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# AaronBrooks/PhD

## Science of complex biological systems

## Publications

S Imam, S. Schaeuble, **AN Brooks**, NS Baliga, ND Price. **A framework for data-driven integration of genome-scale gene regulatory and metabolic network models.** *In preparation.*

DJ Reiss, CL Plaisier, W Wu, **AN Brooks**, NS Baliga. **Python cMonkey.** *In preparation.*

DM Salvanha, **AN Brooks**, DJ Reiss, RZN Vêncio, NS Baliga. **iGB<sup>web</sup>: an interactive genome browser for the web.** *In preparation.*

CL Plaisier, FY Lo, J Ashworth, **AN Brooks**, KD Beer, A Kaur, M Pan, DJ Reiss, FT Facciotti, NS Baliga. (2014) **Evolution of Context Dependent Regulation by Expansion of Feast/Famine Regulatory Proteins.** *BMC Systems Biology* 8(1):122.

H Westerhoff\*, **AN Brooks\***, E Simeonidis\*, R García-Contreras\*, F Boogerd, F He, VJ Jackson, V Goncharuk, A Kolodkin. (2014) **Macromolecular networks and intelligence in microorganisms.** *Front.Microbiol.* 5:379.

**AN Brooks\***, DJ Reiss\*, A Allard, W Wu, DM Salvanha, CL Plaisier, S Chandrasekaran, M Pan, A Kaur, NS Baliga. **A system-level model for the microbial regulatory genome.** *Mol Syst Biol.* (2014) 10: 740.

**AN Brooks**, S Turkarslan, KD Beer, FY Lo, NS Baliga. (2011) **Adaptation of cells to new environments.** *Wiley Interdiscip Rev Syst Biol Med.* 3(5): 544–561.

\* Denotes equal contribution

## Education

2008 - 2014 **PhD in Molecular and Cellular Biology** [University of Washington](#)  
*Thesis: "Data-driven inference of dynamic transcriptional regulatory mechanisms in prokaryotes: a systems perspective."*  
*Advisor: Prof. Nitin Baliga, Institute for Systems Biology*

2002 - 2007 **BS in Biochemistry, Summa Cum Laude** [University of New Mexico](#)  
*Thesis: "Characterization of the dynamic interactions of cytoplasmic poly(A) binding protein with poly(A) RNA."*  
*Thesis Honors: Robert B. Loftfield Award*  
*Advisor: Prof. David G. Bear*

2002 - 2007 **BA in Political Science, Summa Cum Laude** [University of New Mexico](#)  
*General University Honors*  
*Minor: Philosophy*

## In the news

05/2014 **Knowing Networks** [NIH NIGMS Inside Life Science](#)  
*Outreach at USA Science and Engineering Festival*

## Awards

## Research Interests



## Wetlab

MolBio ★★★★★  
Cytometry ★★★★★  
Expression ★★★★★  
Bioreactor ★★★★★  
Sequencing ★★★★★  
Microscopy ★★★★★

## Programming

R ★★★★★  
Python ★★★★★  
Bash ★★★★★  
SQL ★★★★★  
Malab ★★★★★  
HTML/JS ★★★★★  
C++ ★★★★★

## Research Summary



2010-2013 **Office of Science Graduate Fellowship**

Department of Energy

2009 **Graduate Research Fellowship**

National Science Foundation

Honorable Mention

2006 **Goldwater Scholarship**

Barry M. Goldwater Foundation

## Teaching & Outreach

2014 **USA Science and Engineering Festival**

Washington, D.C

*Designed and facilitated a hands-on activity and web-based game to understand the structure and function of networks. Over 300 students have played the online game.*

2011 **Introduction to Systems Biology**

Institute for Systems Biology

*Co-organizer, lecturer*

2009-now **Science Communication Fellow**

Pacific Science Center, Seattle WA

2010 **Graduate Teaching Assistant**

Microbiology, University of Washington

*MICRO 411: Gene Action*

## Students mentored

08-12/2012 **Robin Green**

PhD student at University of Washington, WA

Currently at Fred Hutchinson Cancer Research Center

05-08/2011 **Darach Miller**

Undergraduate at UC Davis, CA

Currently PhD student at NYU

05-08/2010 **Alexis Valauri-Orton**

Undergraduate at Davidson College, NC

Currently Ocean Acidification Intern at Ocean Conservancy

## Other

2011 **Complex Systems Summer School**

Santa Fe Institute

2010 **MCB Student Symposium**

Fred Hutchinson Cancer Research Center

*Co-organizer, Bioplasticity: flexibility within and beyond the code*

## References

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