

Human Embryonic Stem Cells: Comprehensive Training Program

Sponsored by the NIH

When: October 6-14, 2009

Where: The Scripps Research Institute Center for Regenerative Medicine, La Jolla, CA

Course format:

- 9 students and > 25 instructors and faculty from academia and industry
- 9 days of hands-on, intensive, laboratory instruction and stimulating seminars

Who should apply:

- Professional scientists who want beginning and advanced training in human pluripotent stem cell methods. Note: basic cell culture experience is a prerequisite.

Topics will include:

Practical Hands-On Training

Culture and maintenance of human pluripotent stem cells (iPS and ES cells)

- Making different types of culture medium
- Passaging cells mechanically and enzymatically (collagenase & accutase)
- Inactivation of feeders and feeder-free culture methods
- **iPS derivation and propagation**
- Freezing and thawing techniques

Characterization methods

- Karyotyping
- Flow cytometry
- Immunocytochemistry
- Gene expression analysis
- Differentiation

Lectures and Seminars

Social Issues: Stem Cells and Society

- Patents: who owns stem cells?
- Ethics of ES cell research
- Patient advocate discussion: can human pluripotent cells treat disease
- Meet the press: how the media cover stem cell research
- Funding opportunities for stem cell research

Research and the Clinic:

- IVF methods and derivation of hESCs
- Genetic manipulation of stem cells
- **Different methods for the derivation of iPSCs**
- Somatic tissue derived stem cells
- Differentiation of specific hESC derivatives
- Cell replacement for human disease
- Current clinical trials

Course Director: Jeanne F. Loring, Director of The Scripps Research Institute
Center for Regenerative Medicine

Co-Directors: Philip H. Schwartz, Robin L. Wesselschmidt, and Suzanne E.
Peterson

A stem cell laboratory manual will be provided: Loring, Schwartz, and
Wesselschmidt: **Human Stem Cell Manual: A Laboratory Guide** (Academic
Press/Elsevier, 2007).

Estimated Costs:

Tuition	\$2500
Lodging, supplies, lab manual, and meals	<u>\$2000-3000*</u>
Total costs	\$4500-5500*

* Costs for lodging and meals will be dependent on negotiated rates

Students must provide their own transportation to La Jolla

Note: Cost of lodging will be deducted for local students who do not require
lodging – please let us know in advance.