**ANNA B. CRIST**

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**EDUCATION**

2013 **University of Oregon** *BS, Biology* (3.98 GPA)

**EXPERIENCE**

Nov 2018 - **Engineer**

Present *INSERM , University of Strasbourg, Institute of Molecular and Cellular Biology*

- Genome modification of *Ae. aegypti* mosquitoes using CRISPR/Cas9 and piggyBac transformation

- Large-scale flow-sorting of transgenic mosquito larvae

- Microinjection of *Ae. aegypti* and *Anopheles* embryos

May 2017- **Research Technician**

Nov 2018*Institute Pasteur, Department of Genomes and Genomics, Lambrechts Lab*

- Precise genome editing in *Ae. aegypti* using CRISPR/Cas9

- Validation of vector competence genes for dengue virus using RNAi-mediated knock-downs and CRISPR-mediated knock-outs

- Infectious blood-feeds of mosquitoes in biosafety-level 3 laboratory

2016-2017 **Engineer**

*École Normale Supérieure, Institute of Biology, Teotonio Lab*

- Precise genome editing in *C. elegans* using CRISPR/Cas9

- Experimental evolution of *C. elegans*

2013-2016 **Research Assistant/Lab Manager** *University of Oregon, Institute for Ecology and Evolution, Phillips Lab*

- Precise genome editing in *C. elegans* using CRISPR/Cas9

(insertions, deletions, SNPs, and protein tags) for various experiments in the lab

- Recovery from inbreeding depression in experimentally evolved populations of *C. remanei*

- Evolution of male harm in long-term, *fog-2* mutant lines of *C. elegans*

- *C. elegans* microinjection

- Training and assisting undergraduate and graduate researchers

- General management of day-to-day laboratory activities (purchasing, stocking, equipment maintenance)

2015-2016 **Shadowing Experience**

*Sacred Heart Medical Group, Center for Genetics and Maternal-Fetal Medicine*

- Shadowed genetic counselor Kathryn Murray during patient visits

- Learned about various genetic diseases and genetic testing options

2014-2016 **Volunteer**

*University of Oregon, Prevention Science Institute, Leve Group*

- Phone interviews with parents and children regarding child’s at-risk behavior

2010-2013 **Laboratory Assistant**

*University of Oregon, Institute for Ecology and Evolution, Phillips Lab*

- *C. elegans* strain maintenance; fecundity, longevity, and food preference assays

- General lab maintenance and media preparation

Fall 2013 **Teaching Assistant**

*University of Oregon, Department of Biology*

- Lab section and office hour instruction for an introductory honors biology course

Summer 2011 **Mentor**

*Apprenticeships in Science and Engineering, University of Oregon*

- Mentorship of high school students for their first research projects in a biology lab at the University of Oregon

Summer 2011 **Intern**

*Summer Program for Undergraduate Research, University of Oregon*

- Development of nematode soil microcosms

- Fitness cost assays of *C.elegans* *age-1* and *daf-2* mutants in agar plate and soil environments

**SKILLS**

- **Virus**: Dengue virus handling in BSL-3 facility

- **Mosquito**: Rearing, crossing, embryo microinjection, adult injection, infectious blood-feeds, transgenic larvae flow-sorting (COPAS)

- **Nematode**: Maintenance, life-history assays, food choice assays, experimental evolution, freezing, age-synchronization, microinjection

- **Molecular:** Gene editing (CRISPR/Cas), transgenesis (piggyBac), DNA extraction, RNA in-vitro transcription, PCR, gel electrophoresis, Golden Gate cloning, restriction digest assays

-**General:** Media and solution preparation, culturing bacteria, experimental design, microscopy

-**Managerial:** Ordering materials, stock maintenance, equipment maintenance, inventory, training/supervision, project support, SOP development

-**Software:** Microsoft Office

-**Language:** English (fluent), French (elementary proficiency)

**POSTERS & PRESENTATIONS**

Crist, A., Young, E.M., Timmermeyer, N., and Phillips, P.C.“A CRISPR-based mating system switch and the experimental evolution of sexual interactions in *Caenorhabditis elegans.*”

Genome Engineering: The CRISPR/Cas Revolution Meeting, September 2015, Cold Spring Harbor, NY (Poster)

Crist, A.,Parmenter, M.D., and Phillips, P.C. “The Cost of Life Extension Mutations in *Caenorhabditis elegans* in a Naturalistic Environment.” Summer Program for Undergraduate Research Symposium, August 12, 2011; Eugene, OR. (Presentation)

Crist, A.,Parmenter, M.D., and Phillips, P.C.“Worm Population Cages: Using Soil Microcosms to Elucidate Longevity Patterns in Aging Mutants in *Caenorhabditis elegans.”* University of Oregon 1st Annual Undergraduate Symposium; May 2011; Eugene, OR. (Presentation)

**PUBLICATIONS**

Noble LM, Chelo I, Guzella T, Afonso B, Riccardi DD, Ammerman P, Dayarian A, Carvalho S, Crist A, Pino-Querido A, Shraiman B, Rockman MV, Teotónio H (2017) Polygenicity and Epistasis Underlie Fitness-Proximal Traits in the *Caenorhabditis elegans* Multiparental Experimental Evolution (CeMEE) Panel. ***Genetics*** 207(4):1663-1685.

Lucanic M, Plummer WT, Chen E, Harke J, Foulger AC, Onken B, Coleman-Hulbert AL, Dumas KJ, Guo S, Johnson E, Bhaumik D, Xue J, Crist AB, et al. (2017) Impact of genetic background and experimental reproducibility on identifying chemical compounds with robust longevity effects. ***Nature Communications*** 8:14256