LISA JOHNSON COHEN

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EDUCATION

Ph.D. Molecular, Cellular, Integrative Physiology

2015-Present

with a Designated Emphasis in Biotechnology

University of California, Davis

Advisor: C. Titus Brown

M.S. Environmental Resource Management

2007-2009

Florida Institute of Technology

Agency: Southeast Florida Aquatic Preserves, Florida Department of Environmental Protection

M.S. Biology 2002-2004

University of North Carolina at Wilmington

Thesis: "Metabolic influences of fiber size in aerobic and anaerobic muscles of the blue crab, *Callinectes sapidus*."

Advisor: Stephen Kinsey

B.S. Biochemistry

1998-2002

Minor in Music Eckerd College

PUBLICATIONS

Hanley O, Zewdu R, **Cohen L**, Jung H, Lacombe J, Lee D, Philippidou P, Selleri L, Dasen J. In Press. Parallel Pbx-Dependent Pathways Govern the Coalescence and Fate of Motor Columns. Neuron. (NEURON-D-16-00192R1)

Cartularo L, Kluz T, Cohen L, Shen SS, Costa M. 2016. Molecular Mechanisms of Malignant Transformation by Low Dose Cadmium in Normal Human Bronchial Epithelial Cells. PloS One. 11(5), e0155002.

Maass K, Shekar A, Lu J, Kang G, See F, Kim E, Delgado C, Shen S, **Cohen L**, Fishman G. 2015. Isolation and Characterization of ESC-Derived Cardiac Purkinje Cells. *Stem Cells*. doi: 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. 2015. Uncovering "herbal probiotics" in Juzen-taiho-to, an immune-boosting herbal formulation. *Bioorganic & Medicinal Chemistry Letters*. doi: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. Chapter 9: *De novo* Transriptome Assembly. In: Next Generation DNA Sequencing Informatics, 2nd Edition. Ed. Stuart Brown. Cold Spring Harbor Laboratory Press, Cold Spring Harbor, NY.

Cohen L, González-Angel AM, 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.

González-Angel AM, Edge SE, Cohen LJ, Mason B. 2013. *Porites astreoides* larval response to acute hyposalinity stress. 42nd Benthic Ecology Meeting, Savannah, GA. March 20-24, 2012.

Voss J, Edge S, **Cohen L**, Fahsbender E, Williams M, Harrison N. 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, Edge S, **Cohen L**, Fahsbender E, Williams M, Harrison N. 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, Tafileichig 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 Programmer

March 2014 - May 2015

 ${\it Bioinformatics~Core,~Genome~Technology~Center,}$

New York University Langone Medical Center

New York City, NY

PIs: Dr. Steven Shen, Dr. Adriana Heguy

· Routine bioinformatics for core sequencing facility

Senior Research Technician - Biological Scientist

March 2010 - March 2014

Harbor Branch Oceanographic Institute,

Florida Atlantic University

Fort Pierce, FL

- · PIs: Dr. Joshua Voss, Dr. Sara Edge
- · Trained and supervised 13 staff and students
- · General lab management and molecular lab protocol development

Shoreline Restoration Project Coordinator

May 2008 - March 2010

Southeast Florida Aquatic Preserves,

Florida Department of Environmental Protection

Fort Pierce, FL

- · Managed grant deliverables and evaluated a long-term mangrove restoration project for Master's project
- · Trained and supervised staff, student interns, and coordinated a network of over 200 volunteers

U.S. Peace Corps Volunteer

August 2004 - November 2006

Yap State Environmental Protection Agency

Yap, Micronesia

· Worked with local counterparts to develop projects and grant proposal writing

Graduate Research Assistant

August 2002 - June 2004

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

Wilmington, NC

- · PI: Dr. Stephen Kinsey
- · Designed experiments measuring biochemical consequences of cell size in a crustacean model
- · Trained undergraduate students

Summer Intern - Laboratory Support Technician (GS-0404-4)

Summers 1999-2001

Molecular Biology & Gene Regulation Section,

National Institutes of Health, NIDDK

Bethesda, MD

- · PIs: Dr. Oksana Gavrilova, Dr. Marc Reitman
- · Funded by NIH Summer Internship Program in Biomedical Research
- · Designed experiments investigating the role of lipid metabolism in a mouse model for lipoatrophic Type II diabetes

Undergraduate Intern

2000-2001

Marine Mammal Pathobiology Lab.

Florida Fish & Wildlife Conservation Commission

St. Petersburg, FL

· Assisted during necropsies on Florida manatees

High School Intern

1997-1998

Behavioral Pharmacology Lab,

Uniformed Services University of the Health Sciences

Bethesda, MD

- · PI: Dr. Thomas Tatham
- · Trained rats in Skinner boxes to discriminate differential drug administration

Teaching Assistant August 2015

Next Generation Sequence Analysis Workshop,

Kellogg Biological Station, Michigan State University

Kalamazoo, MI

Adjunct Faculty 2009-2014

University of Phoenix Online

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

Graduate Teaching Fellow

Fall 2007

 $NSF\ GK\text{-}12\ Integrated\ Science\ Teaching\ Enhancement\ Partnership\ Program,$ $Florida\ Institute\ of\ Technology$

Melbourne, FL

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

Substitute Teacher Spring 2007

Montgomery County Public Schools

Montgomery County, Maryland

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

Graduate Teaching Assistant

Fall 2002

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

Wilmington, NC

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

Teaching Assistant

Fall 2000-Spring 2002

Department of Chemistry, Eckerd College

St. Petersburg, FL

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

GRANT FUNDING

US Environmental Protection Agency, National Estuary Program and St. Johns River Water Management District, Palm Bay, FL. FY2007-2008 and FY2008-2009. Indian River Lagoon Shoreline Restoration Project. Awarded to: Southeast Florida Aquatic Preserves, Florida Department of Environmental Protection. (Contract #24860; Grant #FC397 and Contract #25209; Grant #FC411)

National Marine Fisheries Service, NOAA Coral Reef Conservation Grants Program—General Grant. August 2006. Developing a coral reef monitoring program in the State of Yap, FSM. Awarded to: Yap Community Action Program, **Yap State Environmental Protection Agency**, Yap State Marine Resources Management Division. (NMFS-HCPO-2006-2000348)

US-FSM Joint Economic Management Committee, US Department of the Interior. 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. Awarded to: Yap State Environmental Protection Agency, Yap State Marine Resources Management Division.

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

OTHER FUNDING & AWARDS

Honorable Mention Graduate Research Fellowship Program, National Science Foundation	2015
Graduate Student Fellowship Molecular, Cellular, Integrative Physiology Graduate Group, UC Davis	Fall 2015, Winter 2016
Graduate Fellowship in Environmental Resource Management Florida Institute of Technology	2008-2009
First Place, Student Poster Award Division of Comparative Physiology & Biochemistry, Society for Integrative and Comparative Biology	2004
Academic Honors & Special Talent Scholarships Eckerd College	1998-2002
Student Science Award Fellowship	1998

TECHNICAL SKILLS

American Heart Association

Computing Resources	AWS cloud, HPCC management systems (PBS, SGE, Slurm)
Scripting Languages	Python, R, Bash
NGS Bioinformatics Pipelines	Illumina bcl2fastq demultiplexing, QC, differential gene expression,
	16S metagenomics, de novo assembly, annotation, evaluation
Molecular Lab	RNA, DNA, protein isolations, purification, quantification,
	electrophoresis/Bioanalyzer, PCR, Cy3/Cy5 labeling,
	microarray hybridization, western blotting, enzyme assays
Field & Wet Lab	Biological sampling (estuarine, marine shallow and deep sea),
	benthic ecological surveys, ex situ exposure experimental design

SPECIAL TRAINING

Workshop on Genomics evomics.org	January 12-24, 2014 Český Krumlov, CZ
Scientific Diver American Association of Underwater Sciences Harbor Branch Oceanographic Institute, Florida Atlantic University	$\begin{array}{c} 2010\text{-}2014 \\ Fort\ Pierce,\ FL \end{array}$
GIS, Spatial Analysis & Modeling Florida Institute of Technology	$\begin{array}{c} {\rm January\text{-}May,\ 2009} \\ {\it Melbourne,\ FL} \end{array}$
Data Management & Analysis Workshop Coral Taxonomy Workshop NOAA Coral Reef Conservation Program,	June 26-July 7, 2006 July 7-20, 2005
Palau International Coral Reef Center	Koror, Palau

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)