Stanford

Antonina Hafner

Postdoctoral Research Fellow, Developmental Biology

Bio

BIO

I am a postdoctoral fellow in the lab of Alistair Boettiger in the Department of Developmental Biology. I have always been interested in understanding regulatory mechanisms that lead to tissue or cell type specific gene expression. During my PhD in the lab of Galit Lahav at Harvard Medical School, I studied how temporal dynamics of a tumor suppressor transcription factor, p53 regulate the dynamics of gene expression in response to DNA damage. In the Boettiger lab, I'm interested how specificity between enhancer-promoter interactions is achieved using super-resolution microscopy.

HONORS AND AWARDS

- Walter V. and Idun Berry Postdoctoral Fellowship, Walter V. and Idun Berry Foundation (2018-2021)
- Boehringer Ingelheim Fonds PhD Fellowship, Boehringer Ingelheim Fonds (2013-2016)
- Lynch PhD Fellowship, Lynch foundation (2011-2013)
- Excellence award for Master's degree, Ecole Polytechnique Federale de Lausanne (EPFL) (2010)
- WISH Scholarship for Master project abroad, WISH foundation (EPFL) (2009)

PROFESSIONAL EDUCATION

- Bachelor of Science, Ecole Polytechnique Federale de Lausanne , Life Sciences (2008)
- Master of Science, Ecole Polytechnique Federale de Lausanne (EPFL) , Bioengineering and Biotechnology (2010)
- Doctor of Philosophy, Harvard University (2017)

Research & Scholarship

LAB AFFILIATIONS

- Alistair Boettiger (1/1/2018)

Publications

PUBLICATIONS

- **Visualizing DNA folding and RNA in embryos at single-cell resolution** *NATURE*
  Mateo, L. J., Murphy, S. E., Hafner, A., Cinquini, I. S., Walker, C. A., Boettiger, A. N.
  2019; 568 (7750): 49-+

- **A Comprehensive Drosophila melanogaster Transcription Factor Interactome.** *Cell reports*
  Shokri, L., Inukai, S., Hafner, A., Weinand, K., Hens, K., Vedenko, A., Gisselbrecht, S. S., Dainese, R., Bischof, J., Furger, E., Feuz, J. D., Basler, K., Deplancke, et al
  2019; 27 (3): 955–70.e7

- **The multiple mechanisms that regulate p53 activity and cell fate.** *Nature reviews. Molecular cell biology*
  Hafner, A., Bulyk, M. L., Jambhekar, A., Lahav, G.
  2019

- **p53 pulses lead to distinct patterns of gene expression albeit similar DNA-binding dynamics.** *Nature structural & molecular biology*
  Hafner, A., Stewart-Ornstein, J., Purvis, J. E., Forrester, W. C., Bulyk, M. L., Lahav, G.
  2017; 24 (10): 840–47

- **A yeast one-hybrid and microfluidics-based pipeline to map mammalian gene regulatory networks** *MOLECULAR SYSTEMS BIOLOGY*
  Gubelmann, C., Waszak, S. M., Isakova, A., Holcombe, W., Hens, K., Iagovitina, A., Feuz, J., Raghav, S. K., Simicevic, J., Deplancke, B.
  2013; 9

- **Highly parallel assays of tissue-specific enhancers in whole Drosophila embryos** *NATURE METHODS*
  Gisselbrecht, S. S., Barrera, L. A., Porsch, M., Aboukhalil, A., Estep, P. W., Vedenko, A., Palagi, A., Kim, Y., Zhu, X., Busser, B. W., Gamble, C. E., Iagovitina, A., Singhania, et al
  2013; 10 (8): 774-?

- **Context-dependent transcriptional interpretation of mitogen activated protein kinase signaling in the Drosophila embryo** *CHAOS*
  Kim, Y., Iagovitina, A., Ishihara, K., Fitzgerald, K. M., Deplancke, B., Papatsenko, D., Shvartsman, S. Y.
  2013; 23 (2)

- **Automated protein-DNA interaction screening of Drosophila regulatory elements** *NATURE METHODS*
  Hens, K., Feuz, J., Isakova, A., Iagovitina, A., Massouras, A., Bryois, J., Callaerts, P., Celniker, S. E., Deplanckeadenine, B.
  2011; 8 (12): 1065-?