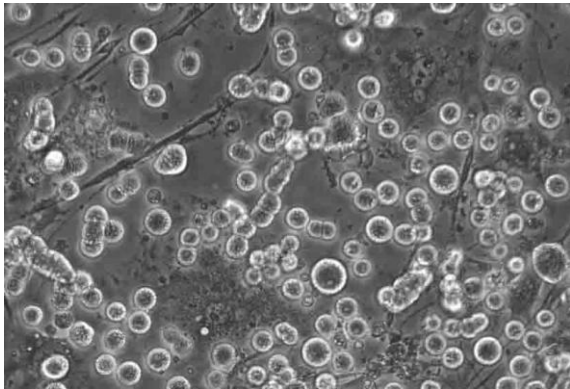
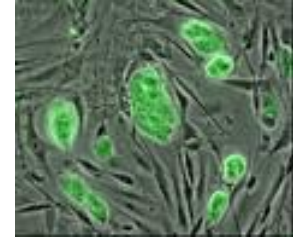


Overview:

- Understand the historical emergence of stem cell biology
- Gain skills in the culture of embryonic stem cells and germ line stem cells
- Transition stem cells toward differentiation into committed cell types
- Appreciate the ethical issues in stem cell biology



Lectures:

1. Introduction to stem cells
2. Embryonic stem cells – origin and function
3. Adult stem cells – origin and function
4. Germ line stem cells – embryo to adult
5. Differentiation of stem cells
6. Induction of meiosis in germ line stem cells
7. Stem cell and bioethics

Labs:

- | | |
|--------------------------------------------------------|---------|
| 1. Safety orientation aseptic review | 1 week |
| 2. Culture systems; feeder layer and conditioned media | 1 week |
| 3. Initiation of embryonic stem cell cultures | 2 weeks |
| 4. Growth factors in embryonic stem cell culture | 2 weeks |
| 5. Differentiation of embryonic stem cells | 1 week |
| 6. Germ line stem cell culture | 1 week |