# Affiliations

**Ph.D.**  
Department of Molecular Biology & Biochemistry  
University of California, Irvine  
2ex **Training Fellow**  
The Institute for Genomics and Bioinformatics (IGB)  
University of California, Irvine

# Research Interests

vector biology, evolution, genomics, transcriptomics, bioinformatics, evolution of transcriptional regulation, mosquito bloodmeal regulated gene expression, synthetic transcriptional regulation, biological education/advocacy

# Biographical Information

0.97>p2.6cmX Date of Birth & **June 1st, 1979**  
Citizenship & **United States of America**

# Education

0.97>p2.6cmX Degree & **Doctor of Philosophy in Biological Sciences**  
University & **University of California, Irvine** Irvine, CA  
Graduation & **March 2014**  
Adviser & **Dr. Anthony James**  
Co-Adviser & **Dr. Xiaohui Xie**  
Topic & *Comparative transcriptomics of blood-feeding in midguts of three disease-vector mosquito species.*

0.97>p2.6cmX Degree & **Bachelor of Science**  
University & **University of Georgia** Athens, GA  
Graduation & **2003**  
Major & **Biology** (emphasis in molecular genetics)

# Professional Experience

0.97>p2.6cmX Period & **Jan. 2009–Mar. 2009**  
Employer & **KDH Research & Communication** Atlanta, GA  
Job Title & **Master Consultant**  
& Reviewed, provided feedback and corrections on materials for “*Genetics for Kids*” modules, a supplement for public school curricula.

0.97>p2.6cmX Period & **Winter 2009**  
Employer & **School of Biological Sciences, UCI** Irvine, CA  
Job Title & **Graduate Teaching Assistant**  
& BIO SCI M137 — Microbial Genetics

0.97>p2.6cmX Period & **Winter 2009**  
Employer & **School of Biological Sciences, UCI** Irvine, CA  
Job Title & **Graduate Laboratory Assistant**  
& BIO SCI M118L — Experimental Microbiology Lab

0.97>p2.6cmX Period & **Sept. 2006–May 2007**  
Employer & **University of Southern California** Los Angeles, CA  
& **Geomicrobiology Group**  
Supervisor & **Dr. Katrina Edwards**  
Job Title & **Research Laboratory Technician**  
& Studied microorganisms’ role in mediating the mechanisms of rock, mineral, and organic matter transformations.

0.97>p2.6cmX Period & **June 2003–Aug. 2006**  
Employer & **University of Georgia** Athens, GA  
& **Dept. of Cellular Biology**  
Supervisor & **Dr. Judith Willis**  
Job Titles & **Laboratory Technician II to Research Professional I**  
& Characterization and annotation of the cuticular protein genes of *Anopheles gambiae*.

# Publications

[cv]

# Honors and Awards

The Pacific-Southwest Regional Center of Excellence for Biodefense and Emerging Infectious Diseases Annual Meeting Travel Award

President of UCI’s IGB Biomedical Informatics Training fellows

Biomedical Informatics Training fellow (NIH/NLM 5T15LM007443)

# Conferences and Presentations

[cv]

[cv]

[cv]

[cv]

[cv]

[cv]

[cv]

# Scientific Software

: An object oriented python pipeline that simplifies and streamlines the running of complex tophat/cufflinks-based RNA-seq experiments into a single command plus a configuration file: designed with repeatability and usability as priorities (repository: <https://github.com/xguse/blacktie>).  
: A Galaxy-integrated python-framework using network graphs to exploit multidimensional data from disparate “Omics” sources for creating/exploiting functional-genomic gene sets across multiple species.  
: a personal python-framework for coordinating and augmenting existing RNA-Seq analysis programs with custom programs and interfacing with a Galaxy instance.

# Society Memberships

Arthropod Genomics Consortium

# Funding History

Biomedical Informatics Training fellow (NIH/NLM 5T15LM007443)

# Service

http://movingthelamppost.com (academic blog)  
http://scipher.wordpress.com/  
http://vlad.bio.uci.edu:8081 (the lab’s local Galaxy instance)

*Python for Biologists* (Designed and presented this workshop for the absolute beginner biologist.)

Organizer for the Orange County Science Club’s “Science and Suds” pub nights and host of occasional “Ask a Molecular Biologist” events

# Programming Skills

Python(w/ regular use of object oriented design)\*, Bash\*, LaTeX, Galaxy tool design\*, R, Perl, SQL, XML, reStructuredText\*

scipy\*, numpy\*, matplotlib/pyplot/pylab\*, networkx\*, pybedtools\*, pysam

Git\*, Mercurial, Bazaar, Subversion

# Laboratory Skills

Quantitative Real Time PCR — RT-PCR — Designing, optimizing, and validating Real Time PCR primers — Bacterial cloning — Preparation of electro-competent cells — Electro and chemical transformation techniques — Aseptic technique — Maintenance of bacterial stocks — Gel electrophoresis — Restriction digestion — Nucleic acid isolation and quantification — Protein isolation — Solution preparation — Plasmid preps — Rearing of mosquitoes — Mosquito dissection

Growing crystals for X-ray crystallography — RNA in situ hybridization — Characterization of biochemical reactions using spectrophotometry

# References

[t]0.5 Distinguished Professor  
University of California, Irvine  
McGaugh Hall 3205  
Irvine, CA 92697  
Phone: (949) 824-5930  
E-mail: aajames@uci.edu

[t]0.5 Associate Professor  
University of California, Irvine  
1 East Peltason Drive  
Irvine, CA 92697  
Phone: (949) 824-9289  
E-mail: xhx@ics.uci.edu

[t]0.5 Professor  
University of Georgia  
724 Biological Sciences Building  
Athens, GA 30602  
Phone: (706) 542-0802  
E-mail: jhwillis@uga.edu

[t]0.5 Asst. Project Scientist  
University of California, Irvine  
3501 Hewitt Hall  
Irvine, CA 92697  
Phone: (949) 824-0249  
E-mail: mbonizzo@uci.edu