

# March 7 – 16, 2006 CHOC/BURNHAM/NIH HUMAN EMBRYONIC STEM CELL CULTURE TRAINING COURSE

	3/7/06 Tuesday	3/8/06 Wednesday	3/9/06 Thursday	3/10/06 Friday	3/11/06 Saturday
7:40	Shuttle to CHOC	Shuttle to CHOC	Shuttle to CHOC	Shuttle to CHOC	Shuttle to CHOC
8:00-9:00	Breakfast <i>Introductions</i> Phil Schwartz, CHOC	Breakfast Discussion & Announcements Overview of the day	Breakfast Discussion & Announcements Overview of the day	Breakfast Discussion & Announcements Overview of the day	Breakfast Discussion & Announcements Overview of the day
9:00-10:00	9:00- 10:00 <i>In Vitro Fertilization</i> David Diaz, W Coast Fert Ctrs	Faculty Lecture <i>hNSCS</i> Phil Schwartz, CHOC	<b>FUNDAMENTALS</b> <i>Photomicroscopy</i> Robert Nazar, Olympus	<b>Faculty Lecture</b> <i>Photomicrographic Image Processing</i> Lisa Flanagan, UCI	<b>Faculty Lecture</b> <i>Amniotic Pluripotent Stem Cell</i> Laura Perin, CHLA
10:00-11:00	10:00- 10:45 <i>Overview</i> Phil Schwartz, CHOC  10:45-11:30 <i>Safety Lecture with Videos</i> Stanka Derzic, CHOC	<b>LABORATORY</b> <i>Stem Cell Culture Methods</i> Michelle Sheridan, LeiQian Tai, CHOC, Rudy Gonzalez, Chris Stubban, Burnham, Sophia Khaldoyanidi, LJIMM	<b>LABORATORY</b> <i>Practical photomicroscopy</i> Lee Wagstaff, Olympus Robert Nazar, Olympus Dave McGee, Optronics	<b>LABORATORY</b> <i>Stem Cell Characterization II Immunocytochemistry</i> Lisa Flanagan, UCIrvine	<b>LABORATORY</b> <i>Stem Cell Culture Methods</i> Michelle Sheridan, CHOC, Rudy Gonzalez, Chris Stubban, Burnham, Sophia Khaldoyanidi, LJIMM
11:30-1:00	11:30-1:00 <i>CHOC Clinical and Research Orientation and Tour</i> Phil Schwartz and Michelle Henry, CHOC	Thaw and plate hESCs; Feed hESCs, hNSCs; Prepare substratum	Photograph cultures	Photograph cultures; Label hNSCs/hESCs with secondary antibodies; Mount slides	Photograph cultures; Feed hESCs/hNSCs; Pass hNSCs; Photograph immunocytochemistry; Observe and photograph transfected cells
1:00-2:00		<b>Lunch</b>	<b>Lunch</b>	<b>Lunch</b>	<b>Lunch</b>
2:00-3:00	<i>Welcome</i> Brent Dethlefs, CHOC <i>Lunch Buffet</i>  2:15-3:00 <i>mESCs</i> Robin Wesselschmidt, USC	<b>FUNDAMENTALS</b> <i>Stem Cell Culture Media</i> Uma Lakshmiathy, InVitrogen	<b>LABORATORY</b> <i>Stem Cell Characterization I: Immunocytochemistry</i> Lisa Flanagan, UCIrvine	<b>Faculty Lectures</b> Sophia Khaldoyanidi, LJIMM: <i>Hematopoiesis in the Lab</i>  Ruchi Bajpai, Burnham: <i>Lentivirus Transfection</i>	Shuttle to Hotel
3:00-4:00	3:00-4:00 <i>hESCs</i> Jeanne Loring, Burnham	<b>LABORATORY</b> <i>Stem Cell Culture Methods</i>  Michelle Sheridan, LeiQian Tai, CHOC	Fix slides; Label hESCs/hNSCs with primary antibodies: markers of undifferentiated and differentiated cells (hESC and hNSC)	<b>LABORATORY</b> <i>Demonstration: Lentivirus Transfection</i> Ruchi Bajpai, Burnham	Free time
4:00-5:00	<b>LABORATORY</b> <i>Preparation for culture of stem cells</i> Michelle Sheridan, LeiQian Tai, CHOC, Rudy Gonzalez, Chris Stubban, Burnham	Rudy Gonzalez, Chris Stubban, Burnham, Sophia Khaldoyanidi, LJIMM	<b>LABORATORY</b> <i>Stem Cell Culture Methods</i>	<b>LABORATORY</b> <i>Stem Cell Culture Methods</i>	
5:00-6:00	Observe cultures; Prepare feeder layers	Pass hESC; Make embryoid bodies/differentiate hESC; Label hNSCs, hESCs with BrDU	Michelle Sheridan, LeiQian Tai, CHOC, Rudy Gonzalez, Chris Stubban Burnham, Sophia Khaldoyanidi, LJIMM	Michelle Sheridan, LeiQian Tai, CHOC, Rudy Gonzalez, Chris Stubban Burnham, Sophia Khaldoyanidi, LJIMM	
6:00-7:00	Dinner with Faculty	<b>Guest Faculty Lecture</b> Theo Palmer, Stanford <i>Characterization Of Stem Cells by Immunocytochemistry</i>	<b>Guest Faculty Lecture</b> Ian Duncan, U Wisconsin: <i>Purification and Differentiation of Oligodendroglia Precursors</i>	<b>Guest Faculty Lecture</b> Hao Wu, UCLA <i>Molecular Control of Neural Stem Cell Proliferation and Differentiation</i>	Dinner on your own
7:00-8:00	7:00 Shuttle to Hotel	Dinner with Faculty	Dinner with Faculty	Dinner with Faculty	Optional group activities
8:15	Free time to review course materials	Shuttle to Hotel	Shuttle to Hotel	Shuttle to Hotel	

# March 7 – 16, 2006 CHOC/BURNHAM/NIH HUMAN EMBRYONIC STEM CELL CULTURE TRAINING COURSE

	3/12/06 Sunday	3/13/06 Monday	3/14/06 Tuesday	3/15/06 Wednesday	3/16/06 Thursday
7:40	Breakfast on your own	Shuttle to CHOC	Shuttle to CHOC	Shuttle to CHOC	Shuttle to CHOC
8:00-9:00		Breakfast Discussion & Announcements Overview of the day	Breakfast Discussion & Announcements Overview of the day	Breakfast Discussion & Announcements Overview of the day	Breakfast Discussion & Announcements Overview of the day
9:00-10:00		Faculty Lecture <i>Aneuploidies in Animal and Human Brain and Neural Stem Cells</i> Suzanne Peterson, Scripps	<b>FUNDAMENTALS</b> <i>Functional Assays for NSCs</i> Sharon Louis, Stem Cell Technologies <i>FACS Analysis</i> Stephen Hou:	<b>FUNDAMENTALS</b> <i>Preparation of Novel Antibodies</i> Matt Singer, Chemicon	<b>General Discussion</b> <i>Ethical Considerations in Stem Cell Biology</i> Philip Schwartz, CHOC Michael Kalichman, UCSD
10:15-11:30		Free time	<b>LABORATORY</b> <i>Stem Cell Characterization III: Molecular karyotyping by FISH and SKY</i> Suzanne Peterson, Will Westra, Yun Yung, Scripps	<b>LABORATORY</b> <i>Microscopic analysis of FISH stained cells.</i> Suzanne Peterson, Will Westra, Yun Yung, Scripps	<b>LABORATORY</b> <i>Computer Lab: Analysis of FACS data</i> Philip Schwartz, CHOC
11:30-1:00	12:30: Shuttle to CHOC	Preparation for FISH Feed hNSCs/hESCs; Observe cultures, change media	Feed hESCs	<b>Guest Faculty Lecture</b> Melissa Carpenter, Cythera <i>hESC Methods: Feeder-Free Culture and Neuronal Differentiation</i>	<b>LABORATORY</b> <i>Stem Cell Culture Methods</i> Lift and freeze hESCs Michelle Sheridan, LeiQian Tai, CHOC
1:00-2:00	Lunch	Lunch	Lunch	Lunch	Lunch
2:00-3:00	Faculty Lecture Jeanne Loring, Burnham: <i>Human Embryo Banking</i>	Guest Faculty Lecture Doug Wallace, UCIrvine: <i>The Importance of the Mitochondrion in SCNT</i>	<b>LABORATORY</b>	<b>LABORATORY</b> Demonstration and training: <i>Transplantation of neural stem cells</i> Jean Pyo Lee, Burnham Feed hESCs	<b>LABORATORY</b> Finish experiments; Exchange photos and data; Discuss results
3:00-6:00	<b>DISCUSSION</b> in the lab  Open discussion with instructors. Topics to be chosen by students  <b>LABORATORY</b> Feed hNSCs/hESCs; Free lab time for repeating or finishing experiments.	<b>DISCUSSION</b> in the lab <i>Stem Cell Characterization IV: Karyotyping</i> Touran Zadeh, Genetics Center  <b>LABORATORY</b> Reading karyotypes; Methods for counting chromosomes	<i>Stem Cell Characterization V: Cell sorting</i> Mei Chang & Stanka Derzic, CHOC  Preparation of cells for FACS (hNSCs only); FACS	<b>FUNDAMENTALS</b> <i>Patents and Legal Issues</i> Cathryn Campbell, McDermott Will & Emery	<b>4:00 – Guest Faculty Lecture:</b> Sidney Golub, UCIrvine <i>Human Stem Cell Policy: A Scientist Plays Politics</i>
6:00-7:00	Guest Faculty Lecture Brian Cummings, UCIrvine: <i>Treatment of SCI with Fetal-Derived hNSC</i>	Faculty Lecture: Evan Snyder, Burnham <i>Neural Stem Cell Transplantation</i>	Guest Faculty Lecture Mark Mercola, Burnham: <i>Discovery of Factors for ES Cell Differentiation</i>	Special Lecture Gary Robbins, OC Register: <i>Speaking with the Media</i>	<b>5:00 – Guest Faculty Lecture:</b> Susan Bryant, UCIrvine <i>CA Institute for Regenerative Medicine</i>
7:00-8:00	Dinner with Faculty	Dinner with Faculty	Dinner with Faculty	Dinner with Faculty	6:00 Special Dinner
8:15	Shuttle to Hotel	Shuttle to Hotel	Shuttle to Hotel	Shuttle to Hotel	

Research Conference Room – Building 3, 5 <sup>th</sup> floor
CHOC Hospital – Building 1
CHOC North Board Room – Building 1, 1 <sup>st</sup> floor
Clinic Drop Off – Building 4, 1 <sup>st</sup> floor
Free Time
Genetics Center - 211 South Main Street
Neuroscience Laboratories – Building 3, 4 <sup>th</sup> floor
Patio – Building 2, 3 <sup>rd</sup> floor