Images depict some of IOS’ research themes, spanning from small to large organisms and hot to cold environments

1. **Learning & Memory: Neurons**
   Studies of different types of brain cells (color-coded images) in the mouse hippocampus reveal mechanisms of learning, memory, and neurodegenerative diseases.

2. **Human Food Crops: Genome Map**
   A “synteny” map illustrates how genes in different chromosomes of soybean (outer circle) are related to each another (colored line connects different genome locations).

3. **High-speed Metabolism: Hummingbirds**
   Studies of hummingbirds are revealing how animals can rapidly convert food energy into fast motion.

4. **Developmental Biology**
   Developing embryos of a frog display extensive external gills oriented to obtain maximum oxygen.

5. **Evolution of Life in Hot Environments: Bacteria**
   Scientists study these single-celled microorganisms from deep-sea hydrothermal vents to understand how life may have first evolved on Planet Earth.

6. **Food and Pollination: Bee on Plant**
   Research on honey bees provides insight into behavior and pollination, processes that have an essential role in food crop production and maintenance of diversity in native plant communities.

7. **Plant Behavior: Sunflowers**
   Sunflowers, shown in this image as all facing the same direction in response to sunlight (phototropism), are valuable study systems for analysis of plant metabolism and genome evolution.

8. **Life in the Cold: Mammals**
   Investigations of Antarctic seals yield new insights into the physiological mechanisms of reproductive success in extreme-cold environments.