



## Serena Sanulli

Assistant Professor of Genetics

### Bio

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#### ACADEMIC APPOINTMENTS

- Assistant Professor, Genetics
- Member, Bio-X
- Faculty Fellow, Sarafan ChEM-H
- Member, Stanford Cancer Institute

#### HONORS AND AWARDS

- Searle Scholar, Searle Scholars Program (2022)
- McCormick Gabilan Faculty Award, Stanford (2021)
- Investigator, Chan Zuckerberg Biohub (2021-2026)
- Independent Postdoctoral Fellow Research Award, Program for Breakthrough Biomedical Research, USCF/QBI (2015)

#### PROFESSIONAL EDUCATION

- Postdoctoral Fellow, University of California, San Francisco , Pharmaceutical Chemistry (2020)
- Ph.D., Pierre and Marie Curie University, Curie Institute (Paris, France) , Life Science Complexity (2013)
- M.S., University of Bologna (Italy) , Biotechnology (2008)
- B.S., University of Bologna (Italy) , Biotechnology (2006)

#### LINKS

- Sanulli Lab Website: <https://sanullilab.stanford.edu/>

### Research & Scholarship

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#### CURRENT RESEARCH AND SCHOLARLY INTERESTS

We study the organizing principles of the genome and how these principles regulate cell identity and developmental switches. We combine Biochemistry and Biophysical methods such as NMR and Hydrogen-Deuterium Exchange-MS with Cell Biology, and Genetics to explore genome organization across length and time scales and understand how cells leverage the diverse biophysical properties of chromatin to regulate genome function.

### Teaching

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#### STANFORD ADVISEES

Doctoral Dissertation Reader (AC)

Simon Gaudin, Michelle Kinney, Rosa Lee

**Postdoctoral Faculty Sponsor**

Linda Rubio

**Doctoral Dissertation Advisor (AC)**

Ezekiel Delgado, Arianna Silva-Torres

**GRADUATE AND FELLOWSHIP PROGRAM AFFILIATIONS**

- Biophysics (Phd Program)
- Cancer Biology (Phd Program)
- Genetics (Phd Program)

**Publications**

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**PUBLICATIONS**

- **Phase Separation in Biology and Disease; Current Perspectives and Open Questions.** *Journal of molecular biology*  
Boeynaems, S., Chong, S., Gsponer, J., Holt, L., Milovanovic, D., Mitrea, D. M., Mueller-Cajar, O., Portz, B., Reilly, J. F., Reinkemeier, C. D., Sabari, B. R., Sanulli, S., Shorter, et al  
2023; 167971
- **Generation and Biochemical Characterization of Phase-Separated Droplets Formed by Nucleic Acid Binding Proteins: Using HP1 as a Model System.** *Current protocols*  
Sanulli, S., Narlikar, G. J.  
2021; 1 (5): e109
- **Liquid-like interactions in heterochromatin: Implications for mechanism and regulation** *CURRENT OPINION IN CELL BIOLOGY*  
Sanulli, S., Narlikar, G. J.  
2020; 64: 90–96
- **HP1 reshapes nucleosome core to promote phase separation of heterochromatin.** *Nature*  
Sanulli, S., Trnka, M. J., Dharmarajan, V., Tibble, R. W., Pascal, B. D., Burlingame, A. L., Griffin, P. R., Gross, J. D., Narlikar, G. J.  
2019; 575 (7782): 390-394
- **Biophysical Properties of HP1-Mediated Heterochromatin.** *Cold Spring Harbor symposia on quantitative biology*  
Sanulli, S., Gross, J. D., Narlikar, G. J.  
2019; 84: 217-225
- **Biochemical Basis for Distinct Roles of the Heterochromatin Proteins Swi6 and Chp2.** *Journal of molecular biology*  
Isaac, R. S., Sanulli, S., Tibble, R., Hornsby, M., Ravalin, M., Craik, C. S., Gross, J. D., Narlikar, G. J.  
2017; 429 (23): 3666-3677
- **Jarid2 Methylation via the PRC2 Complex Regulates H3K27me3 Deposition during Cell Differentiation.** *Molecular cell*  
Sanulli, S., Justin, N., Teissandier, A., Ancelin, K., Portoso, M., Caron, M., Michaud, A., Lombard, B., da Rocha, S. T., Offer, J., Loew, D., Servant, N., Wassef, et al  
2015; 57 (5): 769-783
- **Jarid2 Is Implicated in the Initial Xist-Induced Targeting of PRC2 to the Inactive X Chromosome.** *Molecular cell*  
da Rocha, S. T., Boeva, V., Escamilla-Del-Arenal, M., Ancelin, K., Granier, C., Matias, N. R., Sanulli, S., Chow, J., Schulz, E., Picard, C., Kaneko, S., Helin, K., Reinberg, et al  
2014; 53 (2): 301-16
- **Legionella pneumophila effector RomA uniquely modifies host chromatin to repress gene expression and promote intracellular bacterial replication.** *Cell host & microbe*  
Rolando, M., Sanulli, S., Rusniok, C., Gomez-Valero, L., Bertholet, C., Sahr, T., Margueron, R., Buchrieser, C.  
2013; 13 (4): 395-405