**Walker R.O. Fuchs**

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**EDUCATION**

**Yale University:**  Ph.D. Student Department of Cell Biology,

**Wheaton College (MA)**: Bachelor’s, May 2016 Major: Biochemistry (pre-med track completed) :Cum Laude

**PUBLICATIONS**

* **EMBO** 2020:Rewired signaling network in T cells expressing the chimeric antigenreceptor (CAR). Rui Dong 1 ,Kendra A. Libby, Franziska Blaeschke, **Walker Fuchs**, Alexander Marson, Ronald D. Vale and Xiaolei Su. Yale School of Medicine
* **Cell Reports** 2017: Small RNA sequencing identifies mir-493-5p as a novel mediator of platinum and PARP-inhibitor resistance in BRCA2-mutated ovarian cancer. Khyati Meghani, **Walker Fuchs**, Alex Detappe, Ewa Gogola, Sven Rottenberg, Jos Jonkers, Ursula Matulonis, Elizabeth Swisher, Panagiotis A. Konstantinopoulos, and Dipanjan Chowdhury. Dana Farber Cancer Institute, Harvard Medical School
* **Wheaton College Journal of Neurobiology** 2015: Effects of Oxygen Deprivation on the Movement of Peripheral Neuron Growth Cones Harvested from Chicken Gallus gallus Embryos. **Walker Fuchs.**
* Undergraduate thesis research written up for submission to peer-reviewed journal, Ciliogenesis during zebrafish heart regeneration.

**RESEARCH EXPERIENCE**

**Yale Graduate School,** PhD. Student, August 2018- current

PI: Dr. Xiaolei Su, Assistant professor of cell biology

* Research Focus: Investigating the biophysics of membrane interactions between T cells and antigen presenting cells to better understand immune surveillance of cancer.

**Dana Farber Cancer Institute & Harvard Medical School,** Research Technician, June 2016 – 2018

PI: Dr. Dipanjan Chowdhury / Chief of the Division of Radiation and Cancer Biology in the Department of Radiation Oncology, Assistant Professor Harvard Medical school

* Research Focus: DNA damage and repair mechanisms as they relate to cancer systems
* Designed independent research project on miRNA biomarkers in ovarian cancer to find potential for a cancer screen blood test.

**Mount Desert Island Biological Laboratory,** James Slater Murphy Fund Recipient, Summer 2015

PI: Dr. Robert Morris / Head of Visiting Scientists Program

* Research focus: Heart regeneration in zebra fish
* Used fluorescent immunohistochemistry, transmitted light microscopy, and confocal imaging to identify cilia growing in regenerating zebra fish heart tissue

**Wheaton College Biological Laboratory,** Honors thesis student researcher, Spring 2013 – Spring 2016

PI: Dr. Robert Morris / Cilia Research Lab

* **Honors Thesis**: Cilia’s Involvement in Zebrafish Heart Regeneration. Research focus on the mechanism of tissue regeneration using zebra fish as the model organism.
* Preformed experiments with fluorescent antibody staining, genetic reporter lines, confocal imaging, DIC imaging, micro-injections
* Research with sea urchins to examine cell migration, cell singling

**Wheaton College Chemical Laboratory**, Research Assistant, Spring 2013 – Fall 2015.

PI:Dr. Matthew Evans/ Professor of Chemistry

* Research focus: Effects of global warming on glacial melt
* Funded by NASA with the Woods Hole Oceanographic Institute
* Collected, calculated and recorded datausing column chromatography with ice core samples

**PRESENTATIONS**

* Presented selected article at the Radiation Oncology Department Journal club DFCI, July 2016
* Poster presentation: National Conference for Undergraduate Research, April 2016 “Localization of cilia during limb regeneration of tube feet in the purple urchin strongylocentrotus purpuratus.”
* Oral presentation: Mount Desert Island Biological Laboratory Student Symposium, August 2015 “Cilia and their role in Zebra Fish Cardiac Tissue Regeneration.”
* Poster presentation: Wheaton College Academic Festival, April 2015. “Characterizing ciliogenesis during zebrafish heart regeneration.”
* Poster presentation: Wheaton College Academic Festival, April 2014 “Characterization of Vegetal Cilia and Planar Cell Polarity.”

**HONORS AND GRANTS**

* Yale Nathan Hale Fellow 2019- Current
* Helen Pruszynski Leadership Award, Wheaton College 2016
* Tri Beta Biological Honor Society, 2016
* Wheaton College Honor Thesis Fund Grant, 2015-2016
* Mount Desert Island Biological Laboratory,James Slater Murphy Fund Fellow, Summer 2015
* Wheaton Foundation Grant for independent research, 2012-2013, 2013-2014, 2014-2015
* Balfour Scholar Fellowship (worked in HIV/AIDS Medical Clinic in Costa Rica), Summer 2014
* May Fellows Honor Society at Wheaton College, Executive Board Member
* Klein Family Scholarship recipient, 2012-2016

**Mentoring experience**

Senator**, Yale university Graduate and Professional Student Senate,** 2020-2021

* Sub Committee member for community engagement to provide local New Haven Students with mentors and tutors.

Community Facilitator, **Make Haven -Maker space New Haven,** 2019-Current

* Mentor and teach local Newhaven residents the fundamentals of woodworking

Director,**Wheaton College’s Imaging Center for Undergraduate Collaboration**, 2015-2016

* Taught students and faculty techniques of transmitted light microscopy, fluorescent microscopy, antibody staining and imaging
* Maintained equipment including Nikon E200, E400, 80I microscopes, cameras and computers
* Placed orders for required materials to maintain operation of imaging center
* Supervised 6 other students who work in the imaging center

Tutor,**Wheaton College Chemistry Department,**Fall 2013 - Fall 2015

* Taught students requiring help with chemistry classes
* Liaison between professors and students regarding class material

Teaching Assistant,**Wheaton College,**Spring 2015

* Prepared and assisted teaching Organic Chemistry Labs

Volunteer**, HIV/AIDS Medical Clinic**, Cartago, Costa Rica, Intern, Summer 2014

* Assisted with care of patients including wound first aid, daily hygiene, physical therapy and planned activities

Hike Leader,**Appalachian Mountain Club,**Summer 2015-present

* Lead hikes and canoe trips of up to 50 people in the applichain mountians. Educate young hikers through the young naturalists program of the Appliciation Mountian Club

Volunteer, **Buzzards bay collition**, Summer 2012-Summer 2015

* Volunteered as a citizen scientist to test water quality in the buzzards bay area of massachusetts

**EXTRA-CURRICULAR ACTIVITIES**

Pre-Health Society| American Chemical Society of Wheaton|Wheaton Varsity Cross-Country Team |Wheaton Ultimate Frisbee Team| Hike leader for the Appalachian Mountain Club |Hiked all 48 of the 4,000 footers in New Hampshire and through-hiked the 272-mile Long Trail in Vermont in 2011| Art in Science Sculptures installation in Mars Center for Science and Technology, Wheaton College|