

Selected Publications

CIRB - Chromosome Dynamics

- Conin B, Billault-Chaumartin I, El Sayyed H, Quenech'Du N, Cockram C, Koszul R, Espéli O. *Nucleic Acids Res.* 2022 Mar 21;50(5):2635-2650. doi: 10.1093/nar/gkac105. PMID: 35212387 [Extended sister-chromosome catenation leads to massive reorganization of the E. coli genome.](#)
- Prudent V, Demarre G, Vazeille E, Wery M, Quenech'Du N, Ravet A, Dauverd-Girault J, van Dijk E, Bringer MA, Describes M, Barnich N, Rimsky S, Morillon A, Espéli O. *Commun Biol.* 2021 May 25;4(1):627. doi: 10.1038/s42003-021-02161-7. PMID: 34035436 [The Crohn's disease-related bacterial strain LF82 assembles biofilm-like communities to protect itself from phagolysosomal attack.](#)
- Planchenault, C., Pons, M.C., Schiavon, C., Siguier, P., Rech, J., Guynet, C., Dauverd-Girault, J., Cury, J., Rocha, E.P., Junier, I., Cornet, F., Espéli, O. (2020). Intracellular positioning systems limit the entropic eviction of secondary replicons toward the nucleoid edges in bacterial cells. *J. Mol. Biol.*
- Demarre, G., Prudent, V., Schenk, H., Rousseau, E., Bringer, M.-A., Barnich, N., Tran Van Nhieu, G., Rimsky, S., De Monte, S., and Espéli, O. (2019). The Crohn's disease-associated *Escherichia coli* strain LF82 relies on SOS and stringent responses to survive, multiply and tolerate antibiotics within macrophages. *PLoS Pathog.* 15, e1008123.
- Lioy, V.S., Cournac, A., Marbouty, M., Duigou, S., Mozziconacci, J., Espéli, O., Boccard, F., and Koszul, R. (2018), Multiscale Structuring of the *E. coli* Chromosome by Nucleoid-Associated and Condensin Proteins. *Cell.*172, 771-783.e18.
- El Sayyed, H., and Espéli, O. (2018), Mapping *E. coli* Topoisomerase IV Binding and Activity Sites. *Methods Mol. Biol.* 1703, 87–94.
- Demarre, G., Prudent, V. & Espéli, O. (2017), Imaging the Cell Cycle of Pathogen *E. coli* During Growth in Macrophage. *Methods Mol. Biol.* 1624, 227–236.
- Vickridge, E., Planchenault, C., Cockram, C., Junceda, I.G. & Espéli, O. (2017a), Management of *E. coli* sister chromatid cohesion in response to genotoxic stress. *Nat Commun* 8, 14618.
- Vickridge, E., Planchenault, C. & Espéli, O. (2017b), Revealing Sister Chromatid Interactions with the loxP/Cre Recombination Assay. *Methods Mol. Biol.* 1624, 29–37.
- El Sayyed, H., Le Chat, L., Lebailly, E., Vickridge, E., Pages, C., Cornet, F., Cosentino

Lagomarsino, M. & Espéli, O. (2016), Mapping Topoisomerase IV Binding and Activity Sites on the E. coli Genome. *PLoS Genet.* 12, e1006025.

- Lagomarsino M.C., Espéli O. & Junier I. (2015), From structure to function of bacterial chromosomes: Evolutionary perspectives and ideas for new experiments. *FEBS Lett.* 589, 2996–3004.

- Passot, F.M., Nguyen, H.H., Dard-Dascot, C., Thermes, C., Servant, P., Espéli, O. & Sommer, S. (2015), Nucleoid Organization in the Radioresistant Bacterium *Deinococcus radiodurans*. *Mol. Microbiol.* 97, 759–774.

- Junier I., Boccard F. & Espéli O. (2014), Polymer modeling of the E. coli genome reveals the involvement of locus positioning and macrodomain structuring for the control of chromosome conformation and segregation. *Nucleic Acids Res.* Feb 1;42(3):1461-73.

- Le Chat L. & Espéli O. (2012), Let's get 'Fiscal' with bacterial nucleoid. *Mol Microbiol.* Dec;86(6):1285-90.

- Dame R.T., Espéli O., Grainger D.C. & Wiggins P.A. (2012), Multidisciplinary perspectives on bacterial genome organization and dynamics. *Mol Microbiol.* Dec;86(5):1023-30.

- Lesterlin C., Gigant E., Boccard F. & Espéli O. (2012), Sister chromatid interactions in bacteria revealed by a site specific recombination assay *EMBO J*, August 15. 31:3468-79.

- Espéli O., Borne R., Dupaigne P., Thiel A., Gigant E., Mercier R. & Boccard F. (2012), A MatP-divisome interaction coordinates chromosome segregation with cell division in E. coli. *EMBO J*, May 11. 31:3198-11.

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- Espéli O., Mercier R. & Boccard F. (2008), DNA dynamics vary according to macrodomain topography in the E. coli chromosome. *Mol Microbiol* 68(6): 1418-1427.