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 DiffeomorphicIterative 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 ordersfor 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 instatistics: 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
Martin Kleinsteuber: A Geometric Framework for Non-unitary Joint Diagonalization of Complex Symmetric 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
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 dimensionnal/Banach Information Manifolds

- Kei Kobayashi: Asymptotically Efficient Estimators for Algebraic Statistical Manifolds
- Hồng 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 Martínez: 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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