you know your terminal.

The price of a taxi to/from the airport varies between EUR 50-60 (CDG) and EUR 30-40 (Orly). Especially during rush hour, public transportation may be faster.

Public transportation

Timetables and routes are available at www.ratp.fr. The numbered lines belong to the metro, the lines labelled by letters to the RER (commuter train) network. Keep your ticket as controls are not infrequent, and you may need it to exit the station at your destination.

There are plenty of buses, too. The IHP is conveniently served by lines 21 and 27.

To get around Paris inside the lightly shaded zone on metro, RER or bus, you can buy a single “t+”-ticket for EUR 1.70 or a pack of 10 for EUR 12.70. Changes between different lines are allowed on the same ticket. Note however that these tickets do not allow you to travel to and from the airports. There is also special offer called “Paris Visite”, valid for 1, 2, 3 or 5 consecutive days: prices vary between EUR 9.75 for a day within Paris and EUR 53.40 for five days including airport access, and it includes discounts at various sights.

Important

Ticket machines accept credit and debit cards with a chip and pin code only.

To exit an old metro or RER train at a station, you must press the button on the door or lift the hinge, otherwise the door won't open.

Taxis and shuttles

Taxis G7: 01 47 39 47 39 (French), 01 41 27 66 99 (English)

Taxi Bleus: 01 49 36 10 10 (English)

Paris France Shuttle: 01 43 52 69 74

Paris Shuttle: 01 53 39 18 18

Velib'

There are a large number of bicycle stations all over Paris, where bikes can be rented for short periods. At the automated check-out booth press “3” for the international menu, then “2” to subscribe.

OXFORD
UNIVERSITY PRESS

valid until 31 October 2012
only if orders are placed directly with OUP

Exclusive
20% discount

for delegates of
Additive Combinatorics in Paris 2012



on all our mathematics titles
visit www.oup.com/uk/maths add your titles to your
shopping basket and enter promo code: **AAFLY12**

Oxford University Press is proud to publish key titles in additive and combinatorial number theory, additive group theory, graph theory and probabilistic combinatorics and other relevant fields

