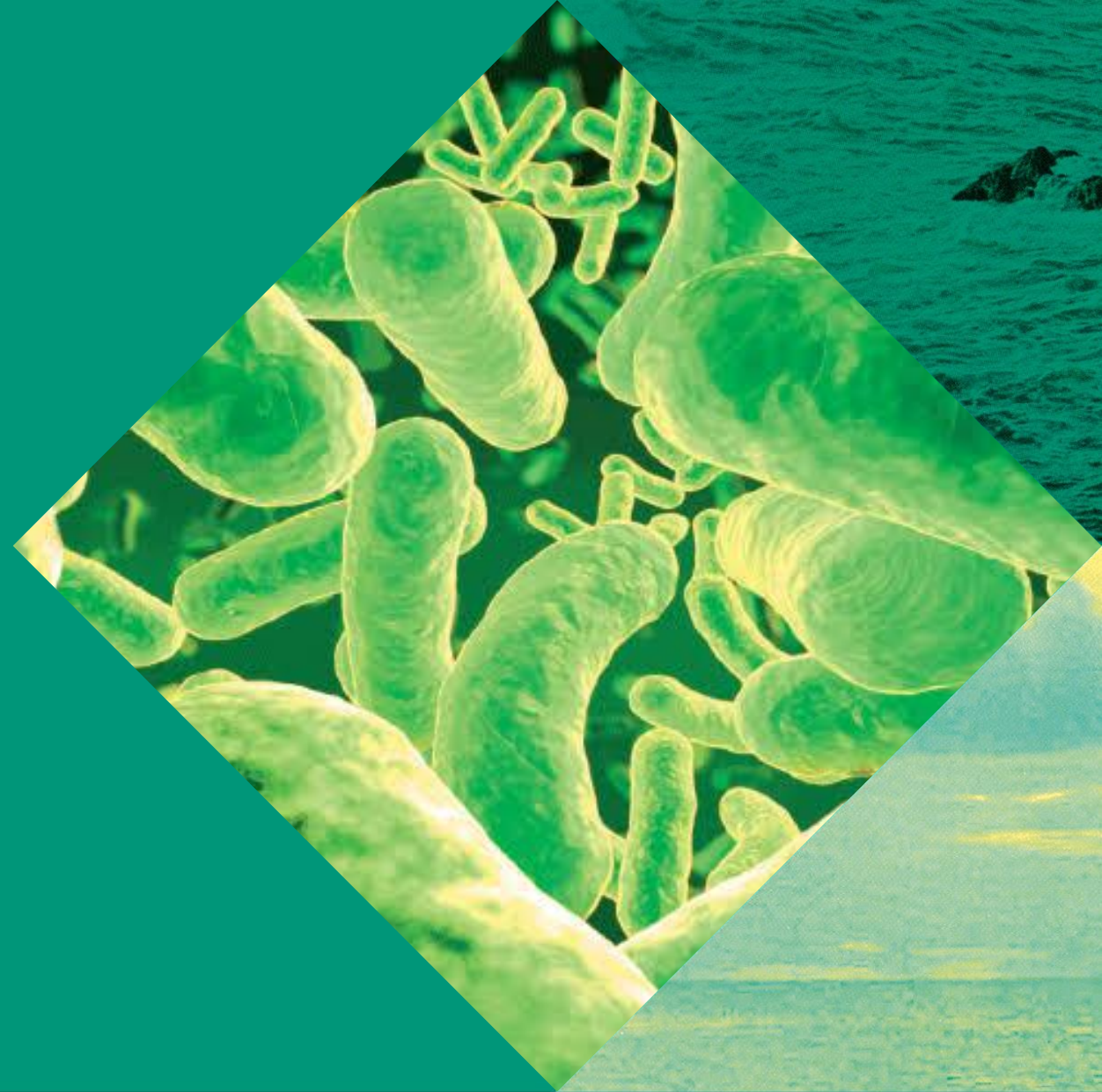


Campus Biosafety

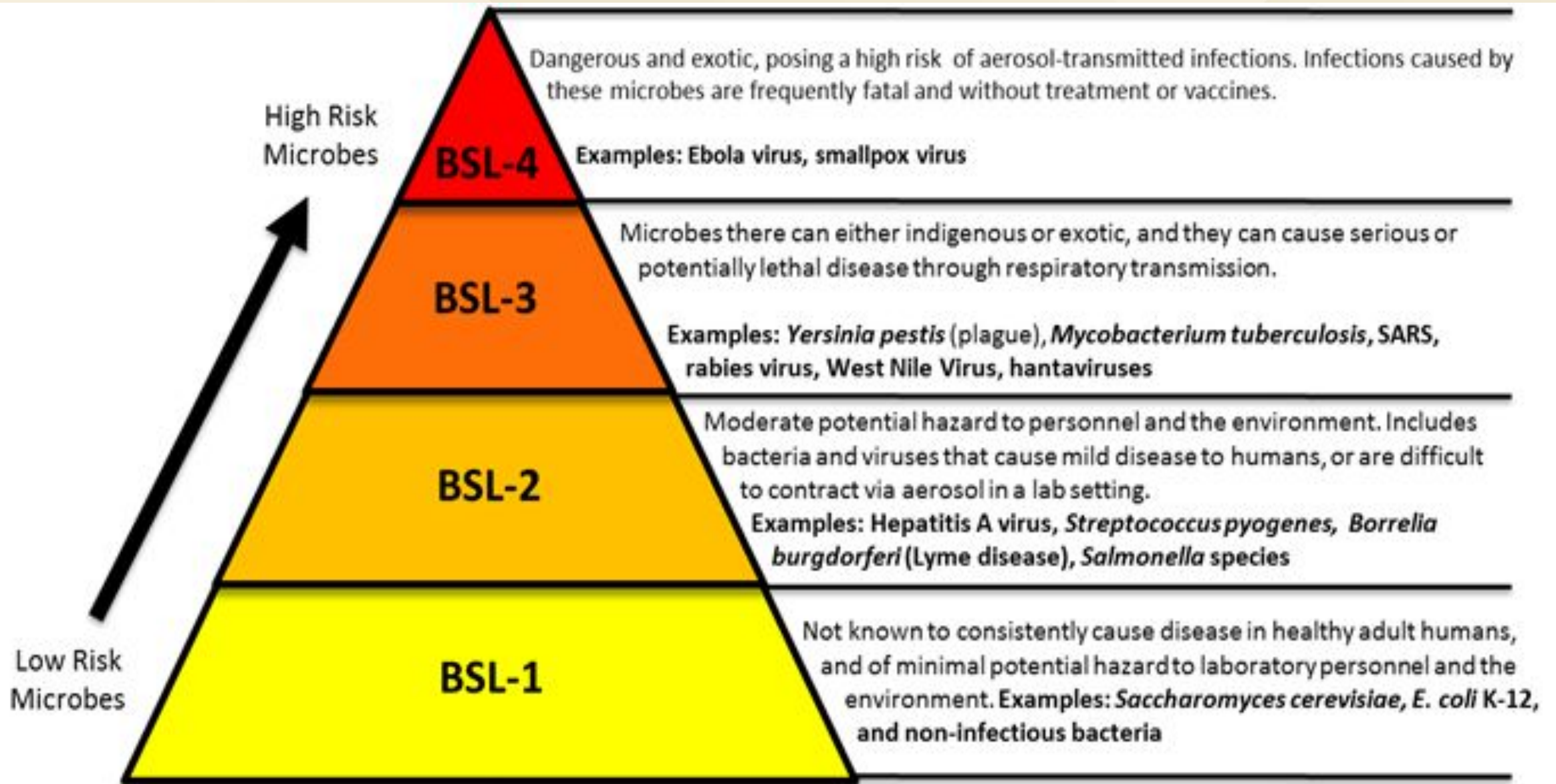


> What is Biosafety?

- **Application of practices, safety equipment, and facility design to prevent exposure to biological agents and toxins**
- **Protects: laboratory personnel, campus community, the public, and the environment**

➤ Core Biosafety Levels (BSLs)

- **BSL 1** – Low risk. Uses basic cleaning and open lab benches for harmless germs like basic E. coli
- **BSL 2** – Medium risk. Handles human disease agents like Hepatitis. Requires restricted doors and protective gear.
- **BSL 3** – High risk. Deals with serious airborne threats like Tuberculosis. Uses special air filters and locked negative pressure rooms.
- **BSL 4** – Maximum risk. Reserved for fatal exotic viruses like Ebola. Workers wear full body suits with separate air supplies.
(BSL 4 research is prohibited at Cal Poly Humboldt)



➤ Common Examples of BSL Research

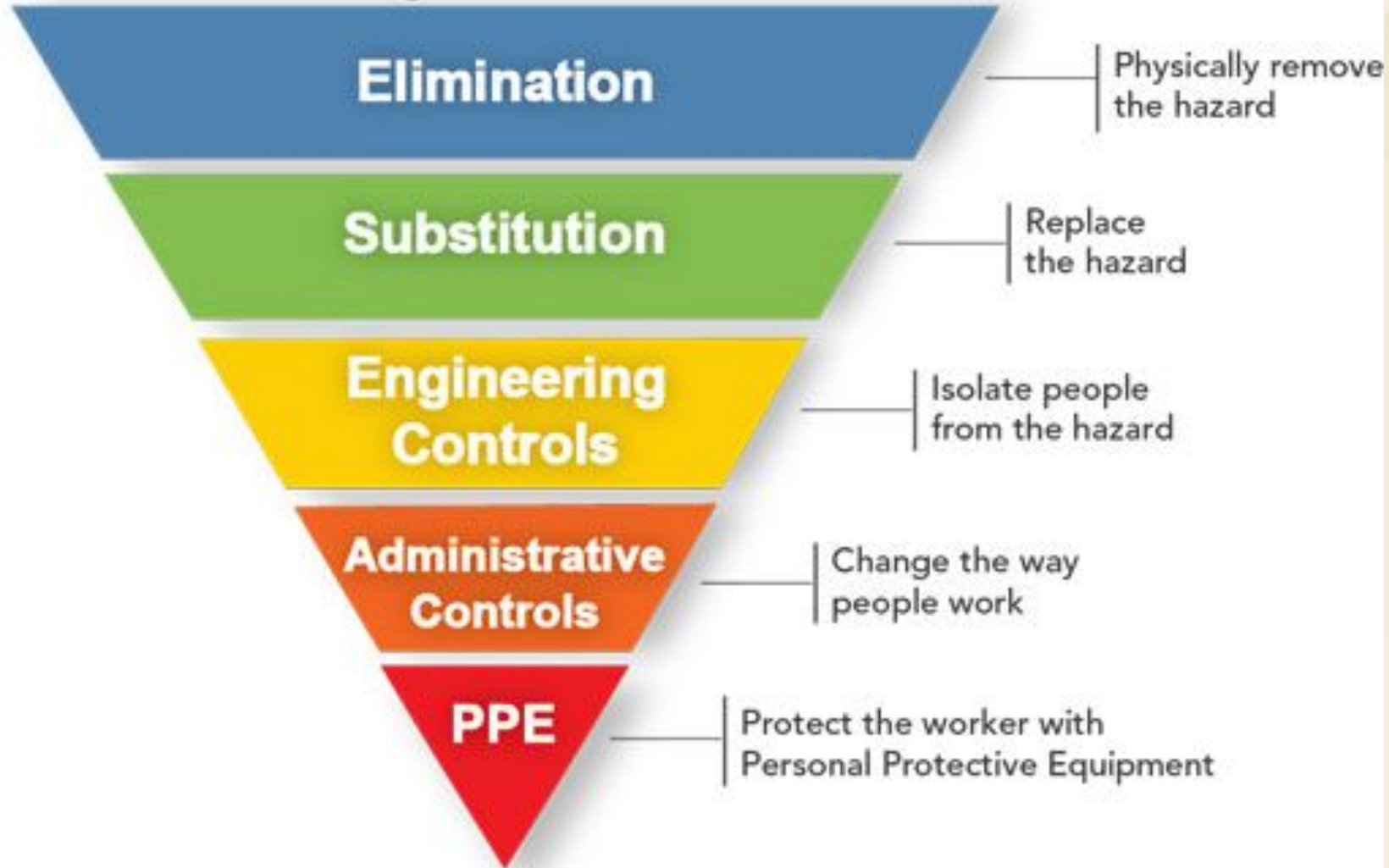
- BSL 1: *E. coli*, *Bacillus subtilis* , baker's yeast (*Saccharomyces cerevisiae*)
- BSL 2: *Staphylococcus aureus* , Salmonella, pathogenic *E. coli*, *Listeria monocytogenes* , human blood/primary human cells, Hepatitis, HIV
- BSL 3: *Mycobacterium tuberculosis*, *Coxiella burnetii*, *Bacillus anthracis*, SARS-CoV-2

Hierarchy of Controls

Most
effective



Least
effective



➤ Controls for BSL 2 and Above Work

- **BSL 1:** Standard microbio practices, open bench work, basic PPE
- **BSL 2:** Restricted access, biohazard signage, Biosafety Cabinets (BS)
- **BSL 3:** Controlled negative airflow, double door entry, specialized respiratory protection



➤ **Applying for BSL 2 and Above Research**

- 1. Submit a Biological Use Authorization Application (BUA) to Environmental Health & Safety**
- 2. If needed, EH&S will have the Institutional Biosafety Committee (IBC) Review the proposal**
- 3. IBC approval is necessary to conduct BSL 2 and above research**