UC SANTA BARBARA

Postdoctoral Scholar Open Positions

The Dey group has two NIH funded postdoctoral positions open in the areas of single-cell genomics and developmental biology. We are broadly interested in understanding how the epigenome regulates gene expression heterogeneity and cell fate decisions during mammalian development.

<u>Position 1</u>: To develop novel integrated single-cell technologies to simultaneous quantify the epigenome and transcriptome in space and time (NIH R01HG011013).

<u>Position 2</u>: To study the dynamics and understand the mechanisms regulating epigenetic reprogramming during early mouse development (NIH R01HD099517).

Candidates with a Ph.D. in biology, physics, computer science, bioengineering or other engineering disciplines with knowledge of experimental (molecular biology, mouse genetics, genomics) and/or computational biology (bioinformatics, statistics, programming languages) are encouraged to apply.

Interested candidates should send a (1) Cover letter briefly describing their previous research experiences and accomplishments, (2) CV and (3) names and contact information of 3 references to sdey@ucsb.edu. Additional information can be found at: http://deylab.com/

Relevant publications and pre-prints:

- Markodimitraki CM, Rang FJ, Rooijers K, de Vries SS, Chialastri A, de Luca K, Lochs SJA, Mooijman D, Dey SS[#], Kind J[#] (2020). Simultaneous quantification of protein–DNA interactions and transcriptomes in single cells with scDam&T-seq. *Nature Protocols*.
- Gell JJ, Liu W, Sosa E, Chialastri A, Hancock G, Tao Y, Wamaitha S, Bower G, Dey SS, Clark AT (2020). An extended culture system that supports human primordial germ cell-like cells survival and initiation of DNA methylation erasure. *Stem Cell Reports*.
- Sen M*, Mooijman D*, Chialastri A*, Boisset JC, Popovic M, Heindryckx B, Chuva de Sousa Lopes SM, Dey SS[#], Oudenaarden A[#] (2020). Strand-specific single-cell methylomics reveals distinct modes of DNA demethylation dynamics during early mammalian development. *Nature Communications (Under review)* | *bioRxiv* 804526 [Preprint].
- Wangsanuwat C, Aldeguer JF, Rivron NC, Dey SS (2020). A probabilistic framework for cellular lineage reconstruction using single-cell 5-hydroxymethylcytosine sequencing. *Cell Systems (Under review)* | *bioRxiv* 739300 [Preprint].
- Rooijers K, Markodimitraki CM, Rang FJ, de Vries SS, Chialastri A, de Luca K, Mooijman D, Dey SS[#], Kind J[#] (2019). scDam&T-seq combines DNA adenine methyltransferase-based labeling of protein-DNA contact sites with transcriptome sequencing to analyze regulatory programs in single cells. *Nature Biotechnology*.
- Mooijman D*, Dey SS*, Boisset JC, Crosetto N, van Oudenaarden A (2016). Single-cell 5hmC sequencing reveals chromosome-wide cell-to-cell variability and enables lineage reconstruction. *Nature Biotechnology*.
- Dey SS*, Kester L*, Spanjaard B, Bienko M, van Oudenaarden A (2015). Integrated genome and transcriptome sequencing of the same cell. *Nature Biotechnology*.

