Allison Anaya

Math CEO-STEM Career: Chemistry

About Me

- Raised in Hawthorne, CA
- Second Year at UCI
- Double Majoring in Psychology and Social Behavior & Criminology Law and Society
- First Generation
- Applied to... CC , 4 CSU, 4 UC's. 4 Private
  - Full Ride to UCI!
- Middle School me
  - Obsessed with Psychology
  - Knew how important grades / testing were in order to afford college

Leuzinger High School

Aspirations

- ✓ Get good grades
- ✓ Save for college
- ✓ Go to University
- ✓ Give Back to Community

Currently…

Aspirations

- Graduate
- Take a gap year to Travel
- Go to Graduate School
- Start a Non-Profit

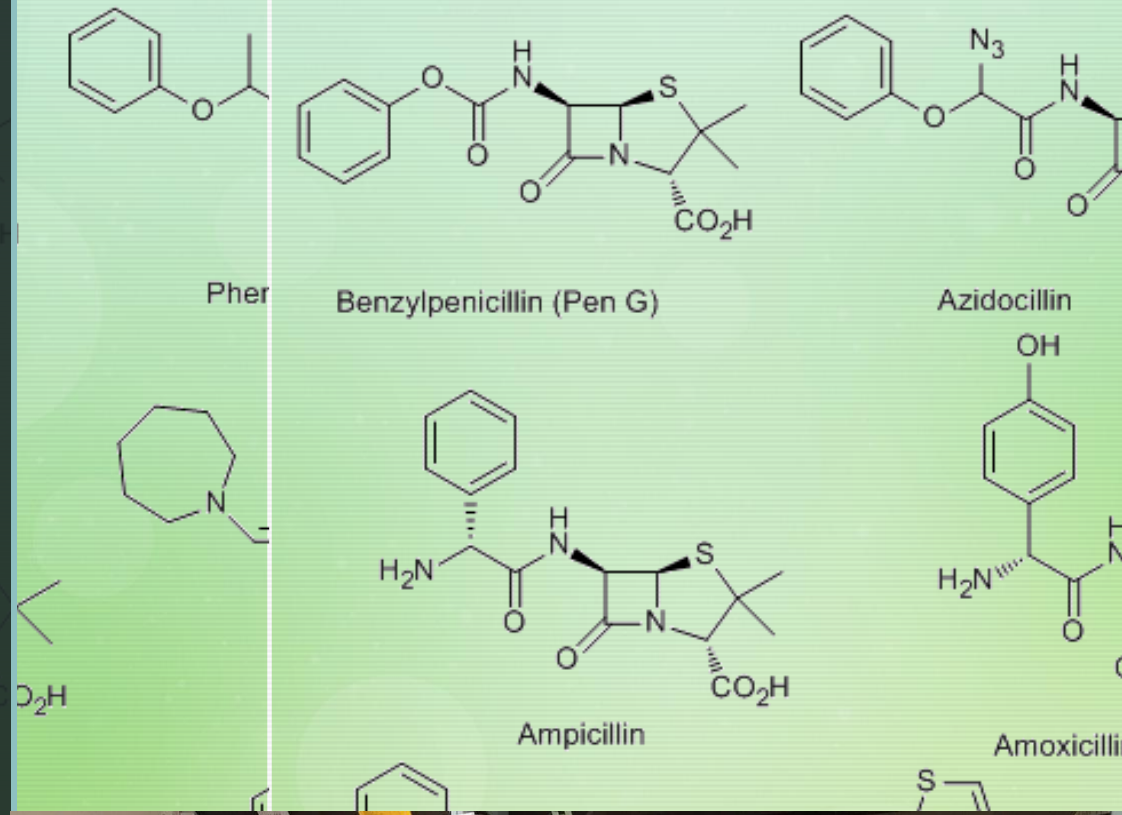
Field study in Yamamilla Prison in Ayacucho, Peru

CHP Dinner with UCI Chancellor

Global Service Scholars : Cusco

What is CHEMISTRY?

- The study of matter and its properties,
- how and why substances combine or separate to form other substances
- how substances interact with energy.
- What are some **POSSIBLE CAREERS IN CHEMISTRY?**



Possible Careers in Chemistry

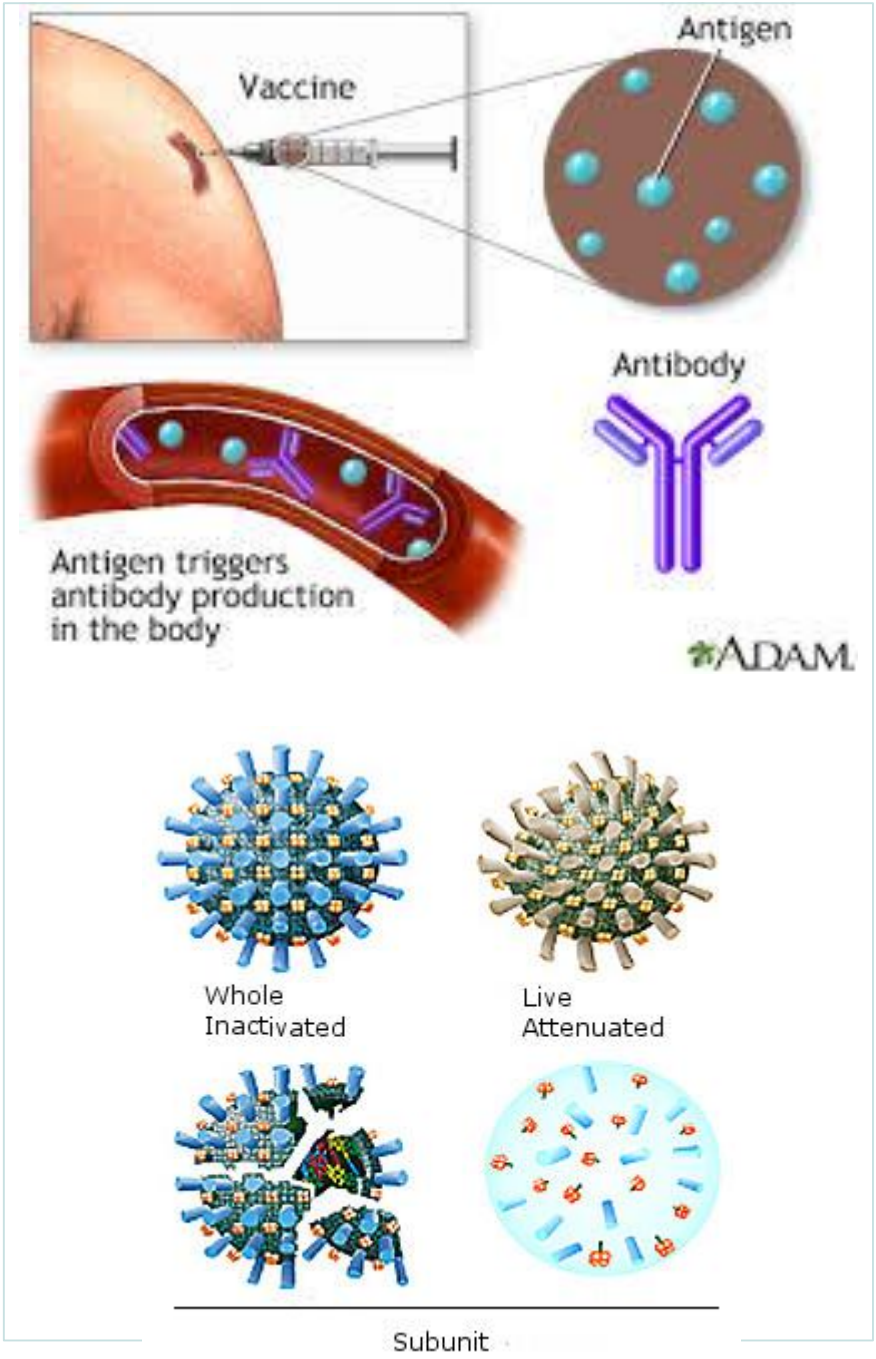
- Analytical chemist
- Chemical engineer
- Healthcare scientist, clinical biochemistry
- Forensic scientist
- Nanotechnologist
- Pharmacologist
- Research scientist (physical sciences)
- Toxicologist
- Chartered certified accountant
- Environmental consultant
- Higher education lecturer
- Nuclear engineer
- Patent attorney
- Science writer
- Secondary school teacher

Education & Career

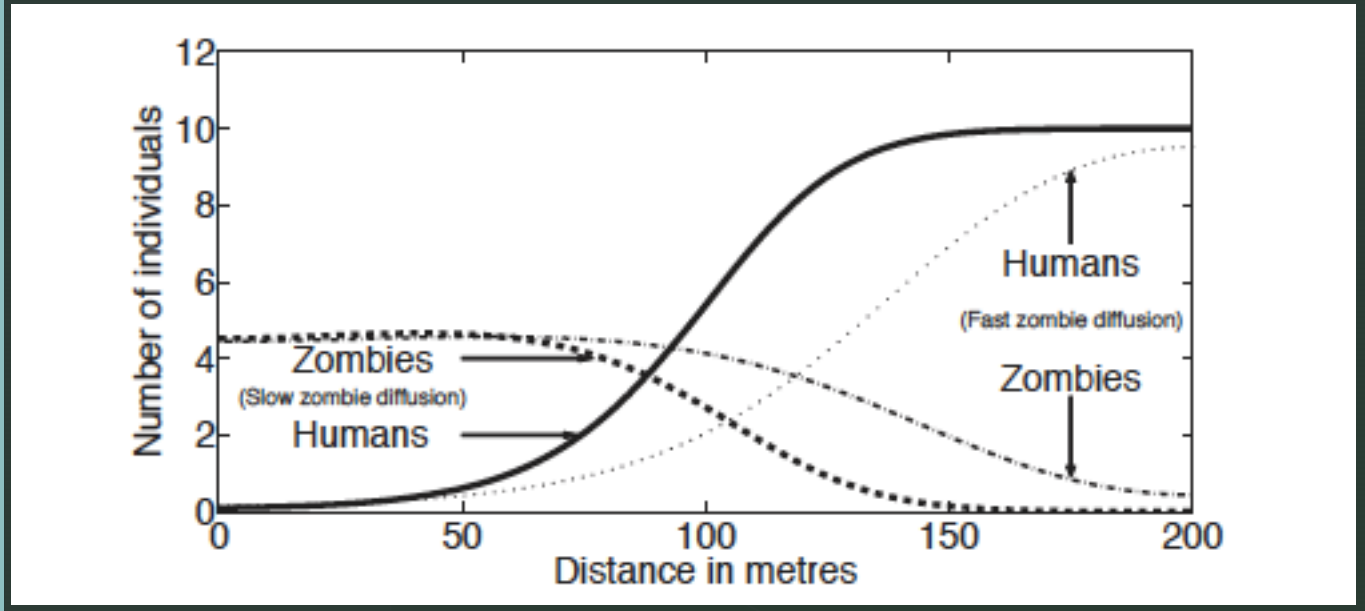
- To become a chemist, a person needs to have a **bachelor's degree in chemistry** or a related subject such as **mathematics**.
  - – 4 Years
- Materials scientists need a **college degree** in **materials science**, or **chemistry, physics**, or **electrical engineering**. However, chemists and materials scientists usually need a **Ph.D. for research jobs**.
  - – 5- 7 Years
- $41,110/yr - $125,450/yr

Healthcare Scientists/ Clinical Biochemistry

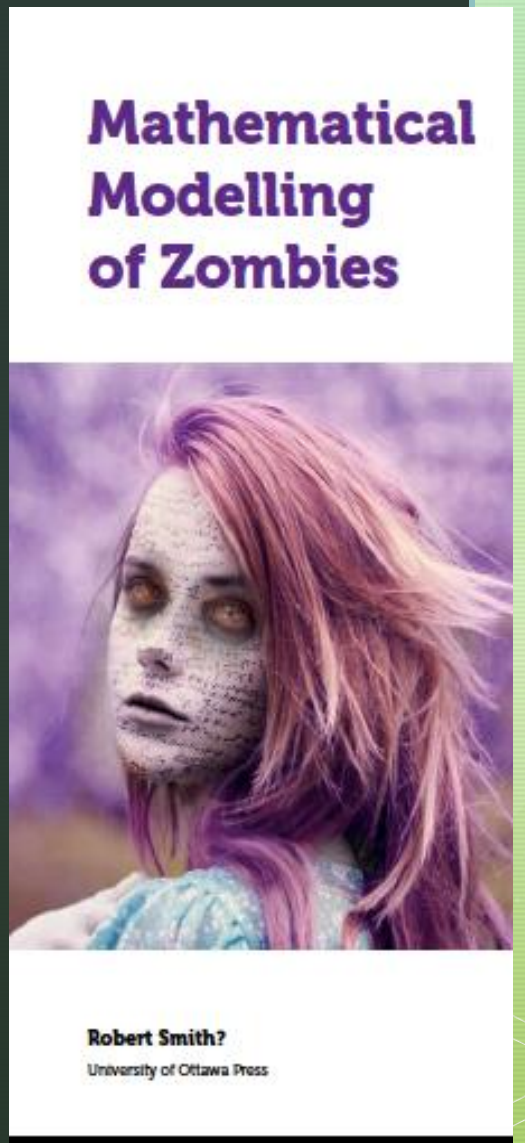
- **What do they do ?**
  - Research and develop new treatments and equipment. Most of their work is done in laboratories.
- Ex) Vaccines
  - An immune system activating species is introduced.
  - Body reactions and forms antibodies
  - Antibodies protect against future infection.



Usage of Math

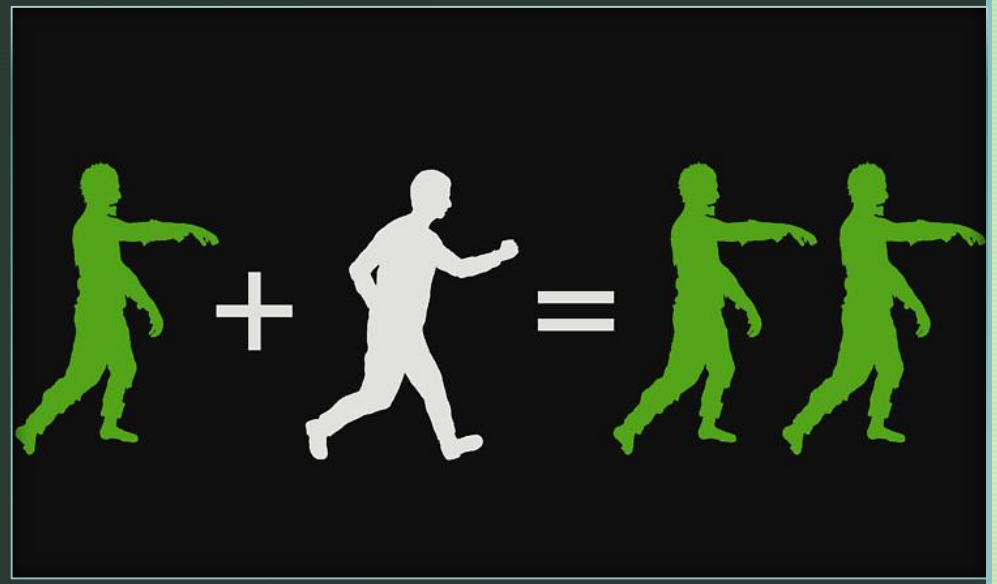


- Zombie Outbreak !
- (bN)(S/N)Z = bSZ
- Smith's model shows that a zombie infection would spread quickly (with N representing total population, S the number of susceptible people , Z the zombies, and b the likelihood of transmission).



How Math connects to Real Life

- Compartmental analysis. In this case, we begin by dividing up our population into three groups (or compartments): the humans, the zombies, and those permanently dead and removed from the population.
- The Centers for Disease Control and Prevention uses more sophisticated versions of models to predict epidemic spreads and to investigate interventions.



Math Chemists Use : College Algebra, Geometry, Trigonometry, Calculus I and II, Statistics

Activity

https://goo.gl/S5mMJd

Thank you !