

LISA JOHNSON COHEN

UC Davis ◊ Molecular, Cellular, Integrative Physiology graduate student

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RESEARCH INTERESTS

Comparative environmental genomics and bioinformatics, genome assembly and annotation, using conserved gene functional tools to explore how diverse organisms use their unique genomic codes to respond to changes in their environments.

EDUCATION

Florida Institute of Technology

Aug. 2007-Dec. 2009

Master of Science in Environmental Resource Management

GPA: 3.5/4.0

Management Plan: “[Indian River Lagoon Shoreline Restoration Project](#)”

Agency: [Indian River Lagoon Aquatic Preserves](#), Florida Department of Environmental Protection

University of North Carolina at Wilmington

Aug. 2002-May 2004

Master of Science in Biology

GPA: 3.7/4.0

Thesis: “[Metabolic influences of fiber size in aerobic and anaerobic muscles of the blue crab, *Callinectes sapidus*.](#)”

Advisor: [Dr. Stephen Kinsey](#)

Eckerd College

Aug. 1998-May 2002

Bachelor of Science in Biochemistry

Minor in Music

GPA: 3.2/4.0

PUBLICATIONS

Maass K, Shekar A, Lu J, Kang G, See F, Kim E, Delgado C, Shen S, **Cohen L**, Fishman G. 2014. Isolation and Characterization of ESC-Derived Cardiac Purkinje Cells. *Stem Cells*. Dec 18. doi: [10.1002/stem.1921](https://doi.org/10.1002/stem.1921).

Montenegro D, Kalpana K, Chrissian C, Sharma A, Takaoka A, Iacovidou, M, Soll C, Aminova O, Heguy A, **Cohen L**, Shen S, Kawamura A. 2014. Uncovering “herbal probiotics” in Juzen-taiho-to, an immune-boosting herbal formulation. *Bioorganic & Medicinal Chemistry Letters*. doi:[10.1016/j.bmcl.2014.12.036](https://doi.org/10.1016/j.bmcl.2014.12.036)

Johnson LK, Dillaman RM, Gay DM, Blum JE, Kinsey ST. 2004. Metabolic influences of fiber size in aerobic and anaerobic locomotor muscles of the blue crab, *Callinectes sapidus*. *Journal of Experimental Biology*. 207:4045-4056.

Gavrilova O, Haluzik M, Matsusue K, Cutson JJ, **Johnson L**, Dietz KR, Nicol CJ, Vinson C, Gonzalez FJ, Reitman ML. 2003. Liver peroxisome proliferator-activated receptor-gamma contributes to hepatic steatosis, triglyceride clearance, and regulation of body fat mass. *Journal of Biological Chemistry*. 278(36):34268-34276.

BOOK CHAPTER

Cohen L, Efstathiadis E, Shen S. 2015. *In press*. Chapter 9: *De novo* Transcriptome Assembly. In: *Next Generation DNA Sequencing Informatics, 2nd Edition*. Ed. Stuart Brown. Cold Spring Harbor Laboratory Press, Cold Spring Harbor, NY.

PRESENTATIONS

Cohen L., Gonzlez Angel A. M., Edge S. 2013. Molecular responses of coral larvae and sponges to environmental stresses. [Florida Specialty License Plate-Funded Research Symposium, Harbor Branch Oceanographic Institute, Fort Pierce, FL. May 16, 2013.](#)

Edge S., Voss J., Semon K., Ruzicka R., Williams M., Fahsbender E., **Cohen L.** 2012. Molecular diagnostics of coral exposed to oil and dispersants: a holobiont approach to investigate potential effects on the host corals, symbiotic algae, and mucus associated microbial communities. 12th Annual International Coral Reef Symposium, Cairns, Queensland, Australia. July 9-13, 2012.

Voss J., S. Edge, **L. Cohen**, E. Fahsbender, M. Williams, N. Harrison. 2012. Oil, Dispersant, and Disease: Impacts and Interactions on Corals in the Florida Keys. 41st Benthic Ecology Meeting, Norfolk, VA. Mar 23, 2012.

Voss J., Beal J., Edge S., **Cohen L.**, Hanisak, D. 2012. Estuarine Impacts on St. Lucie Reef: Determining the Effects of Changing Resource Management on Floridas Northernmost Coral Reef. Indian River Lagoon Symposium, Harbor Branch Oceanographic Institute at Florida Atlantic University. Feb 9, 2012

Voss J., S. Edge, **L. Cohen**, E. Fahsbender, M. Williams, N. Harrison. 2011. Oil, Dispersant, and Disease: Impacts and Interactions on Corals in the Florida Keys. Coastal And Estuarine Research Federation Meeting, Daytona Beach, FL. Nov 7, 2011.

Beal J, Voss J, Edge S, **Cohen L.** 2011. Living on the ledge: assessment of coral stressors on St. Lucie Reef, Florida. 21st Biennial Conference of the Coastal and Estuarine Research Federation. November 6-10, 2011. Daytona Beach, FL.

Cohen LJ, Herren LW, Virgilio MT. 2010. Restoring fringing mangrove habitat in the Indian River Lagoon. Florida Academy of Sciences Annual Meeting, Indian River State College, Ft. Pierce, FL. March 19-20, 2010.

Virgilio MT, **Cohen LJ**, Herren LW. 2010. Using historic aerial photographs and GIS as management tools for establishing baselines and setting goals for future shoreline restoration in the Indian River Lagoon. Florida Academy of Sciences Annual Meeting, Indian River State College, Ft. Pierce, FL. March 19-20, 2010.

Minton D, Smith G, Filmed C, Taffleichig A, **Johnson L**, and Molina M. 2008. Improvement of coral dredging management to minimize environmental impacts in Yap State, Federated States of Micronesia. [11th Annual International Coral Reef Symposium, West Palm Beach, FL. July 7-11, 2008.](#)

Johnson LK and Kinsey ST. 2004. Effects of muscle fiber size on post-contractile lactate recovery in the blue crab, *Callinectes sapidus*. Society for Integrative and Comparative Biology Annual Meeting, New Orleans, LA. January 5-9, 2004. ([1st Place Student Poster Award](#))

Johnson LK, Cutson JJ, Nicol CJ, Gonzalez FJ, Gavrilova O, Reitman ML. 2001. Effects of rosiglitazone on A-ZIP/F-1 mice with liver-specific deletion of PPAR-gamma gene. Summer Student Poster Day, National Institutes of Health, Bethesda, MD.

Johnson LK, Gavrilova O, Reitman ML. 2000. Effects of surgical transplantation of brown adipose tissue on the metabolism of lipoatrophic AZIP/F-1 mice. Summer Student Poster Day, National Institutes of Health, Bethesda, MD.

Johnson LK, Everett CA, Chumakov MK, Gavrilova O, Reitman ML. 1999. Effects of diet on metabolism in lipoatrophic A-ZIP/F-1 mice. Summer Student Poster Day, National Institutes of Health.

Tatham TA, **Johnson LK**, Acuna AS. 1998. Symmetrical generalization of the discriminative stimulus effects of toluene and ketamine suggests mediation by NMDA receptors. Society for Neuroscience Annual Meeting, San Diego, CA.

WORK EXPERIENCE

Bioinformatics Core, Genome Technology Center,
New York University Langone Medical Center
Bioinformatics Programmer

March 2014 - May 2015
New York City, NY

Supervisors: [Dr. Steven Shen](#), [Dr. Adriana Heguy](#)

- Routine bioinformatics for core sequencing facility
- Illumina bcl2fastq demultiplexing
- RNA-Seq differential gene expression analyses
- benchmark *de novo* transcriptome assembly software study
- *de novo* genome assembly of prokaryotic and nonmodel eukaryotic species

Harbor Branch Oceanographic Institute,
Florida Atlantic University
Biological Scientist - Senior Research Technician

March 2010 - March 2014
Fort Pierce, FL

Supervisors: [Dr. Joshua Voss](#), [Dr. Sara Edge](#)

- Gene expression profiling: microarrays, qPCR, RNA-Seq
- Designed a custom 8x15k Agilent microarray for Scleractinian corals
- Trained and supervised 13 staff and students, responsible for general lab management
- Field sample collections: SCUBA diving, 3 NOAA research cruises (ROV and JSL submersible)

Florida Department of Environmental Protection, CAMA
Southeast Florida Aquatic Preserves
Shoreline Restoration Project Coordinator

May 2008 - March 2010
Fort Pierce, FL

- Evaluated a large-scale, long-term ecological restoration project for Master's project
- Trained and supervised staff, student interns, and coordinated a network of over 200 volunteers
- Developed and delivered public outreach presentations

U.S. Peace Corps
Natural Resources Conservation & Development Volunteer

August 2004 - November 2006
Yap, Micronesia

- Worked at the Yap State Environmental Protection Agency
- Established an [intergovernmental technical assistance relationship between US FWS and Yap State](#)

University of North Carolina at Wilmington,
Comparative Biochemistry & Physiology Lab
Graduate Research Assistant

August 2002 - June 2004
Wilmington, NC

- Master's thesis research funded by NSF grant to Dr. Stephen Kinsey and Sigma Xi GIAR grant
- Designed experiments and measured biochemical consequences of cell size and intracellular diffusive constraints in a crustacean model
- Trained undergraduate students

National Institutes of Health, NIDDK
Molecular Biology & Gene Regulation Section
Laboratory Support Technician, GS-0404-4

Summers 1999-2001
Bethesda, MD

- Funded by NIH Summer Internship Program in Biomedical Research
- Designed experiments, completed and presented three summer projects investigating the role of lipid metabolism in a mouse model for lipotrophic Type II diabetes

TEACHING

University of Phoenix

Associate Faculty

2009-Present

Online

- Developed material and taught 20 sections of Associate-level Environmental Science (SCI 275)

NSF GK-12 Integrated Science Teaching Enhancement Partnership Program, Florida Institute of Technology

Graduate Teaching Fellow

Fall 2007

Melbourne, FL

- Developed inquiry-based curriculum in Brevard County Public High Schools

Montgomery County Public Schools

Substitute Teacher

Spring 2007

Montgomery County, Maryland

- High School, Middle School science, math, social studies, music

Palau Community College, Extension Program in Yap, FSM

Adjunct Instructor

Spring 2006

Yap, FSM

- Developed material and taught Associate-level Introduction to Science (SCI 090)

Department of Biology & Marine Biology, University of North Carolina at Wilmington

Graduate Teaching Assistant

Fall 2002

Wilmington, NC

- Labs: Principles of Biology, Cells (BIO 101), Anatomy & Physiology I (BIO 240)

Department of Chemistry, Eckerd College

Teaching Assistant

Fall 2000-Spring 2002

St. Petersburg, FL

- Labs: Organic Chemistry I (CHN 121), Organic Chemistry II (CHN 122),
Biochemistry I (CHN 415), Biochemistry II (CHN 417)

GRANT FUNDING

Southeast Florida Aquatic Preserves, FDEP. Indian River Lagoon Shoreline Restoration Project. Funded by: US EPA National Estuary Program and St. Johns River Water Management District, Palm Bay, FL. Contract #25209 and Grant #FC411.

Southeast Florida Aquatic Preserves, FDEP. Indian River Lagoon Shorelines Restoration Project. Funded by: US EPA National Estuary Program and St. Johns River Water Management District, Palm Bay, FL. Contract #24860 and Grant #FC397.

Yap Community Action Program, **Yap State EPA**, Yap State Marine Resources Management Division. August 2006. Developing a coral reef monitoring program in the State of Yap, FSM. Funded by: NMFS, NOAA Coral Reef Conservation Grants Program, General Grant, NMFS-HCPO-2006-2000348.

Yap State EPA, Yap State Marine Resources Management Division. 2006. Request for technical assistance for managing and monitoring coral reef dredging operations in Yap State, FSM through a Memorandum of Understanding between the Federated States of Micronesia, Department of Economic Affairs and the US FWS. Funded by: US-FSM Joint Economic Management Committee, US DOI.

Lisa K. Johnson and Stephen T. Kinsey. March 2003. The effects of cell size on metabolism during recovery from fatigue in the blue crab, *Callinectes sapidus*. Funded by: Sigma Xi Grant-in-Aid-of-Research, Cell Biology/Biochemistry.

OTHER FUNDING & AWARDS

Graduate Fellowship in Environmental Resource Management <i>South Brevard Garden Club Association, Florida Institute of Technology</i>	2009
Graduate Fellowship in Environmental Resource Management <i>Kimley-Horn and Associates, Inc., Florida Institute of Technology</i>	2008
First Place, Student Poster Award <i>Division of Comparative Physiology & Biochemistry, Society for Integrative and Comparative Biology Annual Meeting, New Orleans, LA</i>	2004
Grant-In-Aid-Of-Research, Cell Biology/Biochemistry <i>Sigma Xi Scientific Research Society</i>	March 2003
Academic Honors & Special Talent Scholarships <i>Eckerd College</i>	1998-2002
Student Science Award Fellowship <i>American Heart Association</i>	1998

TECHNICAL STRENGTHS

Operating Systems	Linux, OSX, Windows
Scripting Languages	Python, R, Bash
Bioinformatics pipelines	QC, RNASeq, <i>de novo</i> assembly, metagenomics
Wet Lab	RNA, DNA, protein isolations, purification, quantification, electrophoresis/Bioanalyzer, PCR, Cy3/Cy5 labeling, hybridization, western blotting, enzyme assays
Field (marine & terrestrial)	Sample collections, ArcGIS, ecological surveys, experimental design

SPECIAL TRAINING

<i>Next Generation Sequence Analysis Workshop (2015)</i> Kellogg Biological Station, Michigan State University TA: Weeks 1-2, Attendee: Week 3	August 2015 <i>Kalamazoo, MI</i>
<i>BMSC-GA 4451, Introduction to Biostatistics and Bioinformatics</i> New York University School of Medicine, Center for Health Informatics & Bioinformatics	Fall 2014 <i>New York, NY</i>
<i>Workshop on Genomics</i> evomics.org	January 12-24, 2014 Český Krumlov, CZ
<i>Software Carpentry Boot Camp</i> Woods Hole Oceanographic Institute & NOAA National Marine Fisheries Service	November 12-13, 2013 <i>Woods Hole, MA</i>
<i>R/Computing for Data Analysis</i> , Certificate of Completion Johns Hopkins University, Bloomberg School of Public Health	Sept. 23 - Oct. 21, 2013 Online, Coursera
<i>Scientific Diver</i> American Association of Underwater Sciences Harbor Branch Oceanographic Institute, FAU	2010-2014 <i>Fort Pierce, FL</i>
<i>GIS, Spatial Analysis & Modeling</i> Florida Institute of Technology	January-May, 2009 <i>Melbourne, FL</i>

COMMUNITY

Melbourne Beach Environmental Advisory Board

Terms 2010-2012, 2012-2014

Member, Town Commission-appointed

Cellist: New York University Community Orchestra (2014-2015), Vero Beach Chamber Orchestra (2010-2013, Principal: 2012-2013), Melbourne Community Orchestra (2007-2009), Wilmington Symphony Orchestra (2002-2004), Tampa Bay Symphony (1998-2002), Montgomery County Youth Orchestras (1993-1998)

REFERENCES

Dr. Steven Shen

Director, [Genomics, Bioinformatics and Computational Support](#)

New York University School of Medicine

Phone: +1 212 263 2234

Email: ShuQuan.Shen@nyumc.org

Dr. Efstratios Efstathiadis

Assistant Director of Research and Technology Services

New York University, Astor Place

Phone: 212-998-3071

Email: efstae01@nyu.edu

Dr. Joshua Voss

Associate Research Professor,

[Coral Reef Health and Ecology Lab](#),

Harbor Branch Oceanographic Institute,

Florida Atlantic University

Fort Pierce, FL

Phone: +1 772 242 2538

Email: jvoss2@fau.edu

Dr. Sara Edge

Research Associate,

[Affiliate FAU Faculty](#),

Florida Atlantic University

Email: sedge4@fau.edu

Dr. Stephen Kinsey

Professor,

[Comparative Physiology & Biochemistry Lab](#)

University of North Carolina at Wilmington

Phone: +1 910 962 7398

Email: kinseys@uncw.edu

Additional collaborators and references available upon request.