Catch me if you can! By anonymous students

Definition of Infectious Diseases:

- Are caused by microorganisms such as bacteria, viruses, and fungi
- Can be transmitted human-human and human-animal
- Most affect third world countries

Top 10 Most common diseases that kill

- 1. Ischemic heart disease
- 2. Cerebrovascular disease
- 3. *Lower Respiratory infections
- 4. *HIV/AIDS
- 5. Chronic Obstructive Pulmonary Disease
- 6. Perinatal conditions
- 7. *Diarrheal diseases
- 8. *Tuberculosis
- 9. *Malaria
- 10.Trachea, bronchus, lung cancers

Recent Diseases in our World

- Recently (January), 115 people have died of Avian Flu
- 2007: A business man flying from US to various countries in Europe as a TB carrier was detained. A fellow
 passenger was affected.

Problems with I.D.

- The infectious disease itself and mutation
- Resources (and lack thereof)
- Environment (climate and ecology)
- Time
- Lack of understanding
- Ethical constraints on research

Ways we have been tackling the problems:

- Vaccines
- Antibiotics

Pharmaceutical drugs

- Not developed for all
- Resistant strains (e.g. penicillin resistance)
- Allergies to antibiotics
- Painful Side effects, allergies, also resistance

Proposed Solutions:

Bioengineer Bacteria

 Engineer bacteria to attack disease microbes (like was seen in the IGEM project)

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Attack!!

Engineer Viruses

Engineer
Bacteriophages
(bacteria-specific viruses) to attack
target bacteria

Boost Immunity

 Vitamin-C producing bacteria that live in your small intestine (symbiotic relationship)

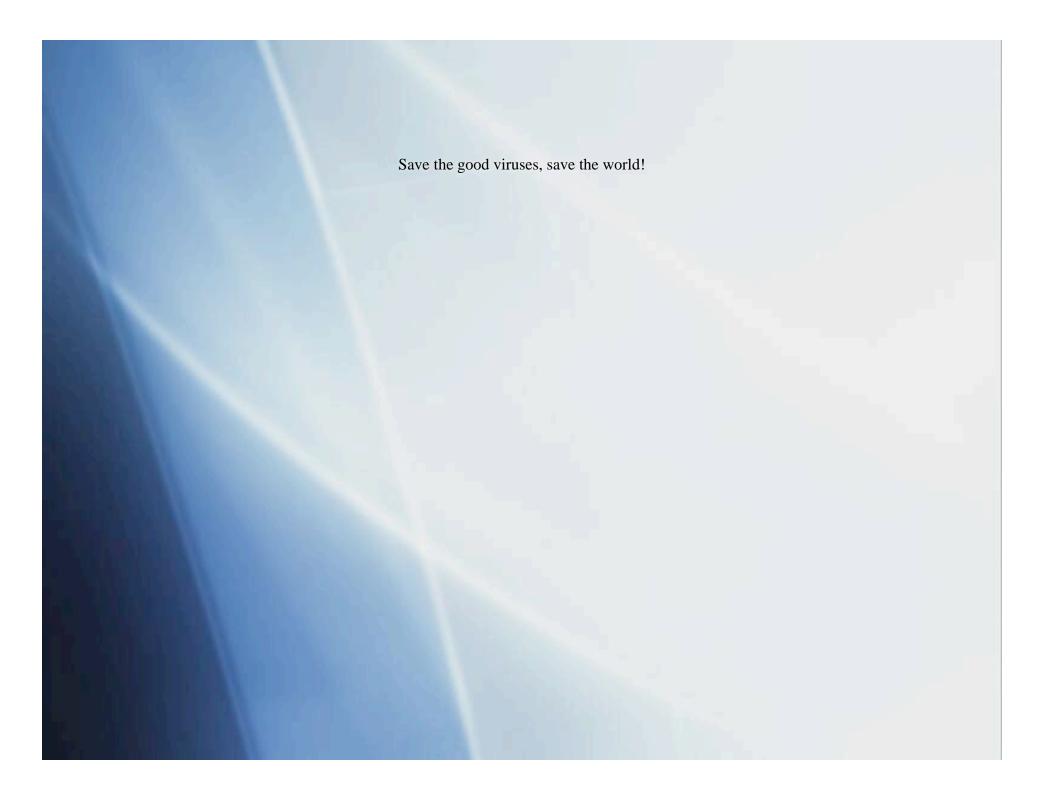
Detect Virus infection mode

 And design compound to inhibit different areas of the virus's infection

Connect Hospitals to Researchers

When patient comes in with new virus, a sophisticated screening system will be able to identify protein coat and infection mode, a vaccine can be developed from the blueprint, and this information can be transferred to other hospitals.

New innovative solutions! (that you create!)



20.020 Introduction to Biological Engineering Design Spring 2009

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