

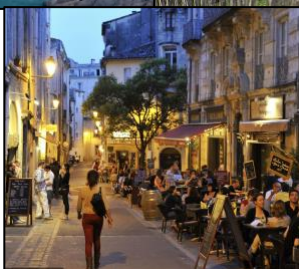
Montpellier, October 2022



A post-doctoral position is open in our team « **Mechanisms of genome expression and integrity** » at the **Institut de Génétique Moléculaire of Montpellier, France (IGMM, CNRS/University of Montpellier,)**. Our team has recently moved from Paris for a challenging and exciting new start in the great living and scientific environment of Montpellier in the south of France. We study the **molecular mechanisms of transcription and gene expression in general**, using yeast as a model system, but with present and future openings to the mammalian system.

It is now clear that RNA polymerase II **transcribes most of the genome, largely beyond the limits of genes coding for functional product**. These transcription events generate **non-coding RNAs that are often rapidly degraded, whose functions and raison-d'être are not completely understood**. We have provided important contributions to the **discovery of pervasive, non-coding transcription, and studied how it is originated and functions**. We are now turning our attention to the **crosstalks between transcription, replication, genome stability and genome organization**. How **generalized transcription influences these other processes that share the use of the DNA template?** How **these processes are coordinated to avoid disruptive, mutual interference?** We are also interested in the physiology of R-loops, genotoxic structures containing RNA-DNA hybrids that are formed during transcription. We address these questions with a variety of methodologies, using current and **advanced biochemistry (e.g. in vitro transcription termination)**, **molecular biology and genome-wide approaches**, some of which have been originally developed in the team. The successful candidate will have the opportunity to learn these techniques and/or collaborate with other members of the team in shared projects.

The Institut de Génétique Moléculaire de Montpellier (<https://www.igmm.cnrs.fr/en/>) is a center of excellence for fundamental research in molecular and cellular biology. The scientific interests of IGMM groups cover a large variety of subjects, from **RNA to transcription and gene expression, from immunology to virology and cancer biology**. The **multidisciplinary and international** scientific environment provides rich and **stimulating training opportunities for young scientists**. The Institute also provides a **very friendly and socially-active environment**. The post-doc will have access to **state-of-the-art core facilities** (including, but not limited to, live-cell imaging, proteomics, genomics) either in-house or in neighboring Institutes of the Montpellier area through the BioCampus managing facility. **Montpellier is an exceptional scientific environment, internationally recognized and certainly one of the best in Europe.**



The town is a great and affordable place for living, with a beautiful historical center and a living and culturally-active environment, very student-friendly. Montpellier is located in an exceptional geographic position, with close-by beaches, a beautiful countryside with farms, vineyards and freshwater – lakes and rivers – locations.

The applicants should hold a PhD and have some **expertise in biochemistry, molecular biology and genomics**. Basic **knowledge of some bioinformatic tools and/or programming skills would be welcome**. Working knowledge of the English language (scientific, oral and written) is necessary, but **knowledge of French is not required**. **Enthusiasm, motivation and willingness to contribute to a dynamic and enjoyable working environment are qualities we value**. The candidate should show autonomy, but a successful integration into the team projects is essential.

We propose a 12-month, renewable contract for a post-doctoral position with a salary defined by CNRS rules. **The position is open immediately but the starting date is to some extent flexible**. Applications should include a CV and a letter of motivation summarizing your scientific interests, as well as the contact information of at least 2 scientists for reference.

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A few recent references:

Aiello, U., Challal, D., Wentzinger, G., Lengronne, A., Appanah, R., Pasero, P., Palancade, B., and Libri, D. (2022). Sen1 is a key regulator of transcription-driven conflicts. *Mol Cell* 82, 2952-2966.e6. <https://doi.org/10.1016/j.molcel.2022.06.021>.

Xie, J., Aiello, U., Clement, Y., Haidara, N., Girbig, M., Schmitzova, J., Pena, V., Müller, C.W., Libri, D., and Porrua, O. (2022). An integrated model for termination of RNA polymerase III transcription. *Sci Adv* 8, eabm9875. <https://doi.org/10.1126/sciadv.abm9875>.

Villa, T., Barucco, M., Martin-Niclos, M.-J., Jacquier, A., and Libri, D. (2020). Degradation of Non-coding RNAs Promotes Recycling of Termination Factors at Sites of Transcription. *Cell Rep* 32, 107942.

Han, Z., Jasnovidova, O., Haidara, N., Tudek, A., Kubicek, K., Libri, D., Stefl, R., and Porrua, O. (2020). Termination of non-coding transcription in yeast relies on both an RNA Pol II CTD interaction domain and a CTD-mimicking region in Sen1. *EMBO J.* e101548.

Appanah, R., Lones, E.C., Aiello, U., Libri, D., and De Piccoli, G. (2020). Sen1 Is Recruited to Replication Forks via Ctf4 and Mrc1 and Promotes Genome Stability. *Cell Rep* 30, 2094-2105.e9.

Wang, S., Han, Z., Libri, D., Porrua, O., and Strick, T.R. (2019). Single-molecule characterization of extrinsic transcription termination by Sen1 helicase. *Nat Commun* 10, 1545.

Candelli, T., Gros*, J., and Libri*, D. (2018). Pervasive transcription fine-tunes replication origin activity. *Elife* 7.

Challal, D., Barucco, M., Kubik, S., Feuerbach, F., Candelli, T., Geoffroy, H., Benaksas, C., Shore, D., and Libri, D. (2018). General Regulatory Factors Control the Fidelity of Transcription by Restricting Non-coding and Ectopic Initiation. *Mol. Cell* 72, 955-969.e7.