

## Friday

### 10.00. Coming to Voss (by train from Bergen)

#### 11.00. - 11.55. **Alexander Vasiliev**

Title: *Boundary behavior of conformal mapping and angular derivatives*

Abstract: We discuss some general background of boundary behavior of conformal maps from the unit disk and of bounded maps, in particular. Then we present some results about angular derivatives and distortion under such maps.

#### 12.00– 12.30. **Irina Markina**

Title: *Concepts of special relativity*

Abstract: We introduce the necessary definitions and describe some curious peculiarity of the subject.

### 12.30– 14.00. Lunch

#### 14. 00. - 14.45. **Mauricio Godoy**

Title: *Some Classical Polyhedra Problems*

Abstract: In this talk, classical results related with polyhedra in three dimensional constant-curvature spaces are presented. In the first part of the talk, we discuss two major problems in the euclidean case: Cauchy's rigidity theorem and Hilbert's third problem. In the final part, we present some results concerning the problem of volume calculation of polyhedra in the spherical and hyperbolic setting.

#### 15.00.– 15.45. **Erlend Grong, Henning Alsaker, Kai Einar Osaland Frøland**

Title: *What is Norway and why it is so good to be here!*

### 15.45. - 16.15 Coffee break

#### 16.15.- 17. 00. **Anna Korolko**

Title: *Reachable set on the Heisenberg group*

Abstract: The presentation will be about the structure of the Heisenberg group endowed with sub-Lorentzian metric (that is to say with time-orientation). We compute the sub-Lorentzian Hamiltonian and geodesics for the group. Also we find the set of points that can be reached from the origin with timelike geodesics.

#### 17.10.– 17.50. **Kai Einar Osaland Frøland** (if Kai does not come, then somebody can use this time)

Title:

Abstract:

### 19.00.- 20.30. Dinner

## Saturday

#### 09.30.-10.15. **Pavel Gumenyuk**

Title: *Two topics related to the Loewner equation*

Abstract: The Loewner equation was introduced at the beginning of the last century as a tool for solving extremal problems for univalent functions. After the famous Bieberbach conjecture had been proved the interest to extremal problems subsided. Nevertheless, during recent decades the Loewner equation has been showing up in various contexts. The talk is devoted to two topics connected with this equation. The

first topic are matching univalent functions, which have an independent interest, but also appear within Kirillov's identification of univalent functions with diffeomorphisms of the unit circle modulo rotations. The other topic are so-called evolutionary families of holomorphic functions, which can be regarded as a non-autonomous generalization of one-parametric semigroups (fractional iterations).

**10.30. - 11.00. Mauricio Godoy**

Title: *Beauty of Chile*

Abstract: In this talk, we present some general information about Chile, such as its interesting geography, its particular culture and its prosperous economy, which places Chile as one of the most promising South-American countries.

**11.00. - 11.30. Coffee break**

**11.30. - 12.15. Erlend Grong**

Title: *Riemannian geometry vs. symplectic geometry*

Abstract: Comparing the idea of the Riemannian metric with a symplectic form, and observe how symplectic geometry have certain similarities with Riemannian if we require constant curvature.

We also compare the definition of geodesics in both cases, and how they arise from the definition of covariant derivative.

or

Title: *Optimal control systems and quaternions*

Abstract: We define what an optimal control problem is, give some examples and discuss the possibilities of studying such a system on the Lie group of quaternions of length 1.

**12.20. – 12.50. Gumenyuk Pavel, Anna Korolko**

Title: *We come from Russia...*

Abstract:

**12.50– 14.00. Lunch**

14.00 - ... Tour to the mountains. The participants must have suitable boots and rain-clothes (all questions about equipment and expected whether ask Henning: [henning.alsaker@student.uib.no](mailto:henning.alsaker@student.uib.no))

**19.00.- 20.30. Dinner**

**Sunday**

**10.00.- 10.45. Henning Alsaker**

Title: *Me and my interests in mathematics*

Abstract:

**10.50. - 11.20 Irina Markina, Alexander Vasiliev**

Title: *Where did we come from? Mathematical genealogy project.*

Abstract: We shall tell you about our scientific (and not only) roots. We globally belong to some scientific schools of analysis and geometry, and we shall present some historic and scientific origin of these schools.

**11.20. - 11.50. Coffee Break**

**11.50.- 12.35. Alexander Vasiliev**

Title: *What is the future of the Analysis Group*

Abstract: We discuss scientific and infrastructural positioning of our group in a general mathematical and organizational framework. Perspectives, present and future projects will be outlined.

**12.35– 14.00. Lunch**

**15.50 Train Voss - Bergen**