Kevin Tommy Chang

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EDUCATION

Rice University, Houston, TX — Aug 2014 – May 2018

- **B.A.** in Cognitive Sciences — GPA: 3.78
  Neuroscience specialization — GPA (major): 3.94

AWARDS AND HONORS

- Rice Distinction in Research and Creative Works (Evolutionary Biology and Ecology) | 2018
- Student Speaker at American Physician Scientists Association Southern Annual Meeting | 2018
- Omega Psi Cognitive Sciences Honor Society | 2018
- Plenary Speaker at Stanford Research Conference | 2018
- Stanford Research Conference poster award | 2017
- Lovett Undergraduate Research Symposium poster award | 2016
- President's Honor Roll (Top 30% academically in class) | 2016-2018
- Certificate of Special Congressional Recognition (US Congressman Blake Farenthold) | 2014

RESEARCH EXPERIENCE

Baylor College of Medicine, Department of Molecular and Human Genetics – Houston, TX
2014 – Present | Jan and Dan Duncan Neurological Research Institute | Texas Children's Hospital
Advised by Dr. Marco Sardiello, PhD., Associate Professor

- Project lead on novel research for amino acid analysis and human proteomics (published 2018)
- Built and designed a computational database for evolutionary constrained analysis
- Designed, assisted, and executed experiments to elucidate the role of the gene CLN8 (published 2018)
- Project lead on novel research for Atypical TPP1 Deficiency (SCAR7)

National Aeronautics and Space Administration (NASA), Johnson Space Center – Houston, TX
2017 – 2018 | Human Systems Integration Division | Rice University
Advised by Chelsea Iwig, M.S., NASA Human Factors Engineer

- Conducted study evaluating electroencephalography (EEG) devices for astronautic use
- Collected EEG data on human participants during flight simulations
- Analyzed changes in individual and team alertness, workload, and other cognitive functions
- Evaluated EEG hardware as cognitive monitoring equipment for the Orion spacecraft program

PUBLICATIONS

Aminode: Identification of Evolutionary Constraints in the Human Proteome.
Kevin Tommy Chang, Junyan Guo, Alberto di Ronza, Marco Sardiello. **Scientific Reports, 2018.**

CLN8 is an endoplasmic reticulum cargo receptor that regulates lysosome biogenesis.
Alberto di Ronza, Lakshya Bajaj, Jaiprakash Sharma, Deepthi Sanagasetti, Parisa Lotfi, Michela Palmieri, Abdallah Amawi, Lauren Popp, **Kevin Tommy Chang**, Maria Chiara Meschini, Hon-Chiu Eastwood Leung, Laura Segatori, Alessandro Simonati, Filippo Maria Santorelli, Marco Sardiello. **Nature Cell Biology, 2018.**

PRESENTATIONS

"Aminode: A new way to analyze the Human Proteome."
Kevin Tommy Chang, student speaker at American Physician Scientists Association Southern Annual Meeting, Houston, TX. September 2018.

"What happens when your DNA mutates? Using Aminode to analyze the Human Proteome."
Kevin Tommy Chang, plenary speaker at Stanford Research Conference, Stanford, CA. March 2018.

Aminode: Analysis of Evolutionarily Constrained Regions of the Human Proteome.
Kevin Tommy Chang, Junyan Guo, Alberto di Ronza, Marco Sardiello. International Bioinformatics and Computational Biology Conference 2017, Naples, Italy, poster. December 2017.

Analysis of Evolutionarily Constrained Regions of the Human Proteome.
Kevin Tommy Chang, Junyan Guo, Alberto di Ronza, Marco Sardiello. Rice Undergraduate Research Symposium, Houston, TX, poster. April 2017.

Aminode: A Novel Tool and Database for the Evolutionary Analysis of the Human Proteome.
Kevin Tommy Chang, Junyan Guo, Alberto di Ronza, Marco Sardiello. Stanford Research Conference, Stanford, CA, poster. March 2017.

Evolutionary Constrained Analysis of the Human Proteome.
Kevin Tommy Chang, Junyan Guo, Alberto di Ronza, Marco Sardiello. Lovett Undergraduate Research Symposium, Houston, TX, poster. March 2016.

Computational Tools for Evolutionary Constrained Analyses.
Kevin Tommy Chang, Junyan Guo, Alberto di Ronza, Marco Sardiello. Rice Undergraduate Research Symposium, Houston, TX, poster. April 2016.

TEACHING EXPERIENCE

Academic Fellow – Houston, TX
2016 – 2018 | Lovett Society of Fellows | Lovett College | Rice University

- Fellow at Lovett College, in charge of biochemistry, evolutionary biology and ecology, neuroscience, and computer science
- Served as a tutor for Lovett College
- Organized academic events for Lovett College

Teaching Assistant – Houston, TX
2017 – 2018 | Department of Biosciences | Rice University

- Teaching Assistant for the following courses under Collin Thomas, PhD.:
  - BIOC 201: Introductory Biology
- Graded weekly assignments and exams and gave relevant feedback to students
- Led a weekly session focusing on assigned literature and how to read primary research articles
- Designed coursework and testing material

Teaching Assistant – Houston, TX
2015 – 2017 | Department of Computer Science | Rice University

- Teaching Assistant for the following courses under Professor John Greiner, PhD.:
  - COMP 130: Elements of Algorithms and Computation
  - COMP 200: Elements of Computer Science
- As an in-class instructor, provided in-class programming help and on-hand debugging assistance
- Graded weekly assignments and exams and gave relevant feedback to students
- Designed coursework and testing material

Student Athlete Tutor – Houston, TX
2017- 2018 | Office of Academic Advising for Athletics | Rice University

- 1-on-1 tutor for student athletes for the following subjects: computer science, biochemistry, math
- Developed personalized study plans for students to succeed academically
- Coordinated schedules with 5+ students during each semester to provide on hand help

English Teacher – Taipei, Taiwan
2016 | Taipei Municipal XiSong Elementary School

- Worked with students aged 9 through 10
- Taught English as a second language, serving as a foundation for later studies
- Developed course curriculum, including stories, worksheets, and oral presentation
- Graded assignments and exams and gave feedback to students

LANGUAGES AND SKILLS

Programming: Java, Python, R
Lab: mouse models, mouse perfusion, mouse genetics, cell culture, western blotting, protein purification, immunohistochemistry, immunoprecipitation, immunofluorescence, cell fractionation, bioinformatics, confocal microscopy, cell based assays, molecular cloning, transfection, cell fractionation, PCR, brain cryosectioning
Software: Adobe Creative Suite, Ensembl Biomart, Emotiv Xavier

LEADERSHIP AND ACTIVITIES

Head Academic Fellow – Houston, TX
2017 – 2018 | Lovett College | Rice University

- One of 22 selected academic fellows appointed by Rice University to lead the program
- Coordinated all academic fellow activity at Lovett college
- In charge of communication with other head fellows across the university
- Established and hosted academic events and expos

Emergency Medical Technician – Houston, TX
2017- 2018 | Rice University Police Department | Rice University

- Served as an on duty first responder for Rice University campus and surrounding areas
- Provided rapid response and hands-on care in cases of trauma and medical emergencies
- Assessed nature and extent of illness or trauma on scene of emergency
- Administered drugs under physician direction
- Provided inpatient care in emergency room environment within hospitals

Editor, Writer – Houston, TX
2016 – 2018 | Rice Catalyst | Rice Undergraduate Research Journal

- Produced literary compositions and articles for campus journal
- Acted as interviewer for off campus stories
- Managed style and content of the publication
- Provided feedback and reviews for writers

Other Activities:
Rice Neuroscience Society, Rice Taiwanese Association, Rice Biosciences Society, National Forensic League, Piano, Saxophone

CERTIFICATIONS

Emergency Medical Technician, Basic
2016 | National Registry of Emergency Medical Technicians.

Basic Life Support
2016 | UTHSC Houston School of Dentistry, Houston TX.

REFERENCES

Marco Sardiello, PhD.
Associate Professor, Department of Human and Molecular Genetics.
Baylor College of Medicine, Jan and Dan Duncan Neurological Research Institute, Texas Children's Hospital.
Baylor Plaza, Houston TX, 77030. Phone: +1 8328248871. E-mail: sardiell@bcm.edu

Alex Morgan, PhD.
Assistant Professor, Department of Philosophy.
Rice University, Houston, TX. E-mail: alex.morgan@rice.edu

Michael Kohn, PhD.
Associate Professor, Department of Biosciences.
Rice University. Houston, TX. E-mail: hmkohn@rice.edu