

# Jana Gagacheva

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## EDUCATION

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Bachelor of Science in Genetics and genomics

Sep 2015 – Jun 2019

University of California, Davis

Davis, CA

Winter Quarter 2019 Dean's list, College of Biological Sciences

## TECHNICAL EXPERIENCE

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- **Computational Skills:** R (tidyverse, ggplot2, dplyr, tidyr, purrr, stringr, shiny, rmarkdown), Python (biopython, pandas, os, pathlib), Bash, Git, BLAST, LaTeX.
- **Molecular Biology:** molecular cloning, PCR, genomic DNA extraction, restriction digest, gel electrophoresis, high-throughput (96-well plate) sgRNA cloning and transformation, NGS sample prep and target enrichment.
- **Protein Biochemistry:** Strep-tag Purification and Protein Expression, Western Blot, FPLC – Ion exchange and Liquid Chromatography, TIRF microscopy.
- **Tissue culture:** Mammalian adherent and suspension cell culture handling, generation of stable cell lines, production of lentivirus, cell fixation.
- **Immunology:** antibody staining, Fluorescence-Activated Cell Sorting (FACS) and FACS analysis via FlowJo.

## PROFESSIONAL EXPERIENCE

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**Junior Specialist II**, McManus Lab, Diabetes Center, UCSF

Sep 2019 – present

Principal Investigator: Michael McManus

San Francisco, CA

- I manage, interpret, and handle large biological data sets using R, Python, and Bash. I also developed analysis for Next-Generation Sequencing data and an automatic Sanger Sequencing analysis in both Python and Bash that only requires an input of a file by the user.
- In the NIH funded initiative, Illuminating the Druggable Genome, I work on elucidating the function and proteomic landscape of understudied (dark) ion channels that are promising potential drug targets. This includes mapping the proteomic landscape of the dark ion channels, screen for and engineer ion channel specific nanobodies, and utilize CRISPR technology to assess channel activities and map expression profiles through combinatorial pooling strategies.
- I also contribute to the development of effective therapies against Sars-Cov19 by identifying viral factors through whole genome CRISPR screens.
- I actively contribute to publications, abstracts, hold oral presentations, and develop collaborative relationships with scientists outside the McManus Lab.
- Lastly, I assist with organizing the space and consumables, and order lab supplies.

**Undergraduate Research Assistant**, Department of Molecular and Cellular Biology, Sep 2017 – June 2019  
University of California, Davis Davis, CA

Principal Investigator: Richard J. McKenney

- Investigated the function of microtubule associated proteins (MAPs) such as Dynein, Spastin, and Tau through Total Internal Reflection Fluorescent (TIRF) Microscopy to study their impact in neurodegenerative disorders.

**Research Intern**, Globavir Biosciences, Inc. Jun 2017 – Aug 2017, Los Altos, CA

- Worked through step IV of FDA approval of a drug concerned with nephrological disorders.
- Strategic planning, data collection, database creation, and summarization data from clinical trials in fact sheets and written reports for stakeholder approval and project leads.

**Research and Social Media Intern**, Oponato, Inc. May 2017 – Jul 2017, San Francisco, CA

- Research, evaluate and build the company's blog and Facebook website with informative scientific reports by summarizing findings and transforming informative data concerned with infertility into an accessible resource for the general public.

**Clinical Nurse Intern**, Clinical Hospital Dr. Tirfun Panovski – Bitola Sep 2013 – Jul 2015, Bitola, MK

- Gained medical training and directly assisted in patient care (mental and physical assistance), administered medications under supervision of a mentor, record vital signs and monitor patients' condition, restocked supplies.

## **PUBLICATIONS and PRESENTATIONS**

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- Hu, Z., Gruner, H., **Gagacheva, J.**, and Gulyaeva, O. "K<sub>Na</sub>1.1 channels as a target for treating early-onset epilepsy." Nature Reviews Drug Discovery, Biobusiness Briefs. May 2020.
- "Regulation of Spastin's Interactions with Microtubules by the Alzheimer's Disease Protein Tau", Undergraduate Research Conference, UC Davis, April 2019

## **PERSONAL and PROFESSIONAL DEVELOPMENT**

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- Introduction to Calculus, a 5-week specialization by The University of Sydney on Coursera. Specialization Certificate earned on November 25, 2020.
- Programming for Everybody (Getting Started with Python), an 8-week specialization by The University of Michigan on Coursera. Specialization Certificate earned on April 10, 2021.