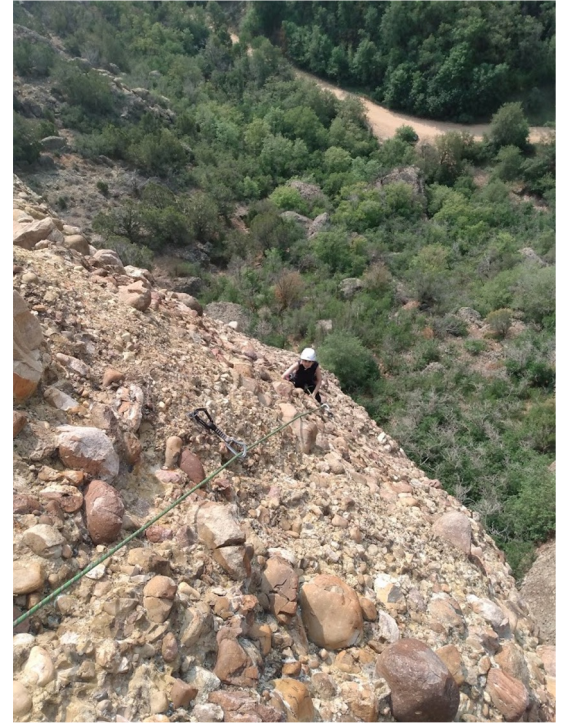


# Neuroscience & Philosophy



Adara DeNiro  
Katie Petrozzo

# My name is Adara!



# Some struggles along the way

Certification Received upon Graduation: High School Diploma

ACADEMIC YEAR	2013-2014				ACAD
CLASS	9				CLASS
PROGRAMME	IGCSE				PROG
COURSE	CREDIT HOURS	MARKS	LETTER MARK	GPA	COUR
English Language & Literature	1.00	79.50	B	3.00	English Literature
Mathematics	1.00	73.00	C+	2.50	Mathem
Biology	0.50	65.00	C	2.25	Biology
Chemistry	0.50	64.50	C	2.25	Chemis
Physics	0.50	73.00	C+	2.50	Physics
Geography	0.50	78.50	B-	2.75	Geogra
History	0.50	66.50	C	2.25	History
Arabic Language	0.50	85.50	B+	3.25	Arabic L
Physical Education	0.25	98.50	A+	4.00	Physica
Qur'an & Islamic Studies	0.25	98.50	A+	4.00	Qur'an
Saudi History & Geography	0.25	87.00	A-	3.50	Art
<b>FINAL AVERAGE / OVERALL GPA</b>		<b>79.05</b>	<b>B</b>	<b>2.78</b>	<b>FINAL AV OVERAL</b>

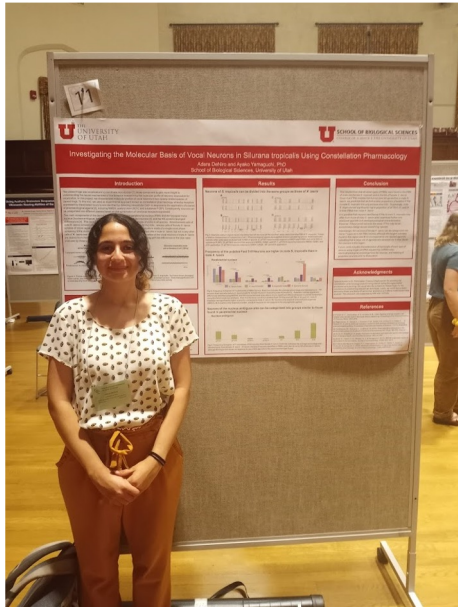




# Recently...

Dear Adara,

It is my pleasure to inform you that the School of Biological Sciences Graduate Admissions Committee has unanimously and enthusiastically moved to recommend to the University that you be accepted into the School of Biological Sciences Ph.D. Program beginning in the Fall Semester 2021. Within a few weeks you should receive an official notice of admission from the University Admissions Office.



# Hi! My name is Katie!





It wasn't always easy growing up...



But I overcame my difficulties and pursued my dreams!



THE UNIVERSITY OF UTAH  
**DEPARTMENT OF PHILOSOPHY**

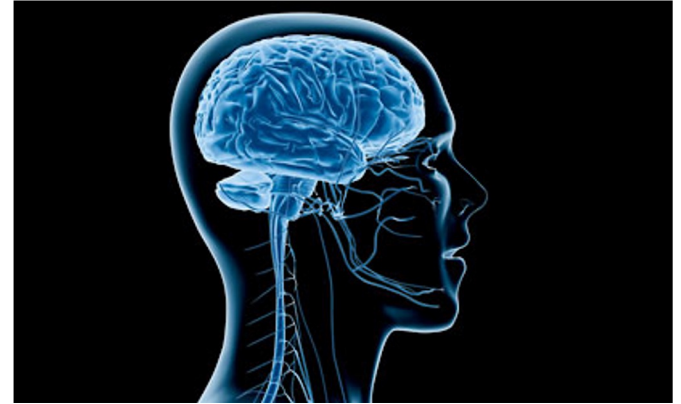


# What is Neuroscience?

- ★ It is the study of the structure and function of the nervous system.
- ★ Why is the nervous system difficult to study?

Made up of a collection of neurons in a large network (~86 billion neurons in the human brain linked together).

How these neurons form connections in different areas of the brain to perform actions is difficult for scientists to understand.





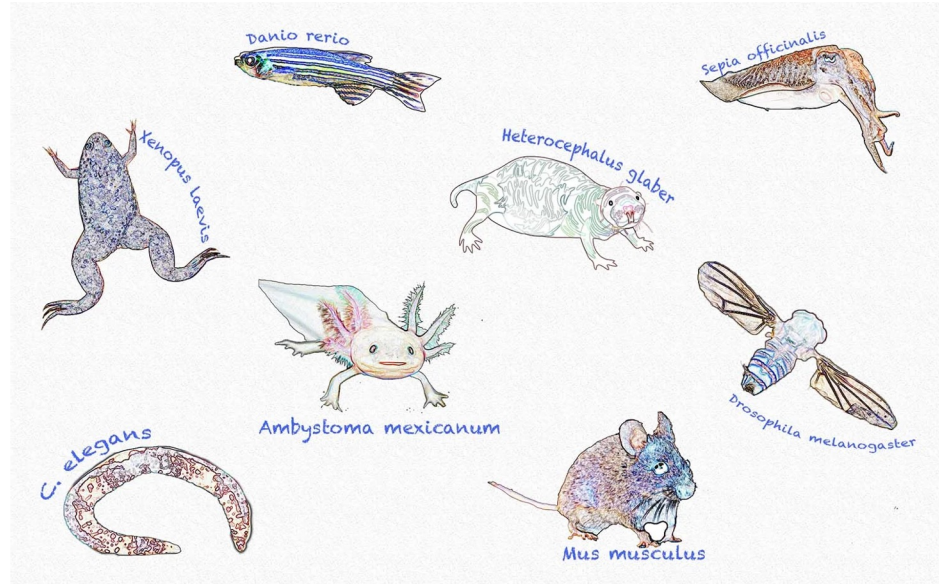
# Neuroscience

There are many branches of neuroscience:

- Cellular Neuroscience
- Behavior neuroscience
- Clinical neuroscience

Different model organisms:

- Mice
- Fruit fly
- Zebrafish
- Frogs



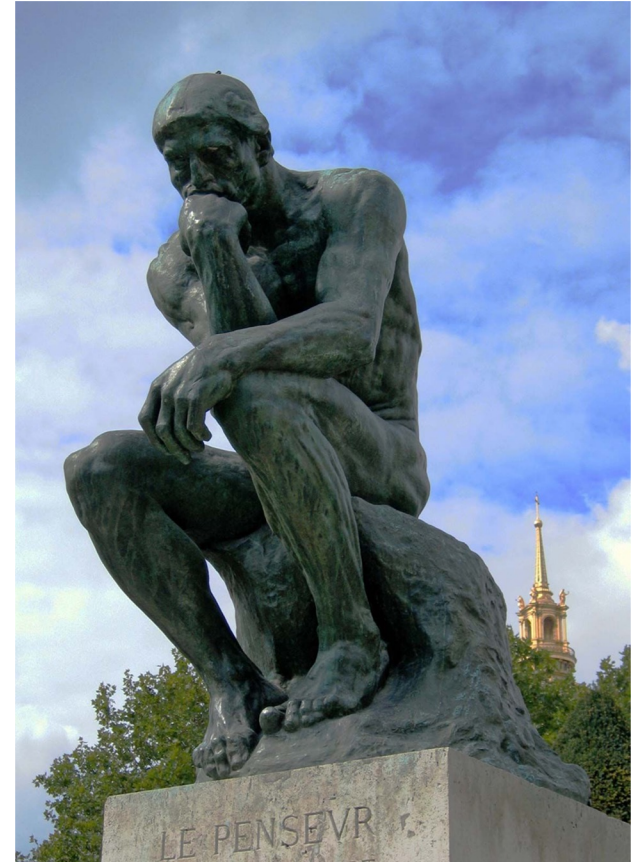
# Neural basis of behavior

My research encompasses the neural basis of behavior, where I study how the nervous system controls vocalization.



# What is Philosophy?

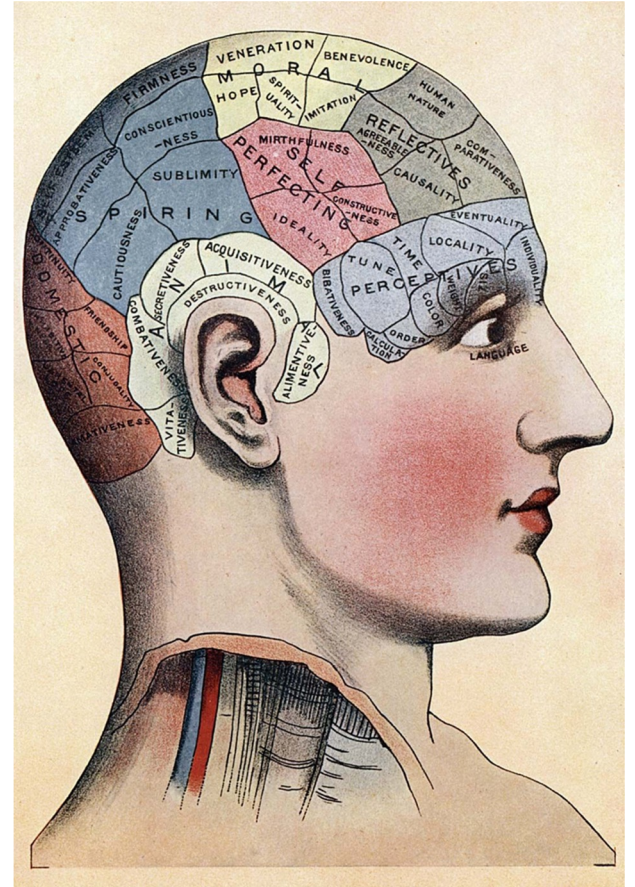
- ★ Philosophy comes from Greek philosophia “love of wisdom”
  - the word philosophy derives from the Greek words *philia* (“love”) and *sophia* (“wisdom”).
- ★ Philosophy is the organized study of questions about knowledge and truth
  - “What is the mind?”
  - “What is the right thing to do?”
  - “How do we understand our experiences?”





# Philosophy and Neuroscience

- ★ Studying philosophy also can mean working with scientists and talking about problems in science
- ★ Phrenology (FRUH-NOL-O-GY) is an outdated and problematic practice where a doctor would feel the bumps on a person's head and connect those bumps to different parts of their personality
- ★ Bad practice because it is NOT science (even though at the time, people thought it was)
  - AND based mostly on a person's race, gender, class, etc.



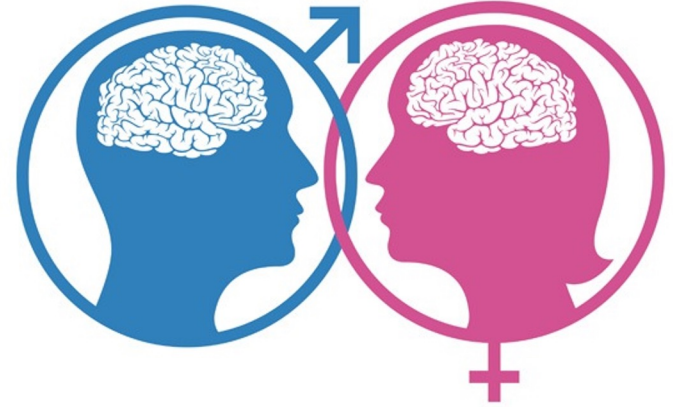
## LEFT BRAIN

- Logical
- Focused on facts
- Realism predominates
- Planned and orderly
- Math-and-science-minded
- Prefers nonfiction



## RIGHT BRAIN

- Emotional
- Focused on art and creativity
- Imagination predominates
- Occasionally absentminded
- Prefers fiction
- Enjoys creative storytelling



# Philosophy and Neuroscience

- ★ Neuroscience technology is becoming more advanced very quickly
- ★ Philosophers can help with understanding the right and wrong ways to use technology
- ★ Philosophers can help neuroscientists understand the way they talk about things can have both positive and negative consequences



Implant in brain and special glasses help this blind women see!



# Brain Cap Activity

- ★ People have wondered and studied the way our brains work for a long time!
- ★ Today, we will be putting together a brain cap that shows how the brain is divided up based on our current scientific knowledge

