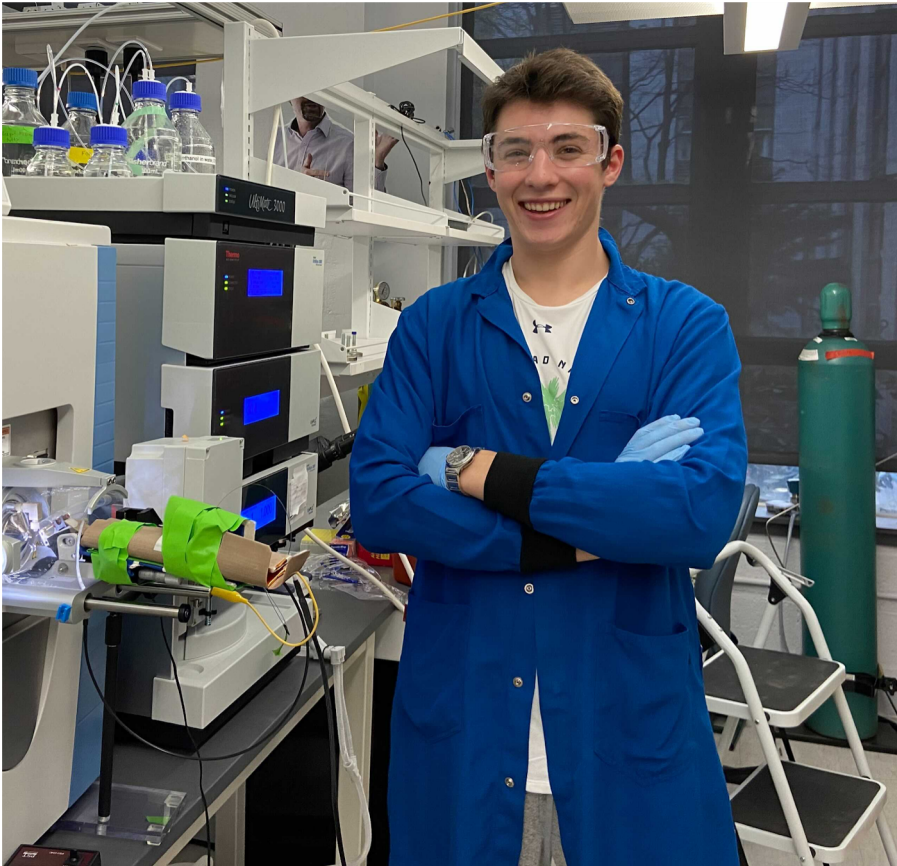


Skype a Scientist!

With Andrew Leduc

A decorative graphic in the bottom right corner consisting of a light blue square with a white triangular cutout at the bottom right corner.

Introduction:



Andrew Leduc

- Graduate Student Researcher at Northeastern University in Boston
- Member of the Slavov Laboratory

The Story of Science



What is Science?



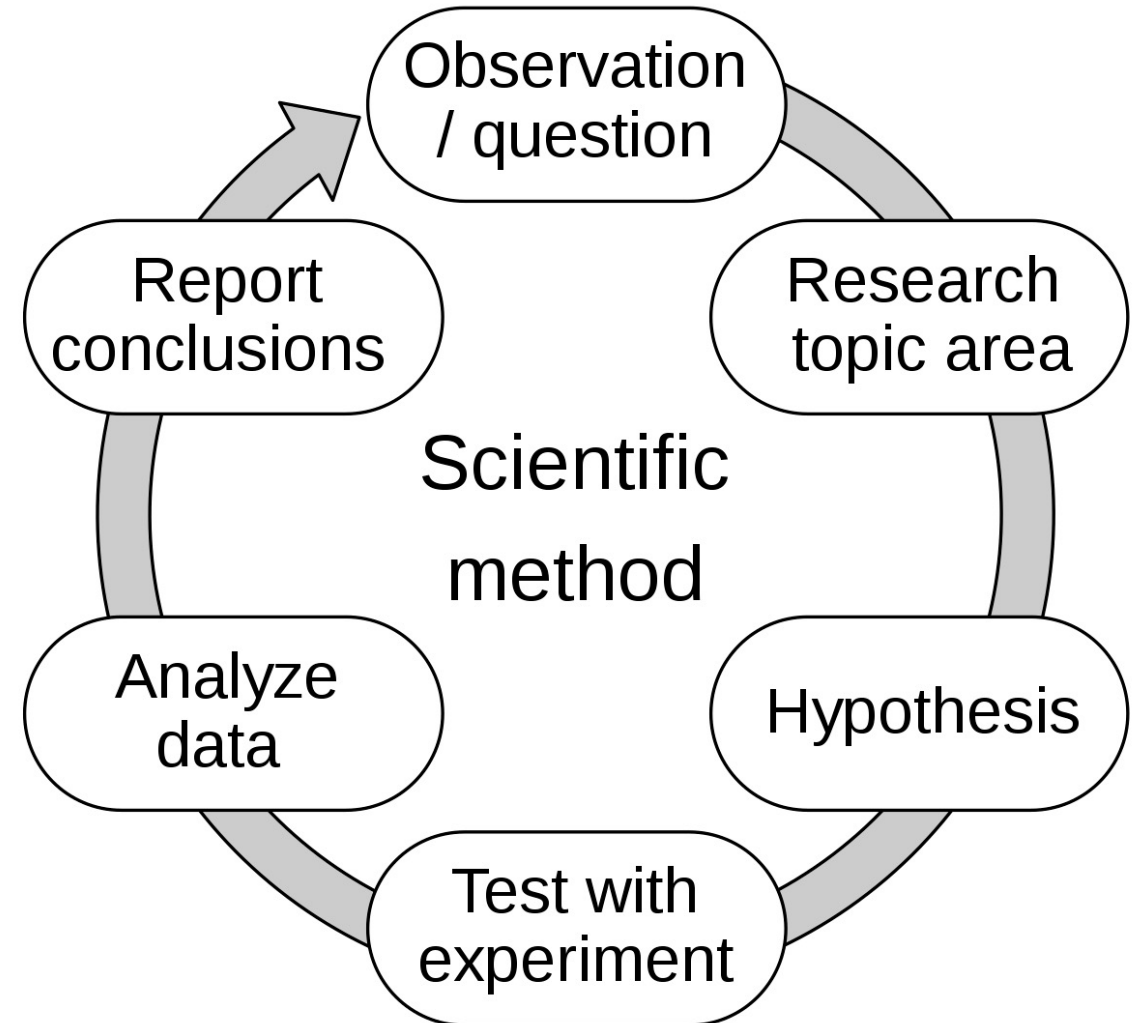
Informal Definition:

- A human's attempt at trying to understand and explain the world around them

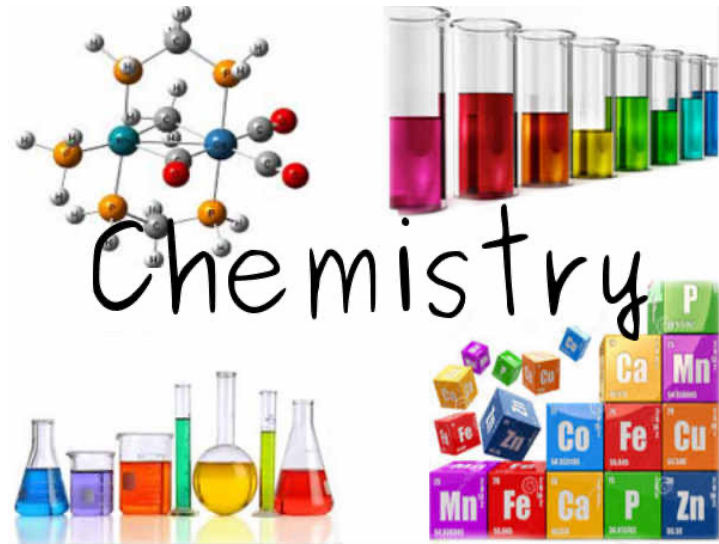
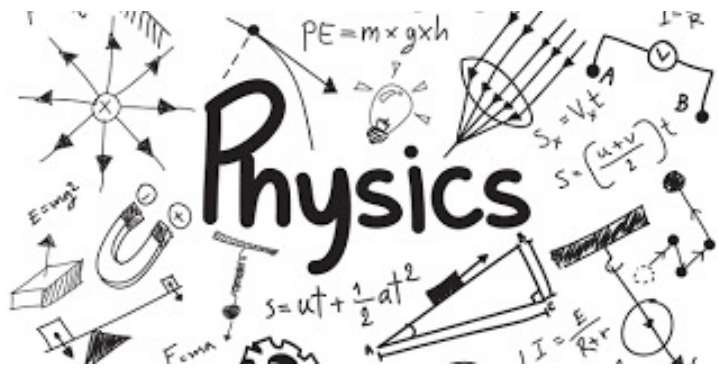
What is Science?

Formal Definition:

- The systematic study of the structure and behavior of the physical and natural world through observation and experiment



Different Fields of Science

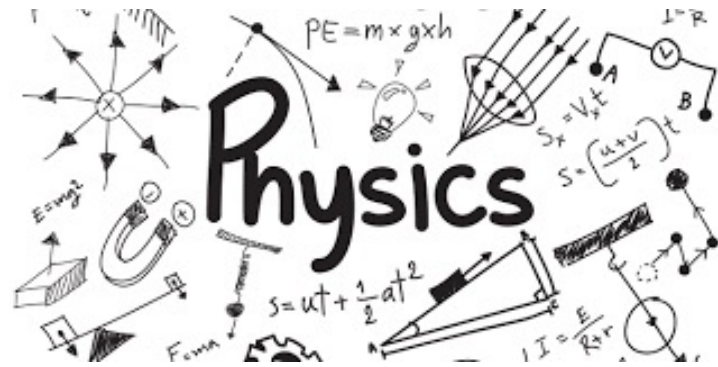


Different Fields of Science



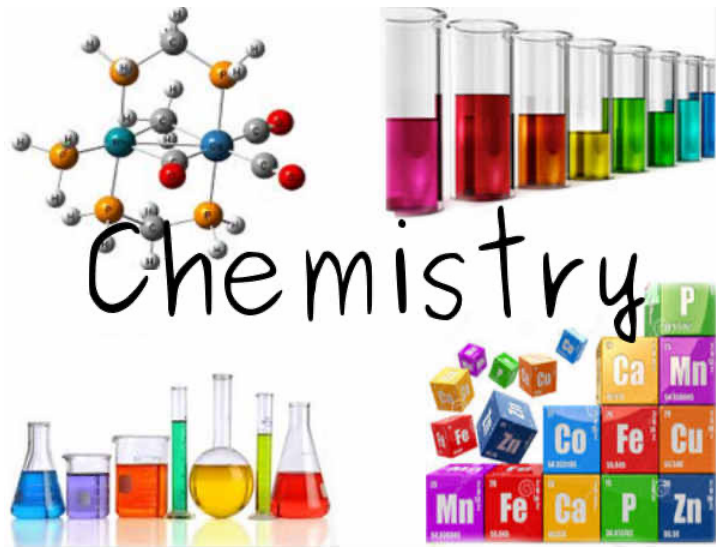
Different Fields of Science

Type of things a Physicist would study



- Stars and Galaxies
- Atoms and other particles
- Heat, light, and magnets

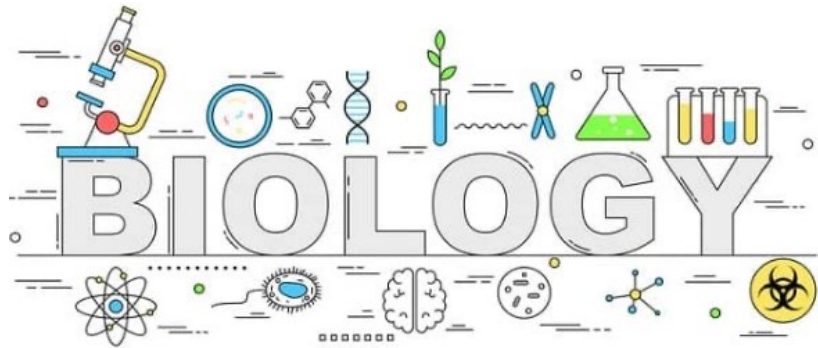
Different Fields of Science



Type of things a Chemist would study

- Chemical reactions
- New materials, metals fabrics
- New fuel sources, batteries

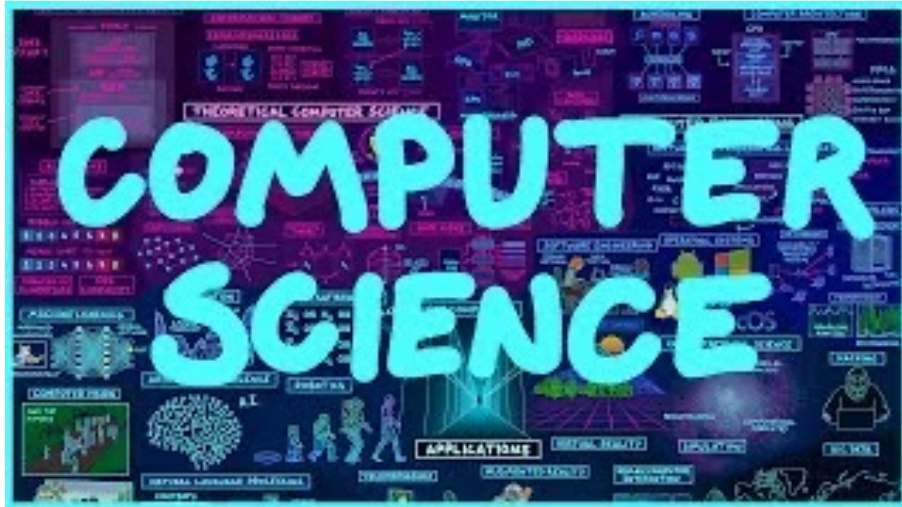
Different Fields of Science



Type of things a Biologist would study

- How life started
- How different parts of life work today
- Cells, organs, plants, animals, humans

Different Fields of Science



Type of things a Computer Scientist would study

- How to make computers do new tasks
- How to make computers think like people do
- Are computers alive?

Training for Scientists

Scientist Training:

- Highschool: Take science/ math classes
- College: Study in a field of Science, math, or Engineering
- PhD: Formal Scientist Training



Careers in Scientists



Public

Professor at University

National Labs like the National Institute of Health

Hospitals

Private

Technology Company like Apple Microsoft

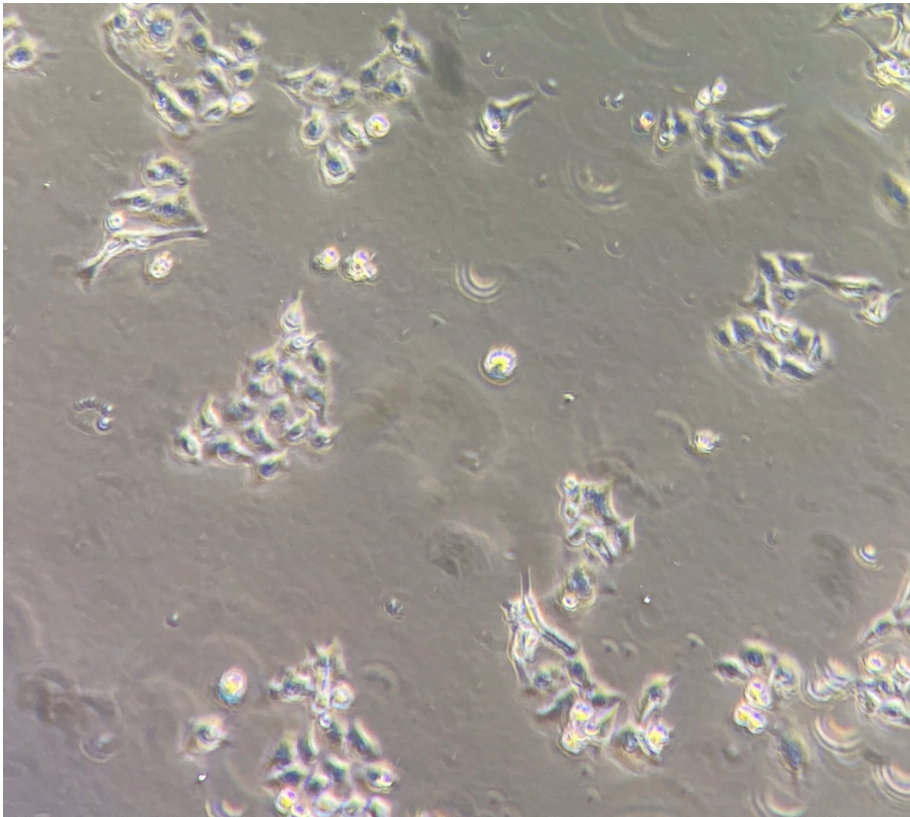
Companies that make medicine

Companies that make everyday products like clothes or food!

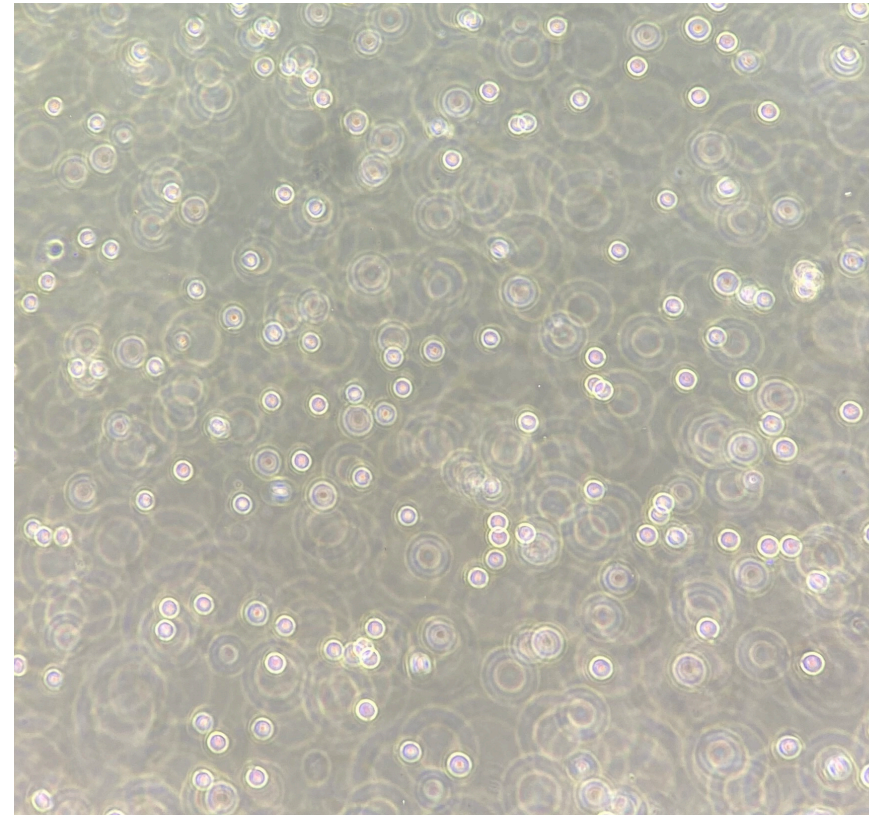
My Research

- I'm a Cell Biologist working for a Professor at Northeastern

Skin Cells



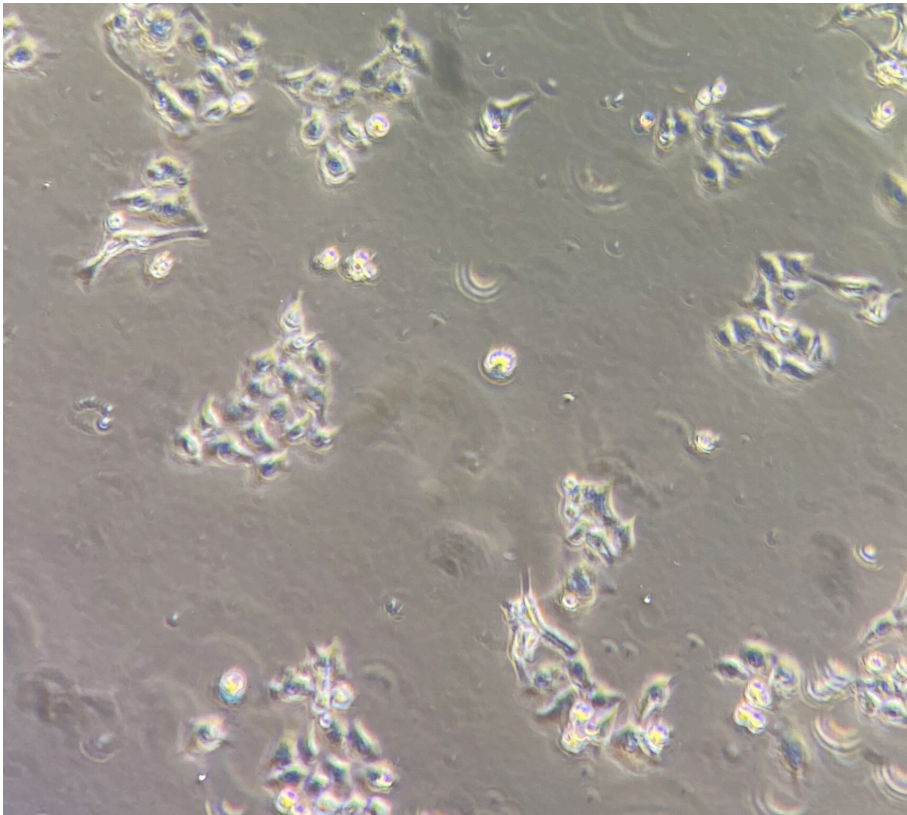
T-Cells (Immune system)



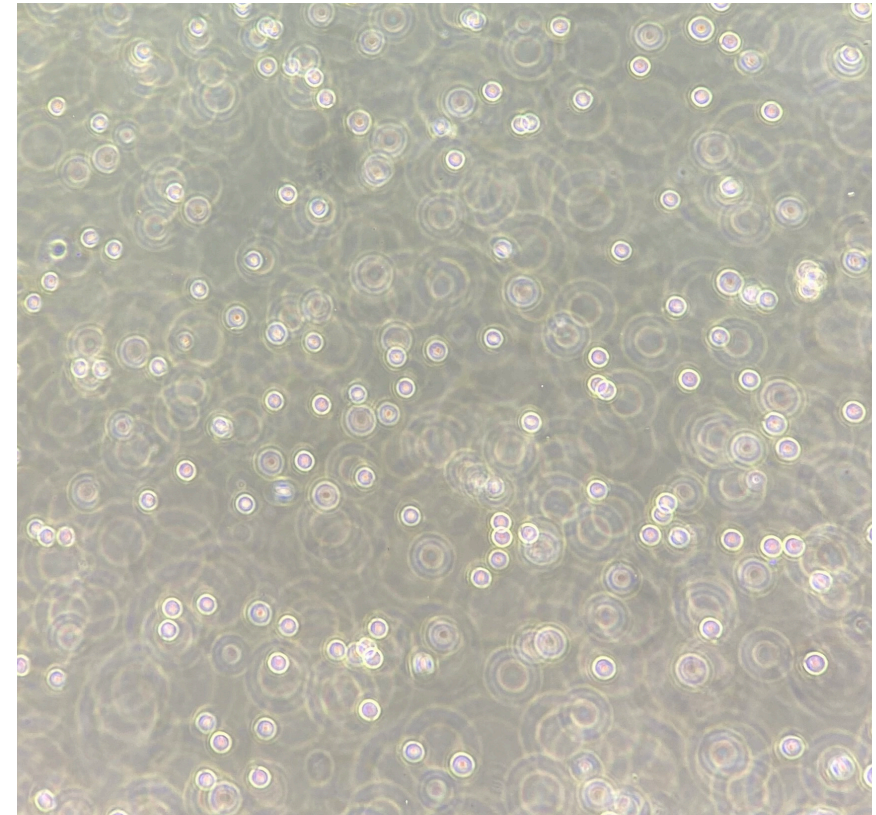
My Research

- I study proteins in single cells to learn about how cells perform basic functions like eating, growing, and replicating

Skin Cells



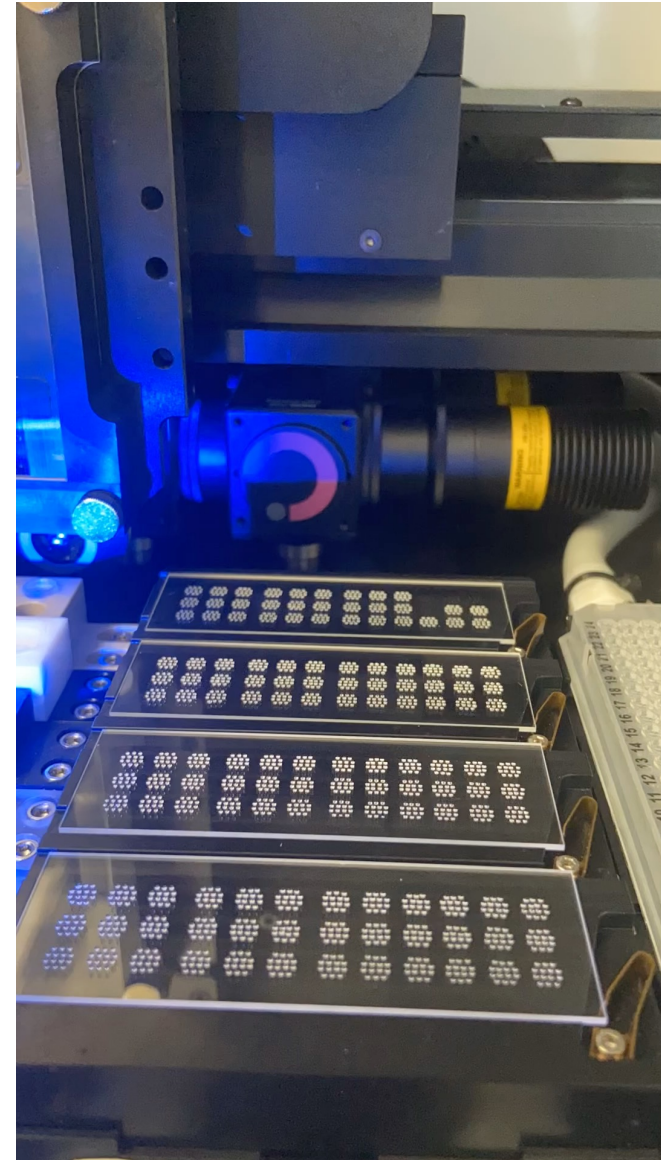
T-Cells (Immune system)



My Research

To study single cells I use:

- Robots
- Computer software
- Lab coat, gloves, and other safety equipment



My Research

New Results

 [Follow this preprint](#)

Droplet sample preparation for single-cell proteomics applied to the cell cycle

 Andrew Leduc,  R. Gray Huffman,  Nikolai Slavov

doi: <https://doi.org/10.1101/2021.04.24.441211>

This article is a preprint and has not been certified by peer review [what does this mean?].



Protocol | [Published: 29 October 2021](#)

Multiplexed single-cell proteomics using SCoPE2

[Aleksandra A. Petelski](#), [Edward Emmott](#), [Andrew Leduc](#), [R. Gray Huffman](#), [Harrison Specht](#), [David H. Perlman](#) & [Nikolai Slavov](#) 

[Nature Protocols](#) (2021) | [Cite this article](#)

1957 Accesses | **93** Altmetric | [Metrics](#)

Who Can Become A Scientist?

Anyone Interested! ... You!

- ❖ Nobel Prize given for genetic editing to Jennifer Doudna and Emmanuelle Charpentier



Jennifer Doudna and Emmanuelle Charpentier share the 2020 Nobel chemistry prize for their discovery of a game-changing gene-editing technique. Credit: Alexander Heinel/Picture Alliance/DPA

How to Become A Scientist?

Get Inspired!

Shows:

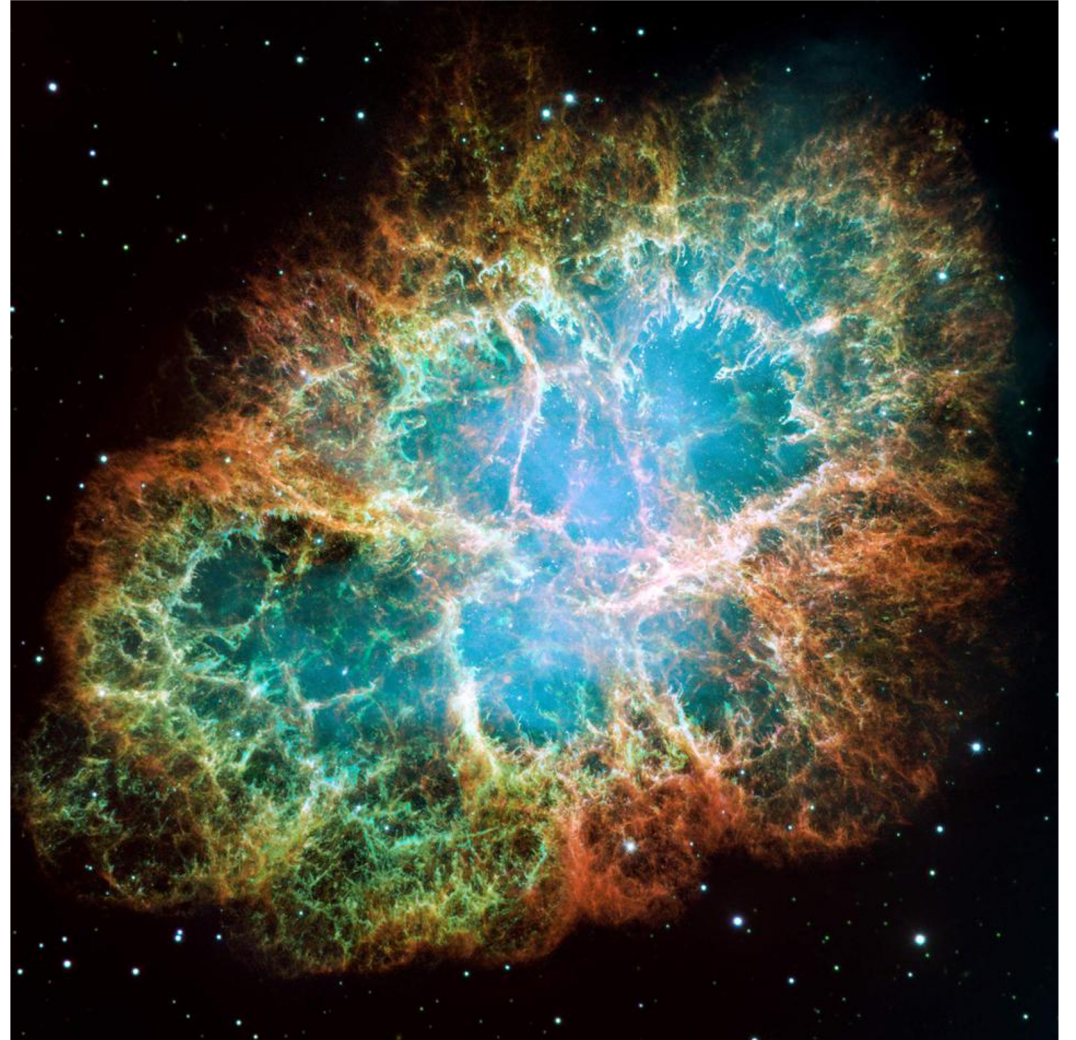
- ❖ Fabric of the Cosmos: Brian Green

Podcasts:

- ❖ Lex Friedman Podcast
- ❖ Mindscape: Sean Carroll

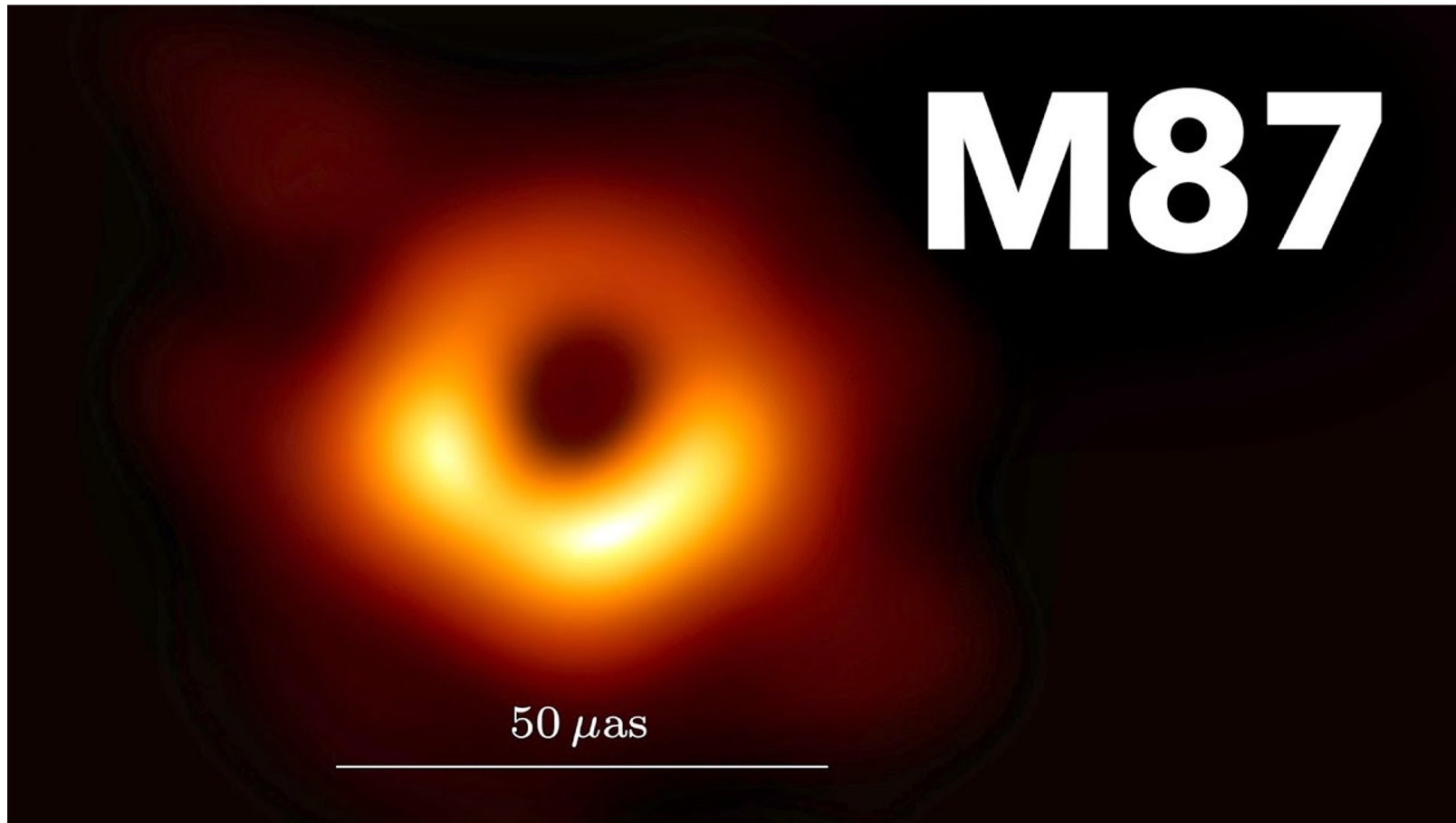
Books:

- ❖ Michio Kaku: Physics of the Future



Why Become A Scientist?

Science is Cool!

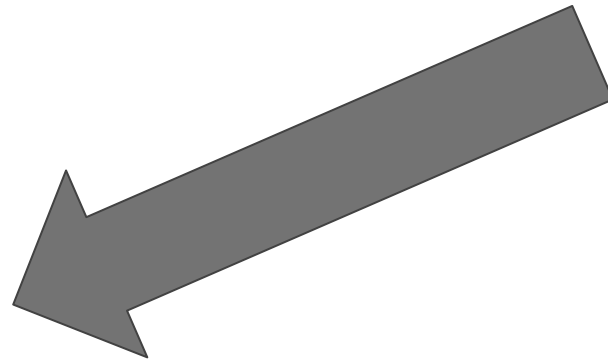
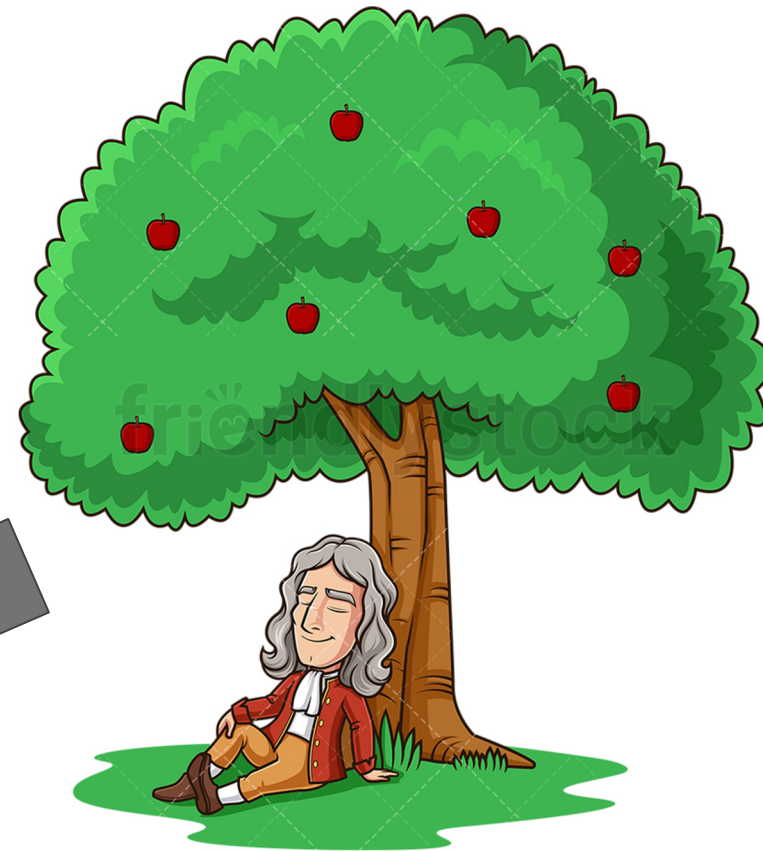


The World Runs on Science!

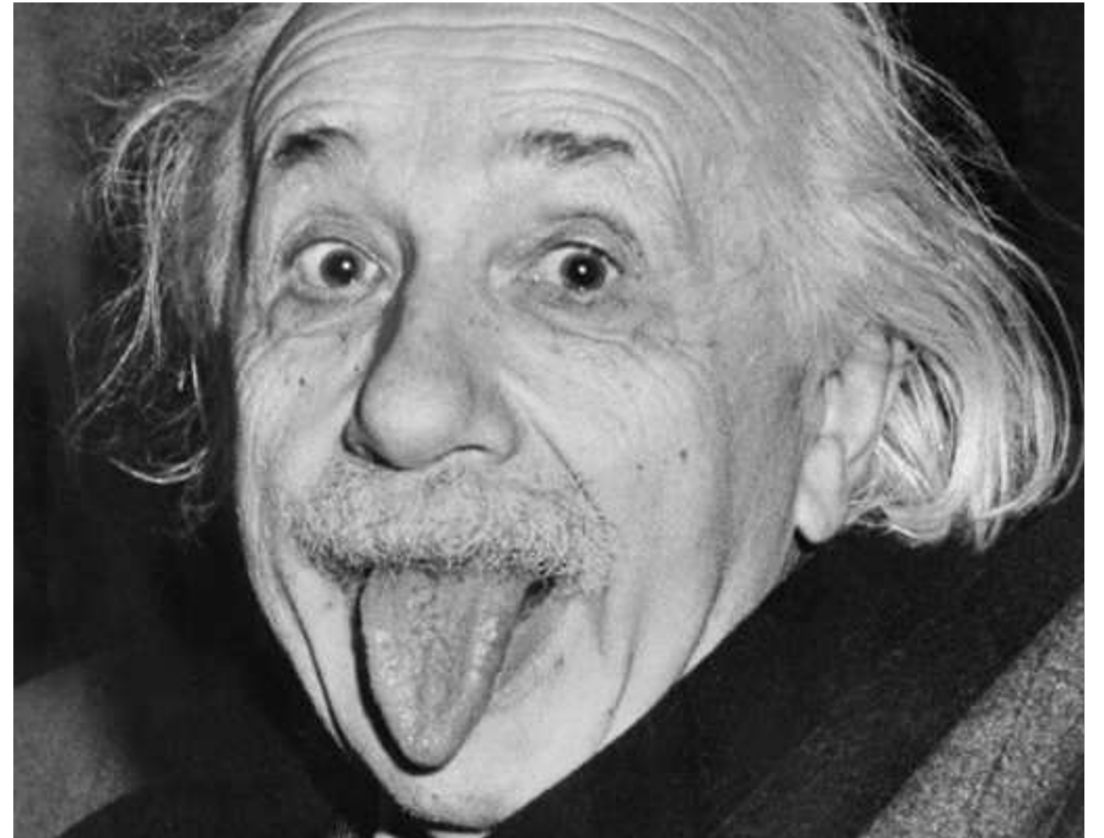
- ❖ Your Computer, your TV
- ❖ Medicine
- ❖ Agriculture
- ❖ Our understanding of the world



**You Have a Chance to
leave your mark on history!**

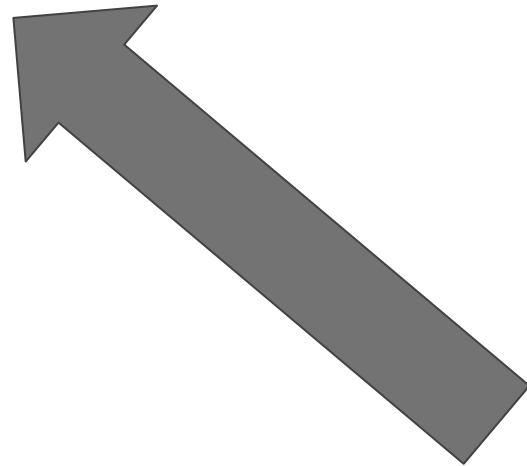


**You Have a Chance to
leave your mark on history!**





**You Have a Chance to
leave your mark on history!**



Thanks! Questions?