

# Workshop

## “Regensburg days on non-archimedean geometry”

September 30 – October 2, 2013

Organized by: Walter Gubler, Klaus Künnemann and Hartwig Mayer

All lectures are held in Room M104

Coffee break: Room M103

### Monday, September 30

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|---------------|----------------------------|--|
| 09:00 - 10:00 | Antoine Ducros (Paris)     | Around skeleta of Berkovich spaces:<br>direct images and integral structures |
| 10:00 - 10:30 | <i>Coffee break</i>        |  |
| 10:30 - 11:30 | Sam Payne (Yale)           | Adic tropicalizations  |
| 11:30 - 13:30 | <i>Lunch time</i>          |  |
| 13:30 - 14:30 | Annette Werner (Frankfurt) | Faithful tropicalization of the Grassmannian of planes                       |
| 14:30 - 15:00 | <i>Coffee break</i>        |  |
| 15:00 - 16:00 | Sebastien Boucksom (Paris) | An analogue of pluripotential theory<br>in non-archimedean geometry          |
| 16:15 - 17:15 | Amaury Thuillier (Lyon)    | Kato conjecture over finite fields,<br>following Jannsen and Berkovich       |

### Tuesday, October 1

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|---------------|--|---|
| 09:00 - 10:00 | Michael Temkin (Jerusalem)             | Metritization of the sheaves of differential forms<br>on Berkovich spaces                             |
| 10:00 - 10:30 | <i>Coffee break</i>                    |   |
| 10:30 - 11:30 | Francesco Baldassarri (Padova)         | Harmonic functions and index theorems<br>in de Rham cohomology for non-archimedean curves             |
| 11:30 - 13:30 | <i>Lunch time</i>                      |   |
| 13:30 - 14:30 | Jérôme Poineau (Strasbourg)            | An explicit finiteness result for the convergence<br>Newton polygon of a p-adic differential equation |
| 14:30 - 15:00 | <i>Coffee break</i>                    |   |
| 15:00 - 16:00 | Andrea Pulita (Montpellier)            | Local and global index theorems for p-adic<br>differential equations over Berkovich curves            |
| 16:15 - 17:15 | Kiran Kedlaya (San Diego)              | Convergence of solutions of differential equations<br>on relative curves                              |
| 19:00         | <i>Conference dinner “Bischofshof”</i> |   |

### Wednesday, October 2

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|---------------|---------------------------|---|
| 09:00 - 10:00 | Joseph Rabinoff (Harvard) | The skeleton of the Jacobian and lifting<br>piecewise-affine functions to rational functions on a curve |
| 10:00 - 10:30 | <i>Coffee break</i>       |   |
| 10:30 - 11:30 | Ilya Tyomkin (Beer Sheva) | Canonical tropicalization of curves and some applications   |
| 11:30 - 13:30 | <i>Lunch time</i>         |   |
| 13:30 - 14:30 | Kazuhiko Yamaki (Kyoto)   | Strict supports of canonical measures   |
| 14:30 - 15:00 | <i>Coffee break</i>       |   |
| 15:00 - 16:00 | Farbod Shokrieh (Cornell) | Faithful Tropicalization of Abelian Varieties   |
| 16:15 - 17:15 | Alejandro Soto (Tübingen) | Combinatorial description of toric varieties<br>over rank one valuation rings                           |