Workshop
« Geometric Analysis on sub-Riemannian manifolds »
Paris, September 29th – October 3rd, 2014
Amphithéâtre Hermite
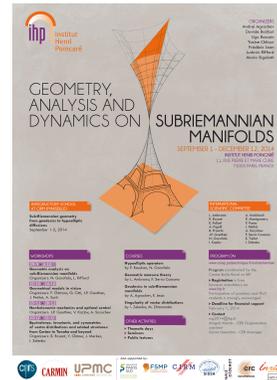
ORGANIZERS
Nicola Garofalo (University of Padova, Italy)
Ludovic Rifford (University Nice Sophia Antipolis, France)

SPEAKERS

Andrei Agrachev (SISSA, Trieste, Italy)
Zoltan Balogh (Univ. of Bern, Switzerland)
Davide Barilari (Univ. Paris Diderot - Paris 7, France)
Fabrice Baudoin (Purdue Univ., USA)
Ugo Boscain (Ecole Polytechnique, France)
Luca Capogna (Worcester Polytechnic Ins., USA)
Giovanna Citti (Univ. di Bologna, Italy)
Nicolas Juillet (Univ. de Strasbourg, France)
Rémi Léandre (Univ. de Franche-Comté, France)
Enrico Le Donne (Univ. of Jyväskylä, Finland)

Paul Lee (Chinese Univ. of Hong Kong)
Valentino Magnani (Univ. di Pisa, Italy)
Andrea Malchiodi (Univ. of Warwick, UK)
Irina Markina (Univ. of Bergen, Norway)
Richard Montgomery (UC Santa Cruz, USA)
Roberto Monti (Univ. di Padova, Italy)
Robert Neel (Lehigh Univ., USA)
Sergio Polidoro (Univ. of Modena e Reggio Emilia, Italy)
Séverine Rigot (Univ. Nice Sophia Antipolis, France)

Francesco Serra Cassano (Univ. Di Trento, Italy)
Karl-Theodor Sturm (Univ. of Bonn, Germany)
Jeremy Tyson (Univ. of Illinois at Urbana-Champaign, USA)
Alexander Vasiliev (Univ.of Bergen, Norway)
Dimiter Vassilev (Univ. of New Mexico, USA)
Sergei Vodopyanov (Novisibirsk State Univ., Russia)
Paul Yang (Princeton Univ., USA)

PROGRAM

Monday September 29th

09.10 am – 10.30 am   **Registration and Welcome coffee – IHP Ground floor**
10.30 am – 11.20 am   **Richard Montgomery**   Searching for Area rules in nonAbelian gait generation.
11.20 am – 12.10 pm   **Zoltan Balogh**   How frequently can Sobolev maps distort the Hausdorff dimension?

12.15 pm – 02.10 pm   Lunch break

02.10 pm – 03.00 pm   **Fabrice Baudoin**   Transverse Weitzenbock formulas and their applications.
03.00 pm – 03.50 pm   **Giovanna Citti**   Schauder estimates at non characteristic boundary points in Carnot groups.
03.50 pm – 04.20 pm   Coffee break   IHP Ground floor
04.20 pm – 05.10 pm   **Sergei Vodopyanov**   On geometry of Carnot-Carathéodory spaces with continuously differentiable vector fields and applications.

Tuesday September 30th

09.10 am – 10.00 am   **Karl-Theodor Sturm**   Metric measure spaces with synthetic Ricci bounds -- state of the art and recent results.
10.00 am – 10.30 am   Coffee break   IHP Ground floor
10.30 am – 11.20 am   **Rémi Léandre**   Wentzell-Freidlin estimates for a non-Markovian generator.
11.20 am – 12.10 pm   **Enrico Le Donne**   Regularity of isometries of subRiemannian manifolds.

12.15 pm – 02.10 pm   Lunch break

02.10 pm – 03.00 pm   **Irina Markina**   Pseudo H-type Lie algebras, classification and existence of an integer structure.
03.00 pm – 03.50 pm   **Sergio Polidoro**   Harnack Chains and Control Problems in Hypoelliptic Partial Differential Equations.
03.50 pm – 04.20 pm   Coffee break   IHP Ground floor
04.20 pm – 05.10 pm   **Alexander Vasiliev**   Evolution of smooth shapes: sub-Riemannian structures and integrability.

Wednesday October 1st

09.10 am – 10.00 am   **Ugo Boscain**   The Laplace-Beltrami operator on conic and anti-conic type surfaces.
10.00 am – 10.30 am   Coffee break   IHP Ground floor
10.30 am – 11.20 am   **Dimiter Vassiliev**   Eigenvalue bounds in CR and Quaternionic Contact geometries under positive "Ricci" bound.
11.20 am – 12.10 pm   **Jeremy Tyson**   Marstrand's density theorem in the Heisenberg group.

FREE AFTERNOON

Thursday October 2nd

09.10 am – 10.00 am	**Séverine Rigot**	Besicovitch Covering Property for homogeneous distances on the Heisenberg groups.
10.00 am – 10.30 am	Coffee break	IHP Ground floor
10.30 am – 11.20 am	**Roberto Monti**	Recent results on sub-Riemannian geodesics.
11.20 am – 12.10 pm	**Davide Barilari**	Sub-Riemannian curvature: a variational approach.
12.15 pm – 02.10 pm	Lunch break	
02.10 pm – 03.00 pm	**Andrea Malchiodi**	A positive mass theorem in CR geometry.
03.00 pm – 03.50 pm	**Nicolas Juillet**	Curvature and diffusion in the Heisenberg group.
03.50 pm – 04.20 pm	Coffee break	IHP Ground floor
04.20 pm – 05.10 pm	**Francesco Serra Cassano**	Intrinsic C1 and Lipschitz graphs in the Heisenberg group and continuous solutions of balance laws.

06.30 pm – 22.00 pm   **Cocktail**   Pierre and Marie Curie University
Zamansky Tower – 24th floor
4 place Jussieu – 75005 Paris
Subway line 7 – Station : Jussieu
Note : bring your ID card or Passport

Friday October 3rd

09.10 am – 10.00 am	**Andrei Agrachev**	"Asymptotic topology" of the endpoint maps.
10.00 am – 10.30 am	Coffee break	IHP Ground floor
10.30 am – 11.20 am	**Robert Neel**	Heat kernel asymptotics at the cut locus.
11.20 am – 12.10 pm	**Paul Lee**	Ricci curvature type lower bounds for sub-Riemannian structures on Sasakian manifolds.
12.15 pm – 02.10 pm	Lunch break	
02.10 pm – 03.00 pm	**Valentino Magnani**	Surface measure, shape of the unit ball and sub-Riemannian Geometry.
03.00 pm – 03.50 pm	**Luca Capogna**	Conformality and Q-harmonicity in sub-Riemannian manifolds.
03.50 pm – 04.20 pm	Coffee break	IHP Ground floor
04.20 pm – 05.10 pm	**Paul Yang**	Umbilicity of hypersurfaces in Heisenberg.