

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., Wang W., Ben-David, E., Wolf P., Ramey A., Verdugo c., Lyons K., Parker P., Kruglyak L. “A genetic signature of the evolution of loss of flight in the Galapagos cormorant”. *Science* 356 (2017) bioRxiv 061432

2. Ben-David, E.*, Burga, A.*, Kruglyak L. “A maternal-effect selfish genetic element in *Caenorhabditis elegans*”. *Science* (in press) (2017) bioRxiv 112524 (*) Equal contributors

3. Casanueva, O., Burga, A., Lehner, B. “Fitness trade-offs and variable mutation buffering in isogenic *C. elegans*”. *Science*, 335, 82–85 (2012)

4. **Burga, A.**, Casanueva, O., Lehner, B. “Predicting mutation outcome from early stochastic variation in genetic interaction partners”. *Nature*, 480, 250-253 (2011)

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

2017	2nd Prize - Hilde Mangold Postdoctoral Symposium , Awarded at the Society of Developmental Biology 76th Annual Meeting, Minneapolis, MN	<i>U.S.A</i>
2017	SDB Travel Award , Travel award for presenting at the Hilde Mangold Postdoctoral Symposium of SDB 76th Annual Meeting, Minneapolis, MN	<i>U.S.A</i>
2017	SMBE Young Investigator Travel Award , Travel award for presenting at the 2017 SMBE meeting in Austin, TX	<i>U.S.A</i>
2013	Jane Coffin Childs Foundation Postdoctoral fellowship , Three year research fellowship awarded by the Jane Coffin Childs Memorial Fund for Medical Research.	<i>U.S.A</i>
2012	“La Vanguardia” Research prize finalist , Ph.D. publication (Burga et al., 2011) selected Top 8 of all scientific studies conducted in Spain during 2011	<i>Spain</i>
2011	Extraordinary Thesis Prize - Universitat Pompeu Fabra , Prize given by the Pompeu Fabra University to the best thesis submitted during the year 2011	<i>Spain</i>
2012	Travel fellowship to the Weizmann Institute for Science, Rehovot, Israel , Travel expenses for presenting and interviewing at the Weizmann Institute for Science for a postdoctoral position.	<i>Israel</i>
2009	Best Talk Prize – Institute for Research in Biomedicine (IRB) , Prize given to the best talk at the IRB PhD Student Symposium.	<i>Spain</i>
2009	Best Talk Prize – Center for Genomic Regulation (CRG) , Prize given to the best talk at the CRG PhD Student Symposium.	<i>Spain</i>
2008	FPI Doctoral Studies Fellowship , Fellowship awarded by the Spanish Government for studying in Graduate School	<i>Spain</i>
2007	Deutscher Akademischer Austausch Dienst (DAAD) travel fellowship , Fellowship awarded by DAAD to travel to Berlin and study German for 1 month.	<i>Germany</i>
2007	Biochemistry Honor Scholarship – Pontificia Universidad Católica de Chile , Scholarship awarded to the student with the highest GPA during the academic year.	<i>Chile</i>
2006	Biochemistry Honor Scholarship – Pontificia Universidad Católica de Chile , Scholarship awarded to the student with the highest GPA during the academic year.	<i>Chile</i>
2005	Biochemistry Honor Scholarship – Pontificia Universidad Católica de Chile , Scholarship awarded to the student with the highest GPA during the academic year.	<i>Chile</i>
2002	Graduated with Honors from Saint Augustine High School , Second place out of 165 students during five years of High School.	<i>Peru</i>

Teaching experience

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

Santiago, Chile

PONTIFICAL CATHOLIC UNIVERSITY OF CHILE

2005

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

Conference Presentations

TALKS

SDB 76th Annual Meeting

Minneapolis, USA

HYATT REGENCY HOTEL - SELECTED TALK

July 2017

SMBE Meeting 2017

Austin, USA

JW MARRIOTT - SELECTED TALK

July 2017

21st C. elegans International Meeting 2017

Los Angeles, USA

UCLA - SELECTED TALK

June 2017

Evolution Meeting 2016

Austin, USA

AUSTIN CONVENTION CENTER - TALK

June 2016

The Biology of Genomes

New York, USA

COLD SPRING HARBOR LABORATORY - SELECTED TALK

May 2016

Size in Development: Growth, Shape, and Allometry

Kobe, Japan

RIKEN CENTER FOR DEVELOPMENTAL BIOLOGY - SELECTED TALK

March 2016

Professional memberships

Genetics Society of America

2016

European Society for Evolutionary and Developmental Biology

2016

Society for Molecular Biology and Evolution

2017

Society for Developmental Biology

2017