

List of communications

Florent Leclercq

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31 January 2025

Invited talks at international meetings

12. *Implicit likelihood inference from galaxy survey data with robustness to model misspecification*
12-01-2024. [Simulation based inference in Astrophysics](#), Royal Astronomical Society Specialist Discussion Meeting, London, UK [[slides](#)]
11. *Forward modelling the large-scale structure: field-level and implicit likelihood inference*
29-11-2022. [Rubin LSST France meeting](#), Laboratoire de physique nucléaire et de hautes énergies, Paris, France [[slides](#)]
10. *The multi-stream local Universe*
28-01-2020. [The Cosmic Web in the Local Universe](#), workshop at the Lorentz Center, Leiden, The Netherlands [[slides](#)]
9. *Primordial power spectrum and cosmology from black-box galaxy surveys, Prospects for Euclid*
12-12-2019. [CoSyne: Cosmological Synergies in the upcoming decade](#), conference at the Institut d'Astrophysique de Paris, Paris, France [[slides](#)]
8. *Cosmic web analysis and information theory*
17-06-2019. [The Cosmic Web: From Galaxies to Cosmology](#), workshop at the Higgs Centre, Royal Observatory, Edinburgh, UK [[slides](#)]
7. *Bayesian inference with black-box cosmological models*
30-05-2019. [Machine Learning in Astronomy](#), Royal Statistical Society workshop at Lancaster University, Lancaster, UK [[slides](#)]
6. *Bayesian optimisation for likelihood-free cosmological inference*
22-10-2018. Conference "Methods for Statistical Inference" during the [IHP Trimester 2018: Analytics, Inference, and Computation in Cosmology](#), Institut Henri Poincaré, Paris, France [[slides](#)]
5. *Cosmic web analysis and Information Theory*
06-07-2018. [The Information Universe symposium](#), Groningen, The Netherlands [[slides](#)]
4. *Bayesian large-scale structure inference*
08-07-2016. [BAO & RSD: dark light on obscure acronyms](#), workshop at the Sexten-CfA, Sesto, Italy [[slides](#)]
3. *Cosmic web analysis and information theory: some recent results*
10-06-2016. [Mapping the Cosmic Web: A Frontier in Cosmology and Astrophysics](#), workshop at the Royal Astronomical Society, London, UK [[slides](#)]
2. *Constrained simulations of the dynamic cosmic web*
27-11-2014. [Deciphering the dynamic Universe](#), confronting predictions with observations, workshop at the Max-Planck-Institut für Astrophysik, Garching, Germany [[slides](#)]
1. *Bayesian inference of dark matter voids in galaxy surveys*
21-08-2014. [Cosmic Voids in the Next Generation of Galaxy Surveys](#), workshop at CCAPP, Columbus, Ohio, USA [[slides](#)]

Invited Seminars

18. *Hopes and challenges in information science for cosmology*
03-05-2024. [Seminar](#) at the [Centre de Recherche Astrophysique de Lyon \(CRAL\)](#), Lyon, France [[slides](#)]

17. *Hopes and challenges in information science for cosmology*
21-10-2022. IAP colloquium, Institut d’Astrophysique de Paris, Paris, France [slides]
16. *High-performance computing and high-performance data analysis in cosmology*
06-07-2022. Maison de la Simulation, CEA, Saclay, France [slides]
15. *Bayesian analyses of galaxy surveys*
24-11-2021. Astrophysics Group, Imperial College London (remote seminar), London, UK [slides]
14. *Bayesian analyses of galaxy surveys*
09-06-2021. School of Physics and Astronomy, Queen Mary University of London (remote seminar), London, UK [slides]
13. *Perfectly parallel cosmological simulations using spatial comoving Lagrangian acceleration*
06-04-2020. Institute for Advanced Study/Princeton University Joint Astrophysics Colloquium (remote seminar), Princeton, New Jersey, USA [slides]
12. *Bayesian analyses of galaxy surveys*
11-11-2019. Cosmology lunch seminar, DAMTP, Institute of Astronomy & Cavendish Astrophysics, University of Cambridge, Cambridge, UK [slides]
11. *Bayesian analyses of galaxy surveys*
02-05-2019. Institut de Recherche en Astrophysique et Planétologie (IRAP), Toulouse, France [slides]
10. *Methods for Cosmic Web Analysis*
29-10-2018. Seminar during the IHP Trimester 2018: Analytics, Inference, and Computation in Cosmology, Institut Henri Poincaré, Paris, France [slides]
9. *Bayesian large-scale structure inference, likelihood-based and likelihood-free approaches*
13-04-2018. Astrophysics seminar, University of Helsinki, Helsinki, Finland [slides]
8. *Bayesian large-scale structure inference, likelihood-based and likelihood-free approaches*
31-01-2018. Astrophysics Group, Imperial College London, London, UK [slides]
7. *Farewell talk*
16-05-2017. Institute of Cosmology and Gravitation, University of Portsmouth, Portsmouth, UK [slides]
6. *How is the cosmic web woven? A Bayesian approach*
22-06-2016. Special Universe talk at the Excellence Cluster Universe, Garching, Germany [slides]
5. *Probabilistic large-scale structure inference, cosmic web analysis and information theory*
25-04-2016. University of Sussex, Brighton, UK [slides]
4. *Bayesian large-scale structure inference and cosmic web analysis*
08-12-2015. Institute of Cosmology and Gravitation, University of Portsmouth, Portsmouth, UK [slides]
3. *Bayesian large-scale structure inference and cosmic web analysis*
02-03-2015. GReCO seminar, Institut d’Astrophysique de Paris, Paris, France [slides]
2. *How did structure appear in the Universe? A Bayesian approach*
09-12-2014. Physics Division Research Progress Meeting, Lawrence Berkeley National Laboratory, Berkeley, California, USA [slides]
1. *Bayesian chrono-cosmography*
03-09-2014. Institute for Advanced Studies, Princeton, New Jersey, USA [slides]

- Contributed Talks**
14. *Don't trust neural networks? Me neither, but here's how I use them anyway*
21-05-2024. [Statistical Challenges in 21st Century Cosmology](#), Chania, Crete, Greece [slides]
 13. *Additional probes and alternative techniques for galaxy clustering*
25-01-2024. [Symposium Euclid France 2024](#), Institut de Physique des Deux Infinis, Lyon, France [slides]
 12. *Dealing with systematic effects: the issue of robustness to model misspecification*
28-11-2023. [Debating the potential of machine learning in astronomical surveys 2](#) conference, Institut d'Astrophysique de Paris, Paris, France [slides]
 11. *SELFIE enhanced: robustness to model misspecification and Euclid forecast*
28-11-2022. [Euclid France Theory and Likelihood workshop](#), Institut d'Astrophysique de Paris, Paris, France [slides]
 10. *Simulation-based inference of Bayesian hierarchical models while checking for model misspecification*
19-07-2022. [41st MaxEnt2022 Conference](#), Institut Henri Poincaré, Paris, France [slides] [proceedings]
 9. *Likelihood-free inference from galaxy surveys, Prospects for Euclid*
27-06-2019. [CosmoGold, The golden age of cosmology from Planck to Euclid](#), Institut d'Astrophysique de Paris, Paris, France [slides]
 8. *How is the cosmic web woven? Inference with generative cosmological models*
28-08-2017. [COSMO17 conference](#), Paris, France [slides]
 7. *Cosmic web analysis and information theory: some recent results*
26-05-2016. [Statistical Challenges in 21st Century Cosmology](#), Chania, Crete, Greece [slides]
 6. *Cosmic web analysis and information theory: some recent results*
13-01-2016. [Statistical sampling and non-sampling methods in cosmology](#), workshop at the University of California, Berkeley, California, USA [slides]
 5. *Probabilistic cartography of the large-scale structure*
21-08-2015. [Rencontres du Vietnam 2015: Cosmology 50 years after CMB discovery](#), Quy Nhon, Vietnam [slides] [proceedings]
 4. *How is the Cosmic Web Woven? A Bayesian Approach*
14-05-2015. [Advanced Workshop on Cosmological Structures from Reionization to Galaxies: Combining Efforts from Analytical and Numerical Methods](#), ICTP, Trieste, Italy [slides]
 3. *How did structure appear in the Universe? A Bayesian approach*
27-08-2014. [COSMO 2014 conference](#), Chicago, Illinois, USA [slides]
 2. *Bayesian inference of the initial conditions from large-scale structure surveys*
26-06-2014. [The Zel'dovich Universe: Genesis and Growth of the Cosmic Web](#), IAU Symposium 308, Tallinn, Estonia [slides] [proceedings]
 1. *Bayesian large-scale structure inference: initial conditions and the cosmic web*
25-05-2014. [Statistical Challenges in 21st Century Cosmology](#), IAU Symposium 306, Lisbon, Portugal [slides] [proceedings]
- Posters**
1. *Bayesian inference of dark matter voids in galaxy surveys*
22-03-2014. [Rencontres de Moriond Cosmology 2014](#), La Thuile, Italy [slides] [proceedings]
- Other Talks**
46. *COMoving Computer Acceleration: N-body simulations in an emulated frame of reference*
28-10-2024. [Colloque national action Dark Energy 2024](#), Institut Henri Poincaré, Paris, France [slides]

- 45.** *Implicit Likelihood Inference while efficiently checking for survey systematics*
01-02-2024. Euclid Galaxy Clustering Science Working Group meeting, Laboratoire d’Astrophysique de Marseille, France [slides]
- 44.** *Additional probes and alternative techniques for galaxy clustering*
31-01-2024. Euclid Galaxy Clustering Science Working Group meeting, Laboratoire d’Astrophysique de Marseille, France [slides]
- 43.** *Simulation-based inference pipelines for Euclid data*
21-06-2023. Euclid Consortium meeting 2023, Copenhagen, Denmark [slides]
- 42.** *Likelihood-free large-scale structure inference with robustness to model misspecification*
15-06-2023. Cosmology & Gravitation seminar, Oskar Klein Centre, Stockholm University, Stockholm, Sweden [slides]
- 41.** *Hopes and challenges in data science for cosmology*
15-12-2022. ASNUM2022 : Journées de l’Action Spécifique Numérique de l’INSU, Lyon, France [slides]
- 40.** *Perfectly parallel cosmological simulations using spatial comoving Lagrangian acceleration*
17-11-2022. Colloque national action Dark Energy 2022, Marseille, France [slides]
- 39.** *Simulation-based inference, Bayesian hierarchical models, and model misspecification*
15-09-2022. Simons Collaboration on Learning the Universe, Annual Meeting 2022 (remote presentation), New York, USA [slides]
- 38.** *Thème : Grandes Structures & Projet : Euclid*
16-05-2022. Séminaire interne de l’IAP, Jardins de l’Anjou, Mauges-sur-Loire, France [slides]
- 37.** *Forward modelling the large-scale structure: perfectly parallel simulations and simulation-based inference*
20-01-2022. London Cosmology Discussion Meeting (remote presentation), Royal Astronomical Society, London, UK [slides]
- 36.** *Forward modelling the large-scale structure: perfectly parallel simulations and simulation-based inference*
12-10-2020. Colloque Action Dark Energy (remote presentation), France [slides]
- 35.** *Galaxy Clustering with Likelihood-Free Inference (GCLFI project): Prospects and Forecasts for Euclid*
20-04-2020. Euclid Galaxy Clustering Science Working Group (remote presentation) [slides]
- 34.** *Perfectly parallel cosmological simulations using spatial comoving Lagrangian acceleration*
07-04-2020. “Journal-club Univers” at the Institut d’Astrophysique de Paris (remote presentation), Paris, France [slides]
- 33.** *Simulator Expansion for Likelihood-Free Inference, Prospects for Euclid*
04-02-2020. Euclid (GC-WL-CG-LE3) meeting, Institut d’Astrophysique de Paris, Paris, France [slides]
- 32.** *Simulator Expansion for Likelihood-Free Inference, Prospects for Euclid*
17-12-2019. Euclid UK 2019 meeting, Royal Astronomical Society, London, UK [slides]
- 31.** *Bayesian inference with black-box cosmological models*
20-09-2019. Approximate Bayesian Computation and novel Bayesian approaches in cosmostatistics, workshop at the Université Clermont-Auvergne, Clermont-Ferrand, France [slides]

- 30.** *The Cosmic Web: Theory, Simulations, Observations, Reconstructions*
31-07-2019. Review talk, [Astrophysics Group, Imperial College London](#), London, UK
[slides]
- 29.** *Bayesian analyses of galaxy surveys*
08-07-2019. Cosmology group, [Laboratoire Astroparticule & Cosmologie \(APC\)](#), Paris, France [slides]
- 28.** *Density reconstruction via Bayesian large-scale structure inference*
05-06-2019. [Euclid Consortium meeting 2019](#), Helsinki, Finland [slides]
- 27.** *Likelihood-free inference techniques for cosmology*
22-03-2019. [The Most Ancient Heavens](#), conference at the Royal Astronomical Society, London, UK [slides]
- 26.** *Density reconstruction via Bayesian large-scale structure inference*
17-12-2018. [Euclid UK meeting 2018](#), University of Oxford, Oxford, UK [slides]
- 25.** *Inference with generative cosmological models*
20-06-2018. [Astrophysics Group, University College London](#), London, UK [slides]
- 24.** *Simulation-based large-scale structure inference*
23-01-2018. “[Journal-club Univers](#)” at the [Institut d’Astrophysique de Paris](#), Paris, France [slides]
- 23.** *Bayesian optimisation for likelihood-free cosmological inference*
29-03-2017. Theory group meeting, [Institute of Cosmology and Gravitation](#), University of Portsmouth, Portsmouth, UK [slides]
- 22.** *Cosmic web analysis in the SDSS main galaxy sample and implications for galaxy colors*
26-01-2017. “[Journal-club Galaxies](#)” at the [Institut d’Astrophysique de Paris](#), Paris, France [slides]
- 21.** *The phase-space structure of nearby dark matter*
24-01-2017. “[Journal-club Univers](#)” at the [Institut d’Astrophysique de Paris](#), Paris, France [slides]
- 20.** *The phase-space structure of nearby dark matter as constrained by the SDSS main galaxy sample*
15-12-2016. [ICAP meeting](#), [Institut d’Astrophysique de Paris](#), Paris, France [slides]
- 19.** *Cosmic web analysis with the BORG SDSS run*
31-10-2016. Bayesian large-scale structure workshop, [Max-Planck-Institut für Astrophysik](#), Garching, Germany [slides]
- 18.** *Cosmic web analysis and information theory: some recent results*
05-01-2016. “[Journal-club Univers](#)” at the [Institut d’Astrophysique de Paris](#), Paris, France [slides]
- 17.** *Bayesian large-scale structure inference and cosmic web analysis*
24-09-2015. [PhD defence](#), [Institut d’Astrophysique de Paris](#), Paris, France [slides]
- 16.** *Bayesian large-scale structure inference and cosmic web analysis*
30-04-2015. Large-scale structure group meeting, [Institute of Cosmology and Gravitation](#), University of Portsmouth, Portsmouth, UK [slides]
- 15.** *Bayesian large-scale structure inference and cosmic web analysis*
03-04-2015. Journée des thèses, [Institut d’Astrophysique de Paris](#), Paris, France [slides]
- 14.** *Bayesian large-scale structure inference and cosmic web analysis*
05-03-2015. [ICAP meeting](#), [Institut d’Astrophysique de Paris](#), Paris, France [slides]
- 13.** *Cosmic order and complexity*
25-02-2015. [YMCA](#), [Institut d’Astrophysique de Paris](#), Paris, France [slides]

- 12.** *Cosmic order and complexity*
12-12-2014. [Elbereth 2014](#) conference, Institut d’Astrophysique de Paris, Paris, France [slides]
- 11.** *Bayesian inference and cosmic web classification*
15-05-2014. ICAP meeting, Institut d’Astrophysique de Paris, Paris, France [slides]
- 10.** *Bayesian large-scale structure inference: initial conditions and cosmic voids*
09-04-2014. YMCA, Institut d’Astrophysique de Paris, Paris, France [slides]
- 9.** *Bayesian inference of the initial conditions from large-scale structure surveys*
14-03-2014. Journée des thèses, Institut d’Astrophysique de Paris, Paris, France [slides]
- 8.** *Cosmostatistics: the initial conditions and the large-scale structure of the Universe*
27-11-2013. [Elbereth 2013](#) conference, Institut d’Astrophysique de Paris, Paris, France [slides]
- 7.** *Cosmostatistics: the initial conditions and the large-scale structure of the Universe*
20-11-2013. PhD, Astroparticules & Cosmologie, Paris, France [slides]
- 6.** *Cosmostatistics: the initial conditions and the large-scale structure of the Universe*
09-11-2013. [Strings, Cosmology and Gravity Student Conference 2013](#), Max-Planck-Institute for Physics, Munich, Germany [slides]
- 5.** *Cosmostatistics: the initial conditions and the large-scale structure of the Universe*
09-07-2013. [Post-Planck Cosmology Summer School](#), Les Houches, France [slides]
- 4.** *The initial conditions and the large-scale structure of the Universe*
12-06-2013. YMCA, Institut d’Astrophysique de Paris, Paris, France [slides]
- 3.** *Optimizing Lagrangian perturbation theory in the mildly non-linear regime of cosmic structure formation via one-point remapping*
26-04-2013. [Institute for Advanced Studies](#), Princeton, New Jersey, USA [slides]
- 2.** *The large-scale structure of the Universe as a probe of primordial physics*
29-03-2013. Journée des thèses, Institut d’Astrophysique de Paris, Paris, France [slides]
- 1.** *Large-scale structure and cosmic voids as probes of primordial physics*
12-12-2012. [Elbereth 2012](#) conference, Institut d’Astrophysique de Paris, Paris, France [slides]