

# Alejandro R. Burga

JCC POSTDOCTORAL FELLOW

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## Education

### Ph.D. in Systems Biology, Advisor: Dr. Ben Lehner

Barcelona, Spain

CENTRE FOR GENOMIC REGULATION, CRG/EMBL SYSTEMS BIOLOGY UNIT

2008–2012

- Graduated with honors, *summa cum laude*

### Master in Biomedical Research, Advisor: Dr. Ben Lehner

Barcelona, Spain

CENTRE FOR GENOMIC REGULATION, CRG/EMBL SYSTEMS BIOLOGY UNIT

2007–2008

### B.S. in Biochemistry

Santiago, Chile

PONTIFICAL CATHOLIC UNIVERSITY OF CHILE

2003–2007

- Graduated with honors, *summa cum laude*

### High School Degree

Lima, Peru

SAINT AUGUSTINE HIGH SCHOOL

1997–2002

- Graduated with honors, Second place out of 165 students during five years of High School

## Research experience

### Jane Coffin Childs Postdoctoral Fellow

Los Angeles, California

HUMAN GENETICS DEPARTMENT, UCLA

Jul 2013 - Present

- Advisor: Dr. Leonid Kruglyak. Quantitative genetics in yeast and *C. elegans* and Genomics of vertebrate evolution

### Postdoctoral Fellow

Princeton, New Jersey

LEWIS-SIGLER INSTITUTE, PRINCETON UNIVERSITY

Nov. 2012 - Jul. 2013

- Advisor: Dr. Leonid Kruglyak. Quantitative genetics in yeast and *C. elegans* and Genomics of vertebrate evolution

### Ph.D. student

Barcelona, Spain

EMBL SYSTEMS BIOLOGY UNIT, CENTER FOR GENOMIC REGULATION (CRG)

July 2008 - July 2012

- Advisor: Dr. Ben Lehner Systems Biology. Stochastic gene expression during the development of *C. elegans*.

### Masters Student

Barcelona, Spain

EMBL SYSTEMS BIOLOGY UNIT, CENTER FOR GENOMIC REGULATION (CRG)

August 2007 - July 2008

- Advisor: Dr. Ben Lehner Systems Biology. Stochastic gene expression during the development of *C. elegans*.

### Undergraduate researcher

Santiago, Chile

PONTIFICAL CATHOLIC UNIVERSITY OF CHILE

March 2003 - July. 2007

- Advisor: Dr. Juan Larrain. Developmental biology. Gene expression analysis of Syndecan-4 during mouse embryonic development.
- Advisor: Dr. Rodrigo Gutierrez. Systems Biology. Construction of a literature-based interaction network for *A. thaliana*

## Publications

### Articles

1. **Burga, A.**, Casanueva, O., Lehner, B. “Predicting mutation outcome from early stochastic variation in genetic interaction partners”. *Nature*, 480, 250-253 (2011)
2. Casanueva, O., **Burga, A.**, Lehner, B. “Fitness trade-offs and variable mutation buffering in isogenic *C. elegans*”. *Science*, 335, 82-85 (2012)
3. **Burga, A.**, Wang W., Wolf P., Ramey A., Verdugo c., Lyons K., Parker P., Kruglyak L. “Loss of flight in the Galapagos Cormorant mirrors human skeletal ciliopathies” bioRxiv 061432; doi: <http://dx.doi.org/10.1101/061432> (*submitted for review*) (2016)

## Reviews

1. **Burga, A.**, Lehner, B. “Beyond genotype to phenotype: why the phenotype of an individual cannot always be predicted from their genome sequence and the environment that they experience” *FEBS Journal*, 279, 3765-3775 (2012)
2. **Burga, A.**, Lehner, B. “Predicting phenotypes from genotypes, phenotypes and a combination of the two” *Current Opinion in Biotechnology*, 24, 803-809 (2013)

## Book Chapters

1. Coruzzi G., **Burga, A.**, Katari M., Gutierrez, R. “Systems Biology: Principles and applications in plant research” in *Plant Systems Biology* - Blackwell Publishing (2009)

## Honors & Awards

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2013	<b>Jane Coffin Childs Foundation Postdoctoral fellowship</b> , Three year research fellowship awarded by the Jane Coffin Childs Memorial Fund for Medical Research.	<a href="#">U.S.A</a>
2012	<b>“La Vanguardia” Research prize finalist</b> , Ph.D. publication (Burga et al., 2011) selected Top 8 of all scientific studies conducted in Spain during 2011	<a href="#">Spain</a>
2011	<b>Extraordinary Thesis Prize - Universitat Pompeu Fabra</b> , Prize given by the Pompeu Fabra University to the best thesis submitted during the year 2011	<a href="#">Spain</a>
2012	<b>Travel fellowship to the Weizmann Institute for Science, Rehovot, Israel</b> , Travel expenses to present and interview at the Weizmann Institute for Science for a postdoctoral position.	<a href="#">Israel</a>
2009	<b>Best Talk Prize – Institute for Research in Biomedicine (IRB)</b> , Prize given to the best talk at the IRB PhD Student Symposium.	<a href="#">Spain</a>
2009	<b>Best Talk Prize – Center for Genomic Regulation (CRG)</b> , Prize given to the best talk at the CRG PhD Student Symposium.	<a href="#">Spain</a>
2008	<b>FPI Doctoral Studies Fellowship</b> , Fellowship sponsored by the Spanish Government to carry doctoral studies.	<a href="#">Spain</a>
2007	<b>Deutscher Akademischer Austausch Dienst (DAAD) travel fellowship</b> , Fellowship awarded by DAAD to travel to Berlin and study German for 1 month.	<a href="#">Germany</a>
2007	<b>Biochemistry Honor Scholarship – Pontificia Universidad Católica de Chile</b> , Scholarship given to the student with the highest GPA during the academic year.	<a href="#">Chile</a>
2006	<b>Biochemistry Honor Scholarship – Pontificia Universidad Católica de Chile</b> , Scholarship given to the student with the highest GPA during the academic year.	<a href="#">Chile</a>
2005	<b>Biochemistry Honor Scholarship – Pontificia Universidad Católica de Chile</b> , Scholarship given to the student with the highest GPA during the academic year.	<a href="#">Chile</a>
2002	<b>Graduated with Honors from Saint Augustine High School</b> , Second place out of 165 students during five years of High School.	<a href="#">Peru</a>

## Teaching experience

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### Bioscience Postdoc Educational Leadership Program

[Los Angeles, USA](#)

SCHOOL OF MEDICINE AND DEPARTMENTS OF MOLECULAR, CELLULAR, & INTEGRATIVE PHYSIOLOGY

2016

- Leading small-group discussions, Evaluating effectiveness of lecture content and presentation, Course review and analysis.

### South LA Hackathon volunteer

[Los Angeles, USA](#)

TEENS EXPLORING TECHNOLOGY

2015

- Teaching kids and teenagers to code by first helping them to identify a problem in their communities and use programming and web-design to find a solution.

### Laboratory supervisor

[Los Angeles, USA](#)

KRUGLYAK LAB, UCLA

since 2013

- I have directly supervised and guided 4 undergraduate students, helped them define a research topic and trained them in molecular biology and genetics.

## Biology lecturer

PONTIFICAL CATHOLIC UNIVERSITY OF CHILE

*Santiago, Chile*

2005

- I volunteered and taught biology lessons to unprivileged high school students applying to university.

## Conference Presentations

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### TALKS

#### Evolution Meeting 2016

AUSTIN CONVENTION CENTER - TALK

*Austin, USA*

June 2016

#### The Biology of Genomes

COLD SPRING HARBOR LABORATORY - SELECTED TALK

*New York, USA*

May 2016

#### Size in Development: Growth, Shape, and Allometry

RIKEN CENTER FOR DEVELOPMENTAL BIOLOGY - SELECTED TALK

*Kobe, Japan*

March 2016

## Professional memberships

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#### Genetics Society of America

2016

#### European Society for Evolutionary and Developmental Biology

2016