LIST OF PAPERS

STATISTICAL & ROBUST GSP (L1)

- Robust Graph Filter Identification and Graph Denoising from Signal Observations
- Samuel Rey (King Juan Carlos University); Victor M Tenorio (King Juan Carlos University); Antonio G Marques (King Juan Carlos University
- Graph Classification Gaussian Processes via Spectral Features
   - Felix Opolka (University of Cambridge); Yin-Cong Zhi (University of Oxford); Pietro Lió (University of Cambridge); Xiaowen Dong (University of Oxford)
- Product Graph Gaussian Processes for Multi-domain Data Imputation and Active Learning
   - Sai Kiran Kadambari (Indian Institute of Science); Sundeep Prabhakar Chepuri (Indian Institute of Science)

HIGH-ORDER GSP (L2)

- Multiscale Hodge Scattering Networks on Simplicial Complexes
   - Naoki Saito (University of California, Davis); Stefan Schonsheck (University of California, Davis); Eugene Shvarts (University of California, Davis)
- Simplicial Signal Sampling and Recovery based on Neighbourhood Aggregation
   - Thummaluru Siddartha Reddy (Indian Institute of Science); Sundeep Prabhakar Chepuri (Indian Institute of Science)
- Hypergraph Neural Networks Via Tensor Representations
   - Fuli Wang (University of Delaware); Karelia D Pena (University of Delaware); Wei Qian (University of Delaware); Gonzalo Arce (University of Delaware)

GRAPH NEURAL NETWORKS (L3)

- A Data-Driven Graph Framework for Geometric Understanding of Deep Learning
   - Sarath Shekkizhar (University of Southern California); Antonio Ortega (University of Southern California)
- Tangent Bundle Filters and Neural Networks: from Manifolds to Cellular Sheaves and Back
   - Claudio Battiloro (Sapienza University of Rome); Zhiyang Wang (University of Pennsylvania); Hans Riess (Duke University); Paolo Di Lorenzo (Sapienza University of Rome); Alejandro Ribeiro (University of Pennsylvania)
- Convergence of Message Passing Graph Neural Networks with generic aggregation on random graphs
   - Matthieu Cordonnier (GIPSA-lab); Nicolas Tremblay (GIPSA lab); Nicolas Keriven (CNRS, GIPSA-lab); Samuel Vaiter (CNRS, laboratoire J.A Dieudonné)
- Learning by Transference: Training Graph Neural Networks on Growing Graphs
   - Juan Cervino (University of Pennsylvania); Luana Ruiz (University of Pennsylvania); Alejandro Ribeiro (University of Pennsylvania)
- Studying the Effect of GNN Spatial Convolutions On Embedding Geometry
   - Claire Donnat (University of Chicago); So Won Jeong (University of Chicago)

MACHINE LEARNING ON GRAPHS (L4)

- MiDi: Mixed Graph and 3D Denoising Diffusion for Molecule Generation
   - Clément Vignac (EPFL); Nagham Osman (University College London); Laura Toni (University College London); Pascal Frossard (EPFL)

- GraphMAD: Graph Mixup for Data Augmentation using Data-Driven Convex Clustering
  - Madeline Navarro (Rice University); Santiago Segarra (Rice University)
- Contrastive Learning using Random Walk Laplacian Matrix
  - Ilyass Moummad (IMT Atlantique); Bastien Pasdeloup (IMT Atlantique, Lab-STICC); Nicolas Farrugia (IMT Atlantique)

GSP APPLICATIONS (L5)

- Learning Directed and Hyperbolic Gene Embeddings
  - Aarthi Venkat (Yale University); Ferran Cardoso Rodriguez (University College London Cancer Institute); Joyce Chew (University of California, Los Angeles); Michael Perlmutter (University of California, Los Angeles); Smita Krishnaswamy (Yale University)
- Graph Signal Diffusion Framework to Quantify Structural Range of Functional Interactions Reveals a Meaningful Cortical Gradient
  - Hamid Behjat (Ecole Polytechnique Fédérale de Lausanne); Dimitri Van De Ville (Ecole Polytechnique Fédérale de Lausanne (EPFL) and University of Geneva)
- A Novel Graph Diffusion Framework for Estimating Neural Communication
  - Felix Schwock (University of Washington); Julien Bloch (University of Washington); Jasmine Zhou (University of Washington); Karam Khateeb (University of Washington); Shima Abadi (University of Washington); Les Atlas (University of Washington); Azadeh Yazdan-Shahmorad (University of Washington)

GRAPH FILTERS (L6)

- Recursive Median Filters for Time-Varying Graph Signal Denoising
  - David Tay (Deakin University)
- Decentralized Graph Based Filter Design Using Normalized Adjacency Matrix
  - Yufan Fan (Technische Universität Darmstadt); Marius Pesavento (Technische Universität Darmstadt)
- Detecting Low Pass Graph Signals via Spectral Pattern: Sampling Complexity and Applications
  - Chenyue Zhang (The Chinese University of Hong Kong); Yiran HE (The Chinese University of Hong Kong); Hoi-To Wai (Chinese University of Hong Kong)
- A General Graph Convolution Theorem: Application to Dual Graph Inference
  - Geert Leus (TU Delft); Alberto Natali (Delft University of Technology)
- Optimal Graph Filters for Clustering Attributed Graphs (invited)
  - Meiby Ortiz-Bouza (Michigan State University); Selin Aviyente (Michigan State University)

GRAPH LEARNING (L7)

- Learning Hypergraphs From Signals With Dual Smoothness Prior
  - Bohan Tang (University of Oxford); Siheng Chen (Shanghai Jiao Tong University, Shanghai AI Laboratory); Xiaowen Dong (Oxford)
- Online Inference for Mixture Model of Streaming Graph Signals with Sparse Excitation
  - Yiran HE (The Chinese University of Hong Kong); Hoi-To Wai (Chinese University of Hong Kong)
- Graph Deconvolution Network
  - Max Wasserman (University of Rochester); Saurabh Sihag (University of Pennsylvania); Gonzalo Mateos (University of Rochester); Alejandro Ribeiro (University of Pennsylvania)

SAMPLING ON GRAPHS (L8)

- Eigen-Decomposition-Free Directed Graph Sampling via Gershgorin Disc Alignment
  - Yuejiang Li (Tsinghua University); H. Vicky Zhao (Tsinghua University); Gene Cheung (York University)

- Graph Signal Processing: Dualizing GSP Sampling in the Vertex and Spectral Domains
  - John Shi (Carnegie Mellon University); José M. F. Moura (Carnegie Mellon University)
- On the Impact of Sample Size in Reconstructing Graph Signals
  - Baskaran Sripathmanathan (University of Oxford); Xiaowen Dong (Oxford); Michael Bronstein (Imperial College / Twitter)

EULER POSTER SESSION P1

- Graph Convolutional Neural Networks with Graph Wavelet Transform in Spatial and Spectral Domains
  - Jia He (Illinois Institute of Technology); Maggie Cheng (Illinois Institute of Technology)
- Dealing with Uncertainties in Signals and Graphs
  - Feng Ji (Nanyang Technological University); Xingchao Jian (Nanyang Technological University); Wee Peng Tay (Nanyang Technological University)
- Exploiting the Structure of Two Graphs with Graph Neural Networks
  - Víctor M Tenorio (King Juan Carlos University)*; Samuel Rey (King Juan Carlos University); Antonio G. Marques (King Juan Carlos University)
- Angular Synchronization on Graphs with Monte-Carlo
  - Hugo Jaquard (GIPSA-lab); Pierre-Olivier Amblard ("CNRS, Grenoble"); Simon Barthelmé (CNRS); Nicolas Tremblay (CNRS)
- Bayesian Regression and Reconstruction for Tensor-Valued Multiway Graph Signals
  - Edward Antonian (Heriot-Watt University); Gareth Peters (University of California, Santa Barbara)
- Improved Detection of Epileptic Seizure Using Graph Signal Processing
  - Hemant Kumar Meena (MNIT Jaipur); Ramnivas Sharma (MNIT Jaipur)
- Unrolled Graph Learning for Multi-agent Collaboration
  - Enpei Zhang (Shanghai Jiaotong University); Shuo Tang (Shanghai Jiaotong University); Xiaowen Dong (University of Oxford); Siheng Chen (Shanghai Jiao Tong University, Shanghai AI Laboratory); Yan-Feng Wang (Cooperative medianet innovation center of Shanghai Jiao Tong University)
- What can we compute with Kirchhoff forests?
  - Nicolas Tremblay (CNRS); Yusuf Yigit Pilavci (Univ Grenoble Alpes, Grenoble-INP); Simon Barthelmé (CNRS); Pierre-Olivier Amblard (CNRS)
- Accelerated Massive MIMO Detector based on Annealed Underdamped Langevin Dynamics
  - Nicolas M Zilberstein (Rice University); Rahman Doost-Mohammady (Rice University); Chris Dick (Nvidia); Ashutosh Sabharwal (Rice University); Santiago Segarra (Rice University)
- Dominant Eigenvalue-Eigenvector Pair Estimation via Graph Infection
  - Kaiyuan Yang (University of Zurich); Li Xia (National University of Singapore); Y.C. Tay (National University of Singapore)
- Averaging of Graphs in the Bures-Wasserstein Manifold
  - Isabel Haasler (EPFL); Pascal Frossard (EPFL)
- Signal Processing on Large Networks with Group Symmetries
  - Jeannette Janssen (Dalhousie University); Kathryn Beck (University of Delaware); Nauzer Kalyaniwalla (Dalhousie University); Mahya Ghandehari (University of Delaware)
- Metric Learning In Interpretable Graph-based Classifier to Predict Retinal Ganglion Cell Responses
  - Yasaman Parhizkar (York University); Gene Cheung (York University); Andrew Eckford (York University); Benjamin Hoshal (U. Chicago); Stephanie Palmer (U. Chicago)
- Graph Neural Networks for Dimensionality Reduction and Data Visualization
  - So Won Jeong (University of Chicago); Claire Donnat (University of Chicago)

PETERSEN POSTER SESSION P2

- Learning on the Hidden Clique: a Comparison of Graph Neural Networks
  - Amaury Triboulin (INRIA); Marc Lelarge (INRIA); Kevin Scaman (INRIA)
- Interpretable Temporal-Spatial Graph Attention Network for Multi-Site PV Power Forecasting
  - Chinthaka Dinesh (Simon Fraser University); Junfei Wang (York University); Tam Thuc V.H Do (York University); Gene Cheung (York University); Pirathayini Srikantha (York University)
- Heat and Wave Equation Solutions as Graph Descriptors
  - Oluwadamilola Fasina (Yale University); Dhananjay Bhaskar (Yale University); Maximilian Nickel (Meta); Smita Krishnaswamy (Yale University)
- Graph Neural Networks for Urban Drainage Systems Metamodeling
  - Alexander Garzón (TU Delft); Zoran Kapelan (TU Delft); Jeroen Langeveld (TU Delft); Riccardo Taormina (TU Delft)
- Clustering with Simplicial Complexes
  - Thummaluru Siddartha Reddy (Indian Institute of Science); Sundeep Prabhakar Chepuri (Indian Institute of Science); Pierre Borgnat (CNRS, ENS Lyon)
- Graph-Time Convolutional Neural Networks: Architecture and Theoretical Analysis
  - Mohammad Sabbaqi (Delft University of Technology); Elvin Isufi (Tu Delft)
- Interpretable Temporal-Spatial Graph Attention Network for Multi-Site PV Power Forecasting
  - Jelena Simeunović (CSEM and EPFL); Baptiste Schubnel (Centre Suisse d'Electronique et de Microtechnique); Pierre-Jean Alet (Academic Researcher); Rafael Carrillo (Centre Suisse d'Electronique et de Microtechnique); Pascal Frossard (EPFL)
- Capturing Graphs with Hypo-Elliptic Diffusions
  - Darrick Lee (University of Oxford); Csaba Toth (University of Oxford); Harald Oberhauser (University of Oxford); Celia Hacker (MPI for Mathematics in the Sciences)
- Graph Local-Smooth Dictionary Learning
  - Quentin Laborde (ENS Paris Saclay); Antoine Mazarguil (ENS Paris Saclay); Laurent Oudre (ENS Paris-Saclay)
- The Game p-Laplacian Evolution Equation on Graphs
  - Yassine Belkheiri (GREYC)
- Convolutional Learning on Multigraphs
  - Alejandro Parada-Mayorga (University of Pennsylvania); Landon G Butler (University of California, Berkeley); Alejandro Ribeiro (University of Pennsylvania)
- Toward Max- (Min-) Plus Graph Signal Processing
  - Hans Riess (Duke University); Michael Zavlanos (Duke University)
- Dynamic Graph Model for GCN Towards Optimal Crop Yield Predictions
  - Saghar Bagheri (York University); Gene Cheung (York University); Timothy Eadie (GrowersEdge)

ERDŐS POSTER SESSION P3

- Two Channel Filter Banks on Arbitrary Graphs with Positive Semi Definite Variation Operators
  - Eduardo Pavez (University of Southern California); Benjamin Girault (ENSAI); Antonio Ortega (Electrical Engineering Department. University of Southern California); Philip A Chou (Google)
- Learning the Dynamic of Clusters of Vertices Signals in a Graph for District Heating Network Simplification
  - Dubon Rodrigue (IMT Atlantique); Mohamed Tahar Mabrouk (IMT Atlantique); Bastien Pasdeloup (IMT Atlantique, Lab-STICC); Patrick Meyer (IMT Atlantique); Bruno Lacarrière (IMT Atlantique)
- Tug of War Games and PDEs on Graphs: Simple Algorithms for Image and High Dimensional Data Processing
  - Hamza Ennaji (Normandie Univ., ENSICAEN); Yvain Queau (CNRS); Abder El Moataz (University of Caen-Normandy)
- Testing Abnormality of a Sequence of Graphs: Application to Cybersecurity

- ○ Clarisse Boinay (INRIA)
- Learning Gradients of Monotone Functions with Monotone Gradient Networks
  - ○ Shreyas Chaudhari (Carnegie Mellon University); Srinivasa Pranav (Carnegie Mellon University); José M. F. Moura (Carnegie Mellon University)
- Efficient Signed Graph Sampling via Balancing & Gershgorin Disc Perfect Alignment
  - ○ Chinthaka Dinesh (Simon Fraser University); Gene Cheung (York University); Ivan Bajic (Simon Fraser University)
- Sampling of Multi-way Bandlimited Signals via Joint Low-pass Impulse Responses
  - ○ Fen Wang (Zhejiang Lab); Taihao Li (Zhejiang Lab); Gene Cheung (York University)
- Attention Graph Normalized 3D Point Cloud Attribute Compression
  - ○ Tam Thuc V.H Do (York University); Philip Chou (Google); Gene Cheung (York University)
- AGAR - Attention-based Graph-RNN for Adaptative Motion Refinement of Point Clouds of Deformable Objects
  - ○ Pedro M Gomes (University College of London); Silvia Rossi (CWI); Laura Toni (University College London)
- Transductive Kernels for Gaussian Processes on Graphs
  - ○ Yin-Cong Zhi (University of Oxford); Felix Opolka (University of Cambridge); Yin Cheng Ng (Man AHL); Pietro Lió (University of Cambridge); Xiaowen Dong (University of Oxford)
- Learning Heterogeneous Graphs with Generalized Smoothness
  - ○ Keyue Jiang (University College London); Laura Toni (University College London); Xiaowen Dong (University of Oxford)
- Graph Adjacency Spectral Embeddings: Algorithmic Advances, Consistency, and Applications
  - ○ Bernardo Marenco (Udelar); Paola Bermolen (Universidad de la Republica); Marcelo Fiori (Universidad de la República); Federico Larroca (Universidad de la República); Gonzalo Mateos (University of Rochester)
- Scalable Simplicial-aware Neural Networks
  - ○ Sravanthi Gurugubelli (Indian Institute of Science), Sundeep P. Chepuri (Indian Institute of Science)
- MAGNNETO: A Graph Neural Network-Based Multi-Agent System for Traffic Engineering
  - ○ Guillermo Bernárdez (Universitat Politècnica de Catalunya), José Suárez-Varela (Universitat Politècnica de Catalunya), Albert López (Universitat Politècnica de Catalunya), Xiang Shi (Huawei Technologies Company Ltd.), Shihan Xiao (Huawei Technologies Company Ltd.), Xiangle Cheng (Huawei Technologies Company Ltd.), Pere Barlet-Ros (Universitat Politècnica de Catalunya), and Albert Cabellos-Aparicio (Universitat Politècnica de Catalunya)