

# Kimiko McGirr, PhD

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## TECHNICAL SKILLS

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- **Modeling: ODE systems**, genetic algorithms, particle filtering, Markov chain Monte Carlo, regression, clustering.
- **Programming: Python, bash, MATLAB, Julia, C++, R, JavaScript, html, CSS, and LaTeX.**
- **Cloud:** extensive cloud experience with SLURM and LSF scheduling systems, AWS Technical essentials certification.
- **Molecular biology:** specialized in live-cell microscopy, SDS-PAGE, and genetic modification; MAPK signaling pathway biology.
- **Teaching and mentoring:** taught 5 biology or programming classes and mentored 6 undergraduate and graduate students.

## EXPERIENCE

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### Graduate Research Assistant

UNC Department of Pharmacology

Since Aug 2015

- Project: Developed predictive mathematical models to identify novel intracellular signaling mechanisms.
- Developed new [parameter estimation](#) and microscopy methods.

### Systems Biologist and Full-Stack Developer, Intern

UNC ImPACT Fellow at DILLsym Services

July 2019

- Built tools and applications in C++, Julia, and MATLAB.
- Solved a mathematical error in ODE model of Drug-Induced Liver Injury (DILI).

### Undergraduate Research Assistant

Johns Hopkins School of Medicine

Sept 2012 – May 2015

Research Experience for Undergraduates UMass Amherst

May – July 2014

- Main Project: Mitigating Alzheimer's Disease pathogenesis using a putative pharmaceutical for Atherosclerosis.
- Performed research in 3 labs, developing wet-lab skills for yeast, mouse, and plant systems.

## ACHIEVEMENTS & AWARDS

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- 2 co-author peer-reviewed [publications](#), 2 first-author under review.
- T32 Bioinformatics and Computational Biology (BCB) NIH Training Grant – Selected by BCB faculty to receive 10 months of stipend support based on academic merit.
- NSF Graduate Research Fellowship Program honorable mention x2 (2016, 2017).
- Johns Hopkins Provost's Undergraduate Research Award – Competitive independent research grant (3000\$).
- Aitchison fellowship – Semester-long public policy fellowship in Washington DC, with a focus on scientific policy.
- Ten scientific presentations (three awarded "Best presentation").

## ACTIVITIES & PROJECTS

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### NIH-UNC Codeathon

Founder, Director, Project Lead, & Participant

Aug 2017 – Mar 2020

- Organized UNC's first Codathon annual 3-day event, hosting 20-40 bioinformaticians (of all levels) each year.
- Led teams developing modules that [enhance genome assemblies](#), [identify novel transcripts](#), or [find sequence motifs](#).

### How to Learn to Code, UNC Training in Biological and Biomedical Sciences Program

Volunteer Curriculum Developer and Course Instructor

June 2016 – July 2019

- [Created curricula](#) and taught STEM researchers introductory and intermediate Python for 12 sessions each summer.
- Developed start-up strategy and graphical designs for an [app to teach bioinformatics skills](#) in a year-long business course.

## EDUCATION

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University of North Carolina at Chapel Hill

Chapel Hill, NC

Ph.D. in Bioinformatics and Computational Biology

August 2020

Big Data to Knowledge Certificate

Johns Hopkins University

Baltimore, MD

B.S. in Molecular and Cellular Biology

May 2015