



Dynamical Aspects of Pseudo-Riemannian Geometry

by Ana Cristina Ferreira* and Helena Reis**

The conference Dynamical Aspects of Pseudo-Riemannian Geometry was held at the School of Sciences of the University of Minho from 2 through 6 March 2020. The event has received financial support from the following institutions: **Centro de Matemática da Universidade do Minho (CMAT)**, **Centro de Matemática da Universidade do Porto (CMUP)**, **Centro Internacional de Matemática (CIM)**, **Fundação Luso-Americana para o Desenvolvimento (FLAD)**, **Fundação para a Ciência e Tecnologia (FCT)**, **Institut de Mathématiques de Toulouse (IMT)** and **Université of Luxembourg (UNI.LU)**.

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The event consisted of an international conference revolving around dynamical systems naturally arising in important problems belonging to the field of pseudo-Riemannian geometry and, in particular, of Lorentzian geometry. In this way, the conference has attracted interest from experts in dynamical systems and geometry as well as from certain physicists.

The conference has brought together more than 40 experts in the mentioned areas coming from various countries and including several field leaders for a

program consisting of 3 advanced mini-courses, 12 invited talks and a poster session. The program also included some exercise sessions, related to the material covered in the mini-courses, and an open problem session. For further information check the link <https://cmup.fc.up.pt/Pseudo-Riemannian-Geometry/>

Thanks to the generous support provided by our sponsors, several graduate students and post-docs were able to attend the conference and the mini-courses.

Mini-Courses

François Béguin (Univ. Paris 13)

Geometry and dynamics of spatially homogeneous spacetimes

João Pimentel Nunes (IST)

Quantization and Kahler Geometry

Abdelghani Zeghib (CNRS - ENS Lyon)

Configuration spaces: Geometry, Topology, Dynamics, Physics and Technology

Invited Speakers

Ilka Agricola (Univ. Marburg)

Einstein manifolds with skew torsion

Thierry Barbot (Univ. Avignon)

Conformally flat Lorentzian spacetimes and Anosov representations

Alexey Bolsinov (Univ. Loughborough)

Integrable dynamical systems on Lie algebras and their applications in pseudo-Riemannian geometry

Marie-Amelie Lawn (Imperial College London)

Translating solitons in Lorentzian manifolds

Daniel Monclair (Univ. Paris-Sud)

Gromov-Thurston spacetimes

Vicent Pecastaing (Univ. Luxembourg)

Pseudo-Riemannian conformal dynamics of higher-rank lattices

Miguel Sanchez (Univ. Granada)

Lorentzian vs Riemannian completeness and Ehlers-Kundt conjecture

Andrea Seppi (Univ. Grenoble)

Examples of four-dimensional geometric transition

Rym Smai (Univ. Avignon)

Anosov representations and conformally flat spacetimes

Peter Smillie (Caltech PMA)

Hyperbolic planes in Minkowski 3-space

Andrea Tamburelli (Univ. Rice)

Polynomial maximal surfaces in pseudo-hyperbolic spaces

Jérémy Toulisse (Univ. Nice)

Maximal surfaces in the pseudo-hyperbolic space

Organizers

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