

Swiss Doctoral Program in Mathematics

Summer School “Metric Geometry”

Les Diablerets, August 25-30, 2013.

Second announcement

The aim of this summer school is to provide an introduction to aspects of metric geometry for doctoral students who are not experts in the field but whose research requires familiarity with the topic. In recent years, metric geometry has developed into a very active research field of interest in its own, but it is also used in a lot of other areas: Riemannian geometry, geometric group theory, complex analysis and dynamics, for example. Metric geometry also appears as a basic aspect in the study of metric measure spaces; these are of great importance in various directions of pure and applied mathematics.

The main focus of the summer school is on the following three classical aspects of metric geometry: upper and lower curvature bounds in the sense of Alexandrov, Gromov-hyperbolic spaces, and questions around the Gromov-Hausdorff distance between and convergence of metric spaces. The summer school will feature three main short courses given by S. Alexander (University of Illinois at Urbana-Champaign), V. Schroeder (University of Zürich) and P. Ghanaat (University of Fribourg). These courses will be complemented by exercise sessions and by talks given by Z. Balogh (University of Bern), A. Karlsson (University of Geneva), M. Troyanov (EPFL). The organizers intend to organize a follow-up school focusing on aspects of metric measure spaces.

Main lectures

S. Alexander: Alexandrov geometry (8 hours).

P. Ghanaat: Gromov-Hausdorff distance and applications (4 hours).

V. Schroeder: Gromov hyperbolic spaces (6 hours).

1-hour talks

Z. Balogh: Gromov hyperbolicity and pseudoconvexity.

A. Karlsson: Boundary at infinity.

M. Troyanov: Sobolev spaces on metric-measured spaces.

Prerequisites: Familiarity with definitions of length spaces and geodesic spaces, isometries and quasi-isometries.

Location: Hôtel des Sources, Les Diablerets. <http://www.hotel-les-sources.ch/>

Price: free for doctoral students from the CUSO universities in double room (shared), full pension. It is possible to have a single room for CHF 100 for the week. For other participants: in a double room (shared), CHF 132.00 per person per night; in a single room: CHF 155.00 per person, per night.

Arrival: Sunday, August 25 before dinner. **Departure:** Friday, August 30, in the afternoon.

Registration: per e-mail to the organizers, **before June 15, 2013.**

For more information contact the organizers Bruno Colbois (Bruno.Colbois@unine.ch) and Stefan Wenger (Stefan.Wenger@unifr.ch).