ORAL SESSION 1 (Chairman: Xavier Pennec): Geometric Statistics on manifolds and Lie groups
- Xavier Pennec: Bi-invariant means on Lie groups with Cartan-Schouten connections
- Marco Lorenzi: Parallel Transport with Pole Ladder: Application to Deformations of time Series of Images
- Stefan Sommer: Horizontal Dimensionality Reduction and Iterated Frame Bundle Development
- Sheng YI: A Subspace Learning of Dynamics on a Shape Manifold: A generative modeling approach

ORAL SESSION 2 (Alain Trouvé): Deformations in Shape Spaces
- James Fishbaugh: Geodesic image regression with a sparse parameterization of diffeomorphisms
- Claire Cury: Template Estimation for Large Database: a Diffeomorphic Iterative Centroid Method Using Currents
- Olivier Ruatta: On the geometry and the deformation of shape represented by a piecewise continuous Bézier curve with application to shape optimization
- Christof Seiler: Random Spatial Structure in Deformations and Bayesian Nonparameterics

ORAL SESSION 3 (Chairman: Michel Berthier): Differential Geometry in Signal Processing
- Michel Berthier: A Riemannian Fourier Transform via Spin Representations
- Aurélien Schutz: K-Centroids-Based Supervised Classification of Texture Images using the SIRV modeling
- Jia Du: Bayesian Atlas Estimation from High Angular Resolution Diffusion Imaging (HARDI)
- Christopher TJ Dodson: Dimensionality reduction for classification of stochastic fibre radiographs

ORAL SESSION 4 (chairman: J.F. Marcotorchino): Relational Metric
- Jean François Marcotorchino: Optimal Transport and Minimal Trade Problem, Impacts on Relational Metrics and Applications to Large Graphs and Networks Modularity
- Patricia Conde Céspedes: Comparing different modularization criteria using relational metric
- Julien Ah-Pine: A general framework for comparing heterogeneous binary relations
- Klavdija Kutnar: On Prime-valent Symmetric Bicirculants and Cayley Snarks

ORAL SESSION 5 (Chairman: Michel Deza & M. Petitjean): Discrete Metric Spaces
- Pavel Chebotarev: Studying new classes of graph metrics
- Jin Akiyama: Tessellabilities, Reversibilities, and Decomposabilities of Polytopes
- Carlile Lavor: Counting the number of solutions of KDMDGP instances
- Antonio Mucherino: On the identification of discretization orders for distance geometry with intervals

ORAL SESSION 6 (Chairman: Frank Nielsen): Computational Information Geometry
- Frank Nielsen: Hypothesis testing, information divergence and computational geometry
Christophe Saint-Jean: A new implementation of k-MLE for mixture modelling of Wishart distributions
Mohamed Belkhelfa: Variational Problem in Euclidean Space With Density
Jan Naudts: The exponential family in abstract information theory

ORAL SESSION 7 (Chairman: Michel Boyom): Hessian Information Geometry I

- Hiroshi Matsuzoe: Hessian structures on deformed exponential families
- Robert Wolak: Foliations on Affinely Flat Manifolds. Information Geometry
- Young Jin Suh: Hypersurfaces with Isometric Reeb Flow in Hermitian Symmetric Spaces of rank 2
- Hiroshi Nagaoka: Complexification of information geometry in view of quantum estimation theory
- Mitsuhiro Itoh: Fisher information geometry of the barycenter of probability measures

ORAL SESSION 8 (Chairman: Frank Critchley): Computational Aspects of Information Geometry in Statistics

- Frank Critchley: Computational information geometry in statistics: foundations.
- Paul Marriott: Computational information geometry in statistics: mixture modelling
- Michael Betancourt: A General Metric for Riemannian Manifold Hamiltonian Monte Carlo
- John Kent: Visualizing projective shape space

ORAL SESSION 9 (Chairman: Silvere Bonnabel): Optimization on Matrix Manifolds

- Nicolas Boumal: Interpolation and regression of rotation matrices
- P.-A. Absil: An extrinsic look at the Riemannian Hessian
- Roman Belavkin: Law of Cosines and Shannon-Pythagorean Theorem for Quantum Information
- Axel Barrau: Some remarks on the intrinsic Cramer-Rao bound

ORAL SESSION 10 (Chairman: Gabriel Peyré, Bertrand Maury): Optimal Transport Theory

- Quentin Mérigot: A comparison of two dual methods for discrete optimal transport
- Ofir Pele: The Tangent Earth Mover’s Distance
- Jérôme Bertrand: A geometric study of Wasserstein spaces: an addendum on the boundary
- Luca Calatroni: A primal-dual approach for a total variation Wasserstein flow

ORAL SESSION 11 (Chairman: Marc Arnaudon): Probability on Manifolds

- Bijan Afsari: Group Action Induced Distances on Spaces of High-Dimensional Linear Stochastic Processes
- Thomas Hotz: Extrinsic vs Intrinsic Means on the Circle
- Ronen Talmon: Nonlinear Modeling and Processing Using Empirical Intrinsic Geometry with Application to Biomedical Imaging
- Ola Ahmad: Integral Geometry of Linearly Combined Gaussian and Student-t, and Skew Student’s t Random Fields

ORAL SESSION 12 (Chairman: Michel Broniatowski): Divergence Geometry & Ancillarity
• Alexis Decurninge: Estimation and tests under L-moment condition models
• Michel Broniatowski: Maximum likelihood, divergences and the weighted bootstrap
• Wolfgang Stummer: Some Decision Procedures Based on Geometries of Scaled Bregman Distances
• Drantisek Matus: Generalized minimizers of convex integral functionals, Bregman distance, Pythagorean identities
• Jean-François Bercher: Some results on a chi-divergence, an extended Fisher information and a generalized Cramér-Rao inequality

ORAL SESSION 13 (Chairman: Roger Balian): Entropic Geometry

• Remi LEANDRE: The Stochastic Flow Theorem for an Operator of Order Four
• Philippe Jacquet: Geometry and Shannon Capacity
• Roger Balian: A metric for quantum states issued from von Neumann’s entropy
• Fabian Reffel: Continuity of f-projections on discrete spaces

ORAL SESSION 14 (Chairman: Jesus Angulo): Tensor-Valued Mathematical Morphology

• Jasper van de Gronde: Frames for tensor field morphology
• Jesus Angulo: Complete lattice structure of Poincaré upper-half plane and mathematical morphology for hyperbolic-valued images
• Santiago Velasco-Forero: Supervised morphology for structure tensor-valued images based on symmetric divergence kernels
• Melek Charfi: Using the Bhattacharyya mean for the filtering and clustering of positive-definite matrices

ORAL SESSION 15 (Chairman: Michael Aupetit, Frédéric Chazal): Machine/Manifold/Topology Learning

• Bertrand Michel: Deconvolution for the Wasserstein metric and geometric inference
• Fabian Lim: On directional-search procedures for orbifolds: connections with the manifold framework
• Nicolas Duchateau: Adaptation of multiscale function extension to inexact matching. Application to the mapping of individuals to a learnt manifold.
• Frédéric Chazal: Interleaved Filtrations: Theory and Applications in Point Cloud Data Analysis

ORAL SESSION 16 (Chairman: Frédéric Barbaresco): Hessian Information Geometry II

• Atsumi Ohara: Geometry on Positive Definite Matrices Induced from V-potential Function
• Frederic Barbaresco: Information Geometry and Koszul Entropy
• Jun Zhang: Symplectic and Kähler Structures on Statistical Manifolds Induced from Divergence Functions
• Julien Keller: Geometric Quantization of complex Monge-Ampère operator for certain diffusion flows

ORAL SESSION 17 (Chairman: Arshia Cont): Geometry of Audio Processing

• Arnaud Dessein: Online Change Detection in Exponential Families with Unknown Parameters
• Joel Bensoam: Differential Geometry applied to Acoustics: Non Linear Propagation in Reissner Beams
Samer Abdallah: PREDICTIVE INFORMATION IN GAUSSIAN PROCESSES WITH APPLICATION TO MUSIC ANALYSIS
Shlomo Dubnov: Characterizing time series variability and predictability from information geometry dynamics

ORAL SESSION 18 (chairman: Ali M. Djafari): Geometry of Inverse Problems

- Ali Djafari: Variational Bayesian Methods for Inverse Problems
- Hichem Snoussi: Learning General Gaussian Kernel Hyperparameters for SVR using Optimization on Symmetric Positive-Definite Matrices Manifold
- John Armstrong: Stochastic filtering by projection: the example of the quadratic sensor
- Gregory Chirikjian: A Probabilistic Solution to the AX=XB Problem: Sensor Calibration Without Correspondence
- Simone Fiori: Random Clouds on Matrix Lie Groups

ORAL SESSION 19 (Chairman: Giovanni Pistone): Algebraic/Infinite Dimensional/Banach Information Manifolds

- Kei Kobayashi: Asymptotically Efficient Estimators for Algebraic Statistical Manifolds
- Hông Vân Lê: Invariant geometric structures on statistical models
- Nigel Newton: Infinite-Dimensional Manifolds of Finite-Entropy Probability Measures
- Rui Vigelis: The Δ2-condition and ϕ-families of probability distributions
- Gabriel Ignacio Loaiza Ossa: A Riemannian geometry in the q-exponential Banach manifold induced by q-divergences

ORAL SESSION 20 (Chairman: Hichem Snoussi): Information Geometry Manifolds

- Keiko Uohashi: Harmonic maps relative to alpha-connections on Hessian domains
- Nicolas Courty: A kernel view on manifold sub-sampling based on Karcher variance optimization
- Guido Montufar: Maximal Information Divergence from Statistical Models defined by Neural Networks
- Djamel Abdelkader Zighed: Neighborhood Random Classification

ORAL SESSION 21 (Chairman: Olivier Schwander): Algorithms on Manifolds

- Takashi Tsuchiya: Information Geometry and Interior-Point Algorithms
- Ben Jeuris: Geometric mean algorithms based on harmonic and arithmetic iterations
- Diego H. Diaz Martinez: Multiscale Covariance Fields, Local Scales, and Shape Transforms
- Miklós Pálfia: Deterministic walks and quasi-subgradient methods for the Karcher mean on NPC spaces

POSTER SESSION (Chairman: Frédéric Barbaresco)

- Laurent Gajny: Fast polynomial spline approximation for large scattered data sets via L1 minimization
- Patrick Girard: Biquaternion Grassmann-Hamilton-Clifford Algebra Differential Geometry
- Haiyan Fan: Targets detection of non-stationary radar signal using Riemannian geometry
- Thomas Boulay: High-Dimensional range profile geometrical visualization and performance estimation of classification of radar targets via mixture model
- Nicolas Loménie: Visual Point Set Processing with Lattice Structures: Application to
parsimonious representations of digital histopathology images
- Hamid Krim: Activity Video Analysis via Operator-based Local Embedding
- Aqsa Shabbir: Multivariate texture discrimination based on geodesics to class centroids on a generalized Gaussian manifold
- Luigi Malagò: Robust Estimation of Natural Gradient in Optimization by Regularized Linear Regression
- Thomas Bouetou: To the Homogeneous symplectic Manifold toward the Geometry of information

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