GICOLAG
Global Optimization – Integrating Convexity, Optimization, Logic Programming, and computational Algebraic Geometry
A. Neumaier, I. Bomze
December 4th to December 8th 2006

**Monday, December 4th**

<table>
<thead>
<tr>
<th>Time</th>
<th>Speaker</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>09:15 – 10:00</td>
<td>Arnold Neumaier</td>
<td>Global Optimization and Constraint Satisfaction</td>
</tr>
<tr>
<td>10:00</td>
<td></td>
<td>Coffee Break</td>
</tr>
<tr>
<td>10:20 – 11:05</td>
<td>Mihaly MARKOT</td>
<td>Interval global optimization methods for a footing design problem in civil engineering</td>
</tr>
<tr>
<td>11:10 – 12:00</td>
<td>Masakazu MURAMATSU</td>
<td>Aspects of SDP Relaxation for Polynomial Optimization</td>
</tr>
<tr>
<td>14:10 – 14:45</td>
<td>Daniela di SERAFINO</td>
<td>On the Development of Interior Point Software for Quadratic Programming</td>
</tr>
<tr>
<td>15:00 – 15:45</td>
<td>Kurt ANSTREICHER</td>
<td>Combining RLT and SDP for nonconvex QCQP</td>
</tr>
<tr>
<td>15:45</td>
<td></td>
<td>Coffee Break</td>
</tr>
<tr>
<td>16:15 – 17:00</td>
<td>Andy MCLENNEAN</td>
<td>Solving Large Systems of Equations: a New Algorithm</td>
</tr>
</tbody>
</table>

**Tuesday, December 5th**

<table>
<thead>
<tr>
<th>Time</th>
<th>Speaker</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>09:15 – 10:00</td>
<td>Luc JAULIN</td>
<td>Interval constraints propagation techniques for the simultaneous localization and mapbuilding of an underwater robot</td>
</tr>
<tr>
<td>10:00</td>
<td></td>
<td>Coffee Break</td>
</tr>
<tr>
<td>10:20 – 11:05</td>
<td>Ioannis EMIRIS</td>
<td>Recent progress on subdivision methods for real solving</td>
</tr>
</tbody>
</table>
11:10 – 12:00  Stefan RATSCHAN  
A Branch-and-Relax Approach for Computing a Basin of Attraction to a Target Region in Non-linear ODEs

14:10 – 14:55  Bernard MOURRAIN  
Subdivision methods for solving polynomial equations

15:00 – 15:45  Jürgen GARLOFF  
Rigorous affine underestimators for smooth functions

14:45  Coffee Break

16:15 – 17:00  Jean-Pierre MERLET  
Interval analysis, optimization and robotics

**Wednesday, December 6th**

09:15 – 10:00  Claire ADJIMAN  
Deterministic global optimization for problems with ODEs

10:00  Coffee Break

10:20 – 11:05  Ferenc DOMES  
Verified Solution of Constraint Satisfaction Problems with GloptLab

13:20 – 14:05  Baker KEARFOTT  
Global Optimization – Philosophy, Assessment, and interval Techniques

14:10 – 14:55  Michael RUEHER  
Toward a rigorous and efficient global optimizer

15:00 – 15:45  Yahia LEBBAH  
Toward a rigorous and efficient global optimizer

14:45  Coffee Break

16:15 – 17:00  John HOOKER  
Discrete Global Optimization with Binary Decision Diagrams

**Thursday, December 7th**

09:15 – 10:00  Lubomir KOLEV  
Some ideas toward global optimization of improved efficiency

10:00  Coffee Break
10:20 – 11:05 Hermann SCHICHL
The Coconut Environment

11:10 – 12:00 Robert FOURER
Expressing “Logical” Constraints and Conveying them to Solvers

13:20 – 14:05 Stefan VIGERSKE
LaGO – Branch and Cut for nonconvex block-separable MINLPs in absence of algebraic formulations

14:10 – 14:55 Elias P. TSIGARIDAS
Univariate real root isolation using continued fractions

15:00 – 15:45 Michael JOSWIG
Computations in Tropical Convexity

Friday, December 8th

09:15 – 10:00 Tibor CSENDES
Global Optimization and Verified Numerical Techniques for the Solution of Mathematical Problems

10:00 Coffee Break

10:20 – 11:05 Siegfried RUMP
INTLAB – details of implementation and demonstration

11:10 – 12:00 Christian JANSSON
VSDP: A software package for Verified Semidefinite Programming

All lectures take place at the Boltzmann lecture hall