

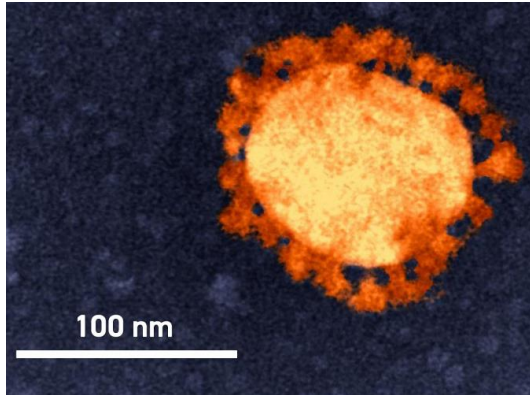
EPGL – B201

Introduction to Microbiology: Germs or Gems?

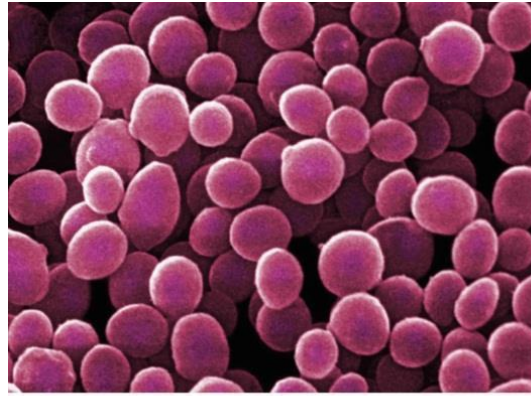
Dr. Amy Li



1) Diversity of microbes

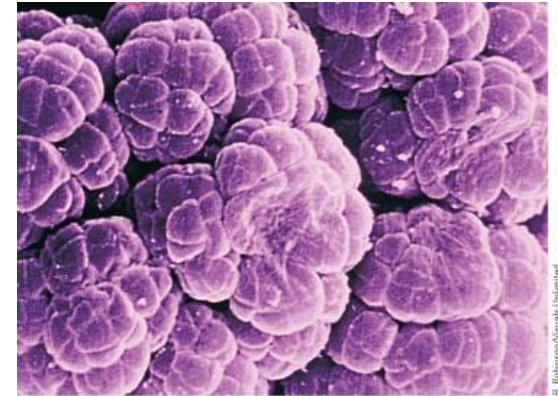


SARS-CoV-2 (Virus)

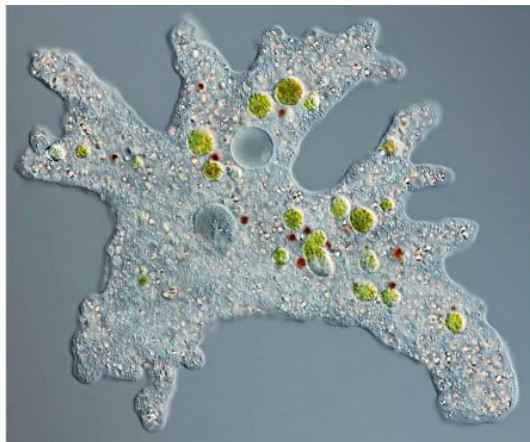


Micrococcus (Bacteria)

1.0 μm



Methanosarcina (Archaea) 5 μm



Amoeba (Protist)

100 μm

Lebendkulturen.de/Shutterstock.com

Diameter = ? mm



Pilobolus (Fungus)

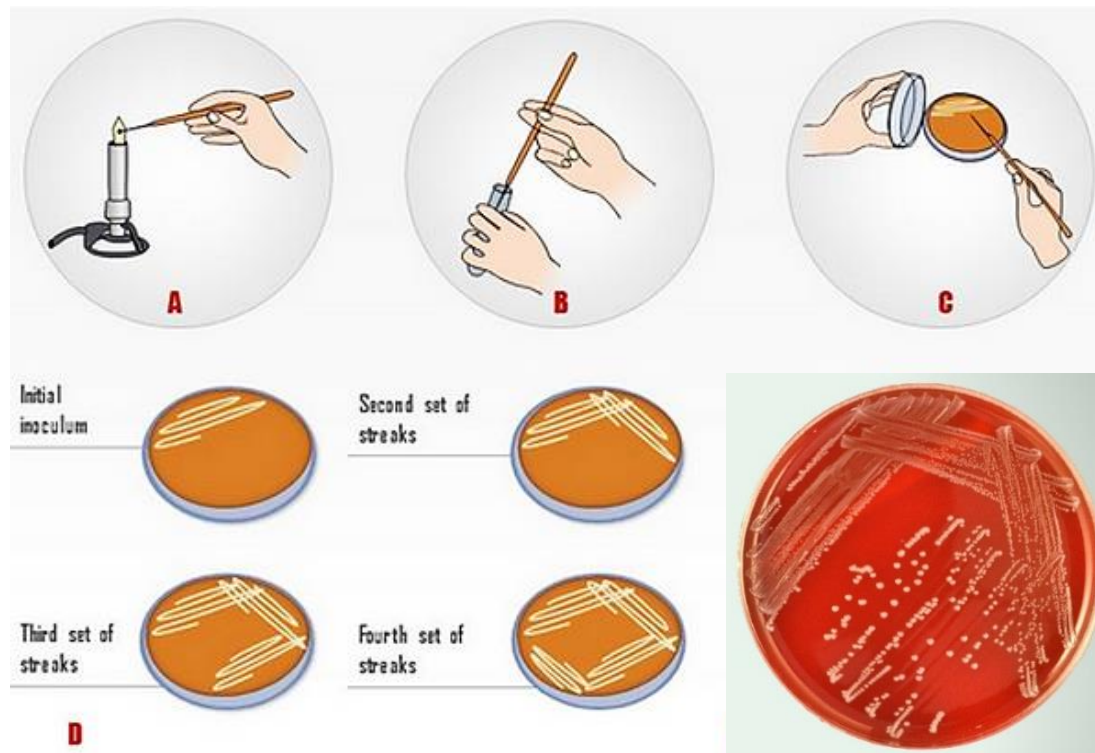
500 μm

John Hodgkin

2) Practical skills

Streak plate method

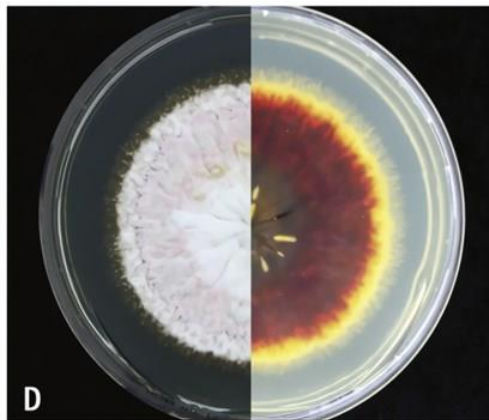
- For liquid or solid sample with various concentrations
- Sterilize & cool the inoculation loop between streaks



Isolated colony

3) Pathogenic microbes

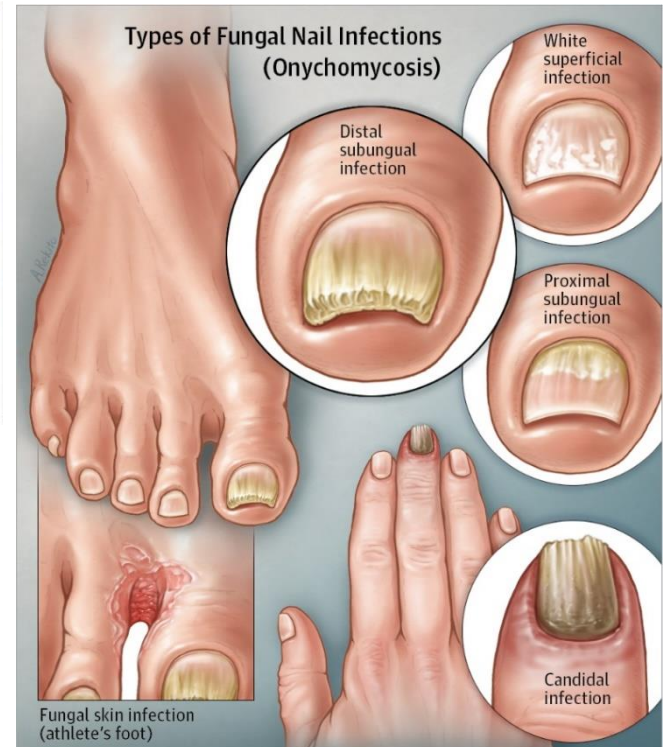
- An **ascomycete** that mainly reproduces asexually
- A major dermatophyte that infects keratinized tissues
- Causes nail discoloration, thickening & separation



Microconidia



Macroconidia

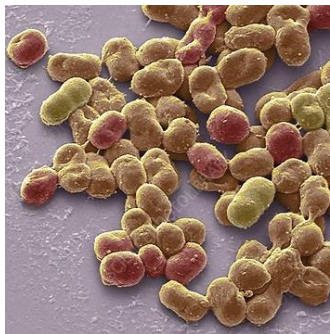


4) Useful Application

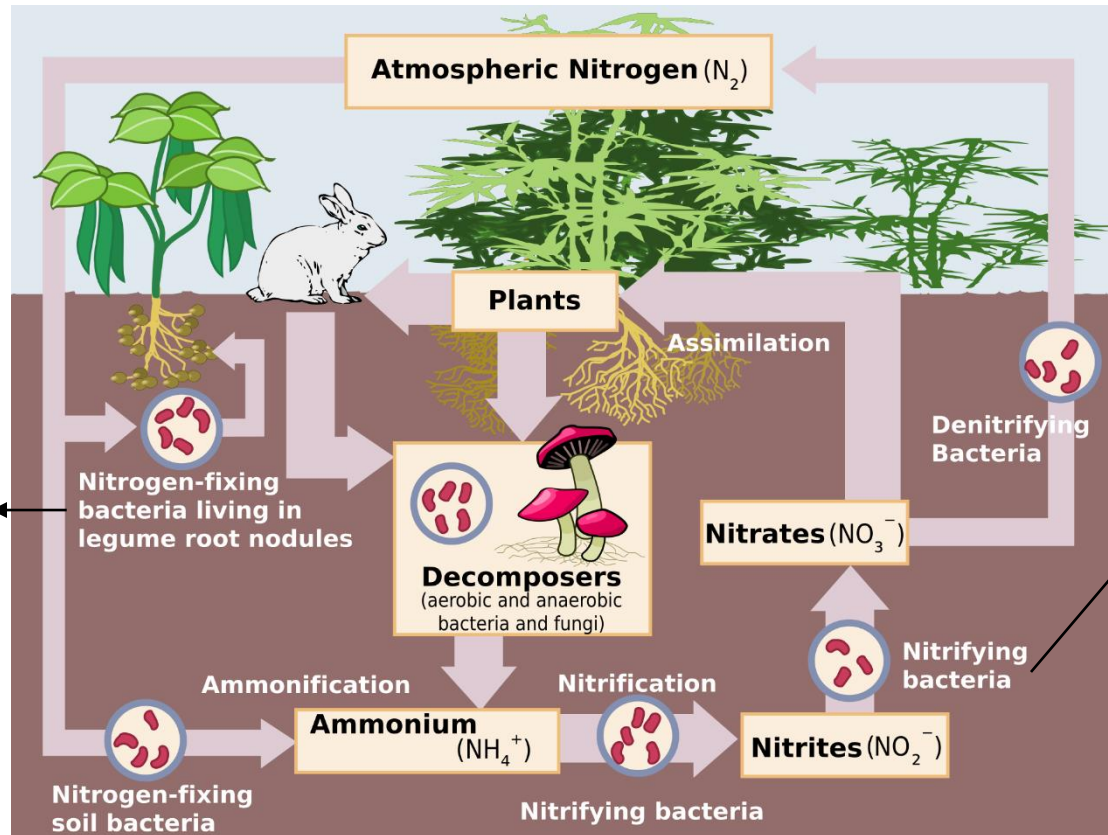
- Increase soil fertility by increasing nutrient availability



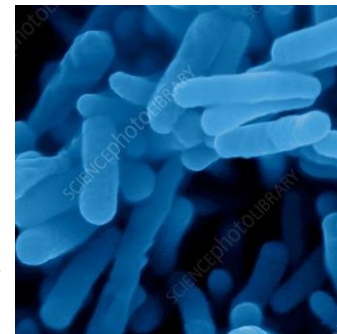
Rhizobium (symbiotic)



Azotobacter (free-living)



Nitrobacter



Nitrosomonas

5) COVID-19

- Severe acute respiratory syndrome coronavirus 2
- Belongs to Betacoronavirus
- Enveloped virus with a positive-sense ssRNA genome

