IPCO Guide

Eleventh Conference on Integer Programming
and Combinatorial Optimization

IPCO XI 2005 BERLIN

Under the Auspices of the Mathematical Programming Society

Technische Universität Berlin
DFG Research Center MATHEON

June 8–10, 2005
Summer School: June 6–7, 2005

IPCO XI Organizing Committee

Claudia Ewel	(Matheon)
Martin Grötschel	(TU Berlin/ZIB)
Volker Kaibel, *chair*	(ZIB)
Rafael Mechtel	(TU Berlin)
Rolf Möhring	(TU Berlin)
Matthias Peinhardt	(ZIB)
Marc Pfetsch	(ZIB)
Elke Pose	(TU Berlin)
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General Information

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`WWW:` `http://www.math.tu-berlin.de/ipco05/`
`Email:` `ipco05@math.tu-berlin.de`

All rooms referred to in this guide are located in the

Math Building of TU Berlin, Straße des 17. Juni 136

(See maps at the back of this guide.)

The summer school will take place in **room MA 141** (first floor).

The IPCO conference will take place in **room MA 004** (ground floor).

The conference desk is located in Room MA 141–142 (first floor).

Schedule

Mon 6	Tue 7	Wed 8	Thu 9	Fri 10
Summer School	Summer School	IPCO	IPCO	IPCO
Lunch Break				
Summer School	ILOG Workshop	IPCO	IPCO	IPCO
	Get-Together Party		Conference Dinner	

Contents

Program: Summer School

Monday, June 6, 2005

09:00-12:00 *Martin Dyer*
Approximate Counting

14:00-17:00 *Daniel Spielman*
Fast, Randomized Algorithms for Partitioning, Sparsification, and the Solution of Linear Systems

Tuesday, June 7, 2005

09:00-12:00 *Jiří Matoušek*
Generalized Linear Programming

14:00-17:45 ILOG workshop (room MA 141)

18:00 Get-Together Party (co-sponsored by ILOG)
Mathematics Library at TU Berlin
(marked yellow in the map on the back of guide)

Program: IPCO XI Conference

Wednesday, June 8, 2005

08:30–10:30	**Introduction including welcome addresses** *Prof. Dr. Christian Thomsen* (Dean of the Mathematics and Natural Sciences Faculty, TU Berlin) *Prof. Dr. Martin Grötschel* (Speaker of the DFG Research Center MATHEON) *Prof. Dr. Rolf H. Möhring* (President of the MPS) *Prof. Dr. Michael Jünger* (Chair of the Program Committee IPCO XI)
	Matteo Fischetti, Cristiano Saturni: Mixed-Integer Cuts from Cyclic Groups
	Matteo Fischetti, *Andrea Lodi*: Optimizing over the First Chvátal Closure
	Yongpei Guan, *Shabbir Ahmed*, George L. Nemhauser: Sequential Pairing of Mixed Integer Inequalities
10:30–11:00	Coffee Break
11:00–12:30	*Samuel Fiorini*, Nadia Hardy, Bruce Reed, Adrian Vetta: Approximate Min-Max Relations for Odd Cycles in Planar Graphs
	Mohammad R. Salavatipour, Jacques Verstraete: Disjoint Cycles: Integrality Gap, Hardness, and Approximation
	Gyula Pap: A Combinatorial Algorithm to Find a Maximum Even Factor
12:30–14:30	Lunch Break
14:30–16:00	*Fabian Chudak*, Vania Eleuterio: Improved Approximation Schemes for Linear Programming Relaxations of Combinatorial Optimization Problems
	Andreas Bley: On the Approximability of the Minimum Congestion Unsplittable Shortest Path Routing Problem
	Retsef Levi, Joseph Geunes, H. Edwin Romeijn, *David B. Shmoys*: Inventory and Facility Location Models with Market Selection
16:00–16:30	Coffee Break
16:30–18:00	*Anthony Man-Cho So*, Jiawei Zhang, Yinyu Ye: On Approximating Complex Quadratic Optimization Problems via Semidefinite Programming Relaxations
	Nebojsa Gvozdenovic, Monique Laurent: Semidefinite Bounds for the Stability Number of a Graph via Sums of Squares of Polynomials
	Garud Iyengar, *David Phillips*, Cliff Stein: Approximation Algorithms for Semidefinite Packing Problems with Applications to MAXCUT and Graph Coloring

Thursday, June 9, 2005

09:00–10:30	*Jose R. Correa*, Andreas S. Schulz, Nicolas Stier Moses: On the Inefficiency of Equilibria in Congestion Games
	Alexander Grigoriev, Maxim Sviridenko, *Marc Uetz*: Unrelated Parallel Machine Scheduling with Resource Dependent Processing Times
	Jose R. Correa, *Michael R. Wagner*: LP-Based Online Scheduling: From Single to Parallel Machines
10:30–11:00	Coffee Break
11:00–12:30	Bernd Gärtner, Walter D. Morris Jr., *Leo Rüst*: Unique Sink Orientations of Grids
	Tibor Szabó, Ingo Schurr: Jumping Doesn't Help in Abstract Cubes
	Naonori Kakimura, Satoru Iwata: Computing the Inertia from Sign Patterns
12:30–14:30	Lunch Break
14:30–16:30	*Edoardo Amaldi*, Pietro Belotti, Raphael Hauser: Randomized Relaxation Methods for the Maximum Feasible Subsystem Problem
	Mohammad T. Hajiaghayi, Guy Kortsarz, Vahab S. Mirrokni, Zeev Nutov: Power Optimization for Connectivity Problems
	Heiko Röglin, Berthold Vöcking: Smoothed Analysis of Integer Programming
	Friedrich Eisenbrand, Gianpaolo Oriolo, Gautier Stauffer, Paolo Ventura: Circular Ones Matrices and the Stable Set Polytope of Quasi-Line Graphs
17:30	Transfer to Schloss Cecilienhof (Potsdam) Participants will be picked up by busses in front of the math building.
Evening	Conference Dinner at Schloss Cecilienhof (Place of the Potsdam Conference 1945)
	At Schloss Cecilienhof a guided tour is offered. Transfer back is organized by "shared taxis". (Transfers, tour, and dinner are "all inclusive".)

Friday, June 10, 2005

09:00–10:30	*Retsef Levi*, Martin Pal, Robin Roundy, David B. Shmoys: Approximation Algorithms for Stochastic Inventory Control Models
	Kedar Dhamdhere, R. Ravi, *Mohit Singh*: On Two-stage Stochastic Minimum Spanning Trees
	Satoru Iwata, Ryo Shimizu: Combinatorial Analysis of Generic Matrix Pencils
10:30–11:00	Coffee Break
11:00–12:30	*Lap Chi Lau*: Packing Steiner Forests
	Alberto Caprara, Marco Locatelli, Michele Monaci: Bidimensional Packing by Bilinear Programming
	Andreas Brandstädt, Chinh T. Hoang: On Clique Separators, Nearly Chordal Graphs, and the Maximum Weight Stable Set Problem
12:30–14:30	Lunch Break
14:30–16:00	*Harold Gabow*: On the L-infinity Norm of Extreme Points for Crossing Supermodular Directed Network LPs
	Cor Hurkens, Judith Keijsper, Leen Stougie: Virtual Private Network Design: A Proof of the Tree Routing Conjecture on Ring Networks
	Prabhakar Gubbala, Balaji Raghavachari: Approximation Algorithms for Minimum Cardinality Two-Connected Spanning Subgraph Problem
16:00–16:30	Coffee Break
16:30–18:00	*Agustin Bompadre*, James B. Orlin: Using Grammars to Generate Very Large Scale Neighborhoods for the TSP and Other Sequencing Problems
	William Cook, Daniel Espinoza, *Marcos Goycoolea*: A Study of Domino-Parity and k-Parity Constraints for the TSP
	Marcus Oswald, Gerhard Reinelt, Dirk Oliver Theis: Not Every GTSP Facet Induces an STSP Facet

Computer How-To

We provide several possibilities to connect to the internet.

1. Access via Computer Terminals

   Using the "Terminal Account" that you will find in your conference kit, you may log in at any of the computers (running Linux) in room MA 375 (third floor).

2. Connecting Your Laptop via Ethernet/DHCP

   In room MA 305 (third floor) you will find possibilities to connect your laptop to the internet via ethernet and DHCP.

3. Connecting via WLAN

   Almost everywhere in the math building, connecting your laptop to the internet via WLAN is possible.

   Please Note: In order to access the WLAN at TU Berlin, you need to

   - install a certain VPN client software
   - have a "ZRZ account".

   In case you informed us in advance that you intend to use WLAN you should find the corresponding account information in your conference kit. If not, please contact the conference desk in room MA 141–142 (first floor).

If you find any of the rooms closed, please contact Claudia Ewel (room MA 310) or the conference desk.

Public Transport

- How to Get to the Summer School/Conference by Public Transport
  1. By Subway (U-Bahn)
     Take subway line U2 until stop "Ernst-Reuter-Platz". Then follow the signs to "TU Berlin".
     (approx. 5 minutes walk)
  2. By City Railroad (S-Bahn)
     Take any of the following lines: S5, S7, S9, or S75 until stop "Tiergarten". Get out of the station and walk to the West along the big road "Straße des 17. Juni". You can see the "Charlottenburg gate", which you have to pass through and continue until you reach TU Berlin.
     (approx. 10 minutes walk)

  The *math building* is the big red and blue building located at "Straße des 17. Juni". It lies opposite the main building, which has written "TU Berlin" on it (and a citation by Albert Einstein).

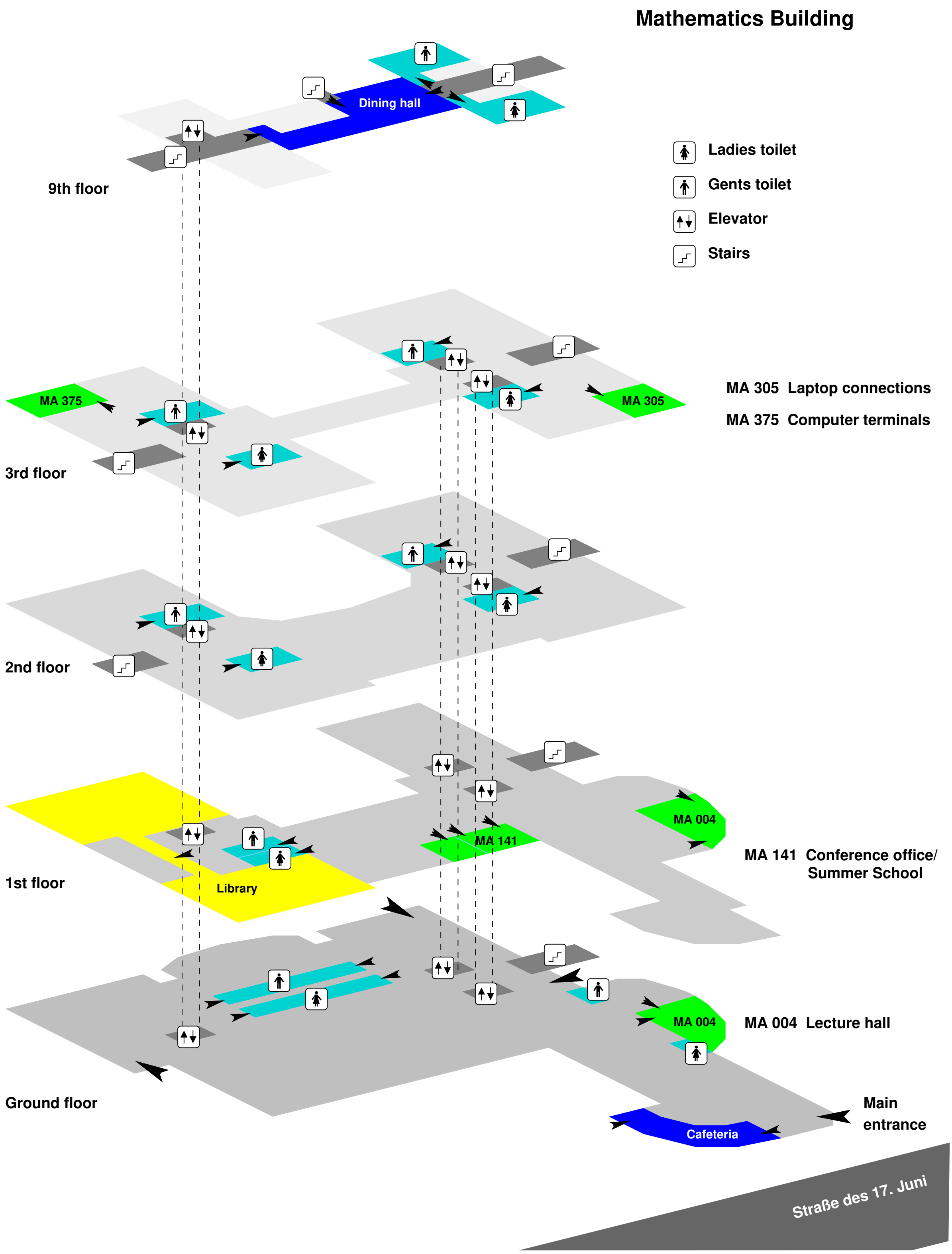
- Tickets and Fares
  A single ticket for the inner city (take "AB") is 2 Euro. You can purchase tickets at vending machines at the stations or in busses. It is *not* possible to buy tickets in subways or trains. Please remember to validate your tickets at the platform (if not obtained inside a bus).

More information can be found in the guide "Berlin A–Z", which you can find in your conference kit.

Lunching and Dining

See the map on the next page for locations.

1. Cafeteria, Mathematics building (€, 1 min, 11:00–17:30)
   Closest place for eating with the opportunity to sit outside
   (if not occupied by students).
2. Dining hall, Mathematics building (9th floor) (€, 2 min, 11:00–16:00)
   Second closest place for eating, can be very crowded around noon.
3. Cafeteria, Electrical Engineering Building (€, 3 min, 11:30–14:30)
   The nearest Currywurst.
4. Cafeteria, Telefunken Tower (€, 8 min, 11:00–14:00)
   Small place for eating at the 20th floor with a nice view over Berlin.
5. Café Campus (€€, 3 min, 11:30–22:00)
   Café behind the mathematics building.
6. TU-Mensa (€, 8 min, 11:15–14:30)
   Cheap food for many students – Mensa card needed!
7. Café Hardenberg, Hardenbergstraße (€€, 10 min, 12:00–24:00)
   One of the most popular cafés for students around.
8. Filmbühne am Steinplatz (€€, 10 min, 12:00–22:00)
   Nice restaurant with cinematic touch.
9. Satyam, Goethestraße (€€, 10 min, 11:00–24:00)
   Tasty Indian vegetarian food at reasonable prices.
10. Schleusenkrug (€€, 15 min, 12:00–23:00)
    Very popular Biergarten in the Tiergarten.
11. Schwarzes Café, Kantstraße (€€, 20 min, around the clock)
    Famous alternative café.
12. Woolloomooloo (€€€, 20 min, 17:00–23:00)
    Decent Australian food – and a nice walk from TU along the Landwehrkanal.
13. Capt'n Schillow (€€€, 10 min, 12:00–23:00)
    Decent Brandenburg food on a Spree ship.
14. Giraffe, Klopstockstraße (€€€, 15 min, 12:00–01:00)
    Breakfast till 14:00.
15. Pasta e Basta, Knesebeckstraße (€€€, 10 min, 12:00–24:00)
    Pasta, as it says.
16. Der alte Schwede, Knesebeckstraße (€€€, 10 min, 12:00–24:00)
    Swedish restaurant.
17. Biergarten am Neuen See (€€, 20 min, 17:00–22:00)
    Another Biergarten, quite large.
18. 12 Apostel, Bleibtreustraße (€€€, 20 min, around the clock)
    One of the most famous Italian restaurants around.


Mathematics Building
Ladies toilet
Gents toilet
Elevator
Stairs
9th floor
Dining hall
3rd floor
MA 375
MA 305
MA 305 Laptop connections
MA 375 Computer terminals
2nd floor
1st floor
Library
MA 141
MA 004
MA 141 Conference office/
Summer School
Ground floor
MA 004 Lecture hall
Cafeteria
Main
entrance
Straße des 17. Juni

Surroundings

DB Railway station "Zoologischer Garten"

U U–Bahn station

S S–Bahn station

BUS Bus station (X9 to Tegel airport)