

# Luke Hebert

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## EDUCATION

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- **BS in Bioinformatics**, *Summa Cum Laude* (GPA 3.822)  
*May 2016, University of St. Thomas, Houston, TX*
- High School Diploma, *Magna Cum Laude*  
*May 2012, Bridge City High School, Bridge City, TX*

## RESEARCH EXPERIENCE

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### ***Myelomeningocele, Python***

May, 2017—July 2017

*UTHSC Division of Pediatric Genetics under Drs. Hope Northrup and Kit-Sing Au*

July 2018—Present

- filter, analyze, and visualize Whole Exome Sequencing data with Python
- read literature and write manuscripts summarizing my research
- regularly collaborate with P.I. and lab members to create a bioinformatics pipeline
- present to DSHS Newborn Screening Unit members and UTHSC pediatric genetics grand rounds

### ***Radiation Oncology***

Jun, 2015—Aug 2015

*Baylor College of Medicine under Smith Clinic Radiation Oncologist Michelle Ludwig, MD., PhD.*

- statistically describe patient population's risk for heart disease using 200 patient charts
- help write grant proposal
- part of Baylor College of Medicine's Summer Medical and Research Training (SMART) program

### ***Drosophila melanogaster***

May, 2013—May, 2016

*University of St. Thomas under biology department-chair Rosemarie Rosell, PhD.*

- delegate tasks and help design experiment
- write experiment literature
- present poster at symposiums (see "Presentations" section below)
- fly and system maintenance

## CODING LANGUAGES & PROGRAMS

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### ***Python***

- versions: 2.7, 3.6, 3.7
- packages/modules: pandas, matplotlib, numpy, PyVCF (among others)
- associated software: PyMOL

## PRESENTATIONS (10)

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Luke Hebert, Hope Northrup, MD, Kit-Sing Au, PhD. High Planar Cell Polarity Gene Variant Allele Frequency in Patients with Myelomeningocele. **UTHSC Division of Pediatric Genetics Grand Rounds**, Houston, TX. July 19th, 2017.

Luke Hebert

Luke Hebert, Hope Northrup, MD, Kit-Sing Au, PhD. High Planar Cell Polarity Gene Variant Allele Frequency in Patients with Myelomeningocele. **DSHS Newborn Screening Unit Presentation**, Austin, TX. July 19<sup>th</sup>, 2017.

Luke Hebert, Gina Duong, Cecilia Dao, Katie Fisher, Heidi Reinhardt, Quy Lam, Vanessa Trivino, Elmer B. Ledesma, and Rosemarie C. Rosell. Determining the Correlation between Toluene Exposure on *Drosophila melanogaster* and the Resulting Toxicity Effects of Toluene on Fly Offspring Morphology. **UST Annual Research Symposium**, Houston, TX. April 9<sup>th</sup>-10<sup>th</sup>, 2015.

Duong G, Dao C, Hebert L, Fisher K, Reinhardt H, Lam Q, Trivino V, LeDesma E and Rosell RC. Determining the Correlation between Toluene Exposure on *Drosophila melanogaster* and the Resulting Toxicity Effects of Toluene on Fly Offspring Morphology. **Entomological Society of America National Meeting**, Portland, OR. Nov 11<sup>th</sup>-15<sup>th</sup>, 2014. **Second place winner in President's prize competition, Undergraduate Physiology Section.**

Duong G, Dao C, Hebert L, Fisher K, Reinhardt H, Lam Q, Trivino V, LeDesma E and Rosell RC. Determining the Lethal Concentration of Toluene on *Drosophila melanogaster* and the Resulting Morphological Effects of Toluene Exposure on Fly Offspring. **Baylor's 5<sup>th</sup> Annual REACH IRACDA Symposium**, Houston, TX. May 19<sup>th</sup>, 2014.

Duong G, Dao C, Hebert L, Fisher K, Reinhardt H, Lam Q, Trivino V, LeDesma E and Rosell RC. Determining the Lethal Concentration of Toluene on *Drosophila melanogaster* and the Resulting Morphological Effects of Toluene Exposure on Fly Offspring. **UST Annual Research Symposium**, Houston, TX. Apr 10<sup>th</sup>-11<sup>th</sup>, 2014.

Duong G, Dao C, Hebert L, Fisher K, Ton M, Reinhardt H, Lam Q, LeDesma E and Rosell RC. Determining the Lethal Concentration of Toluene on *Drosophila melanogaster* and the Resulting Morphological Effects of Toluene Exposure on Fly Offspring. **Beta Beta Beta Regional Convention**, University of Oklahoma Biological Field, OK. Apr 5<sup>th</sup>, 2014.

Duong G, Knippa Z, Skeen-Esterheld H, Dao C, Hebert L, Fisher K, Ton M, LeDesma E and Rosell RC. Determining the Lethal Concentration (LC<sub>50</sub>) of toluene on *Drosophila melanogaster* and the morphological effects on its offspring. **Entomological Society of America National Meeting**, Austin, TX. Nov 10-13, 2013. **First place winner in President's prize competition, Undergraduate Physiology Section.**

Duong G, Reynolds R, Knippa Z, Skeen-Esterheld H, Dao C, Karagozian P, Hebert L, Fisher K, LeDesma E and Rosell RC. Determining the Lethal Concentration (LC<sub>50</sub>) of toluene on *Drosophila melanogaster* and the morphological effects on its offspring. **Baylor's 4<sup>th</sup> Annual REACH IRACDA Symposium**, Houston, TX. May 22<sup>nd</sup> 2013.

Duong G, Reynolds R, Knippa Z, Skeen-Esterheld H, Dao C, Karagozian P, Hebert L, Fisher K, LeDesma E

Luke Hebert

and Rosell RC. Determining the Lethal Concentration (LC<sub>50</sub>) of toluene on *Drosophila melanogaster* and the morphological effects on its offspring. **UST Annual Research Symposium**, Houston, TX. Apr 11<sup>th</sup>-13<sup>th</sup>, 2013.

#### WORK EXPERIENCE

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##### **Biology Department Student Worker Part Time**

Jul 23<sup>rd</sup> 2014—Feb 13<sup>th</sup> 2015

*University of St. Thomas Biology Department*

- clean/stock lab supplies
- prepare for biology lab course experiments
- help take inventory and manage chemical waste

##### **“Summer Scholar” Position Seasonal**

Jun 1<sup>st</sup>—Aug 10<sup>th</sup>, 2012

*Shangri La Botanical Gardens and Nature Center, Orange, TX*

- research local flora/fauna
- dissect and analyze local flora/fauna
- present personal and collaborative research to classes open to public
- organize lessons and hands-on activities for students (grades 3<sup>rd</sup> through 8<sup>th</sup>)
- cultivate various flowering plants in the production greenhouses

##### **Student Support Advisor Part Time**

Oct 25<sup>th</sup> 2012—Jul 23<sup>rd</sup>, 2014

*University of St. Thomas, Advising Office of Crooker Center, Houston, TX*

- assist students when scheduling classes
- present/teach UST information technology services
- general clerical duties
- maintain office (clean, keep printers filled, etc.)

#### EXTRA-CURRICULAR ACTIVITIES

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##### **Biological Honor Society Officer-Elect**

*Beta Beta Beta: Nu Chapter, UST*

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|----------------------|-----------|
| ▪ Events Coordinator | 2013-2014 |
| ▪ Secretary          | 2014-2015 |

##### **American Chemical Society Member**

2012-2014

*UST Chapter*

#### HONORS AND AWARDS

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- Outstanding Student in Bioinformatics, 2016  
*Awarded by biology department at UST to one student*
- Summa Cum Laude (similarly: Dean’s List from 2012 fall-2016 spring)
- 1<sup>st</sup> Place in 2013 Presidents Prize Competition at Entomological Society of America Conference  
*Presented research poster in Austin, TX*
- 2<sup>nd</sup> Place in 2014 Presidents Prize Competition at Entomological Society of America Conference  
*Presented research poster in Portland, OR*
- Service Learning Panelist for ’14 UST Freshman Symposium

VOLUNTEER WORK (143.5 total hours; \$700 raised)

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**Houston Hospice General Volunteering**

(35 hours)

*Houston Hospice, Houston TX*

**BP MS 150 Ride** (24 hours; \$400 raised)

*Houston to Austin, April 12<sup>th</sup>-13<sup>th</sup> 2014*

**“Camp Cardiac” Volunteer Counselor** (16 hours)

*University of St. Thomas, Houston TX, Jul 29<sup>th</sup>-30<sup>th</sup> 2013*

**Children’s Alopecia Project Fundraising**

(16 hours; \$300 raised)

*University of St. Thomas, Houston TX, April 2013*

**“Zoo Boo” Volunteer** (13 hours)

*Houston Zoo, Houston TX,*

*-Oct 21<sup>st</sup> 2012, Oct 11<sup>th</sup> 2014, Oct 25<sup>th</sup> 2014*

**“Education Rainbow Challenge” Project**

(10 hours)

*Black Middle School, Houston TX*

*-Nov 3<sup>rd</sup> 2012*

*Davis High School, Houston TX*

*-Jan 26<sup>th</sup> 2013*

**Nursing Home Card-making/Delivery** (5 hours)

*ManorCare Nursing Home, Houston TX*

*-Nov 1<sup>st</sup>, 25<sup>th</sup> 2014*

**“Medical Bridges” Volunteer** (5 hours)

*Medical Bridges, Houston TX*

*-Mar 2<sup>nd</sup> 2013, Mar 29<sup>th</sup> 2014*

**Children’s Museum Volunteer** (10.5 hours)

*Children’s Museum of Houston, Houston TX,*

*-Mar 14<sup>th</sup> 2013, Oct 13<sup>th</sup> 2013, Mar 13<sup>th</sup> 2015*

**Campus Recycling** (5 hours)

*University of St. Thomas, Houston TX*

*-Oct 1<sup>st</sup>, Oct 8<sup>th</sup>, Oct 11<sup>th</sup>, Nov 21<sup>st</sup> 2013*

**ESA Conference** (6 hours)

*2013 Entomological Society of America Conference,*

*Austin TX, Nov 12<sup>th</sup> 2013*

**UST STEM Alumni Event** (6 hours)

*University of St. Thomas, Houston TX, Oct 25<sup>th</sup> 2014*

**Harmony Science Fair** (4 hours)

*Harmony Public School, Houston TX, Jan 24<sup>th</sup> 2014*

**Front-Desk Clerk** (4 hours)

*Houston Food Bank, Houston TX, Aug 18<sup>th</sup> 2012*