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MBL

Biological
Discovery in
Woods Hole

April 30 - June 12, 2016

ADMISSIONS DEADLINE:
January 13, 2016

Substantial scholarship support is available to U.S. and foreign citizens, and may cover the majority of course fees and travel expenses.

Financial aid decisions are made on the basis of need and are not a factor in admissions decisions.

Frontiers in Reproduction (FIR): *Molecular & Cellular Concepts*



Frontiers in Reproduction (FIR) is a 6-week-long laboratory and lecture course designed for scientists-in-training (graduate students, postdoctoral fellows, as well as clinical fellows) who are interested in improving basic conceptual knowledge and methodological skills to pursue a research career in the reproductive sciences. Entering our nineteenth year, we have over 325 alumni worldwide.

FIR is limited to 20 participants per year and is held at the Marine Biological Laboratory (MBL) in Woods Hole, Massachusetts, a site rich in the tradition of biological inquiry. The course is organized into three sections consisting of lectures from resident faculty and invited speakers, discussions, and informal seminars, as well as hands-on laboratory exercises. Dr. Mario Ascoli (University of Iowa), is FIR's lead course director. The first section is directed by Dr. Dan Bernard (McGill University), and covers signal transduction and gene expression in the hypothalamic-pituitary-gonadal axis, and bioinformatics, as they apply to reproductive endocrinology. Section 2, directed by Dr. Rafael Fissore (University of Massachusetts Medical School), focuses on gametogenesis, fertilization, cloning, and stem cells. Section 3 is directed Dr. Larry Reynolds (North Dakota State University), and addresses transgenic technology, cell-cell interactions in reproductive tissues during development, as well as embryology and implantation biology.

Why you should attend:

FIR IS NOT YOUR REGULAR UNIVERSITY COURSE!

Lectures and laboratories are taught by 30-40 leading investigators from 20-30 different institutions representing all areas of reproductive biology.

IT WOULD BE IMPOSSIBLE TO LEARN ALL OF THE TECHNIQUES AND APPROACHES

covered at FIR in any university course. Techniques covered at FIR include transfections of mammalian cells, characterization of signal transduction pathways, transcriptional regulation techniques such as real-time PCR and chromatin immunoprecipitation, oocyte maturation, confocal imaging, meiosis, germ cell transplantation, microarrays, bioinformatics, IVF, ICSI, FISH, nuclear transfer, embryo manipulations, one cell embryo and ES cell microinjection, tissue recombination, implantation, analysis of mutant mice, and genotyping.

AS A FIR TRAINEE YOU WILL BECOME A MEMBER OF AN ENTHUSIASTIC GROUP OF SCIENTISTS

who share common research interests and have an innate curiosity about reproductive biology. These interactions provide invaluable career networking opportunities.

FIR FACULTY AND TRAINEES ARE FREE FROM OTHER RESPONSIBILITIES

found at home institutions, enabling full immersion in the FIR experience. Participants' only responsibilities are to teach and learn. These characteristics of FIR, coupled with the rich scientific atmosphere of the MBL, provide a unique, informal and relaxed setting to complement an intense lecture and laboratory program.

Faculty & Lecturers Participating in FIR 2015:

Mario Ascoli, Kjrest Aagard, Richard Auchus, Marisa Bartolomei, Francoise Baylis, Daniel Bernard, Gustavo Blanco, Pawel Borowicz, Sylvie Breton, David Carroll, Lane Christenson, Jose Cibelli, Paula Cohen, Alan Conley, Scott Coonrod, Marco Conti, Franco DeMayo, Ina Dobrinski, Francesca Duncan, Daniel Dumesic, Kathrin Dunlap, Dieter Egli, Buffy Ellsworth, Asgi Fazleabas, Harvey Florman, Kat Hadjantonakis, Jan Hall, Stephen R Hammes, Barry Hinton, Laurinda Jaffe, Greg Johnson, Joan Jorgensen, Kenneth S. Korach, Lance Kriegsfeld, Dolores Lamb, Charles Lockwood, Lisa Mehlmann, Sue Moenter, Kelle Molle, Louis Muglia, Liza Mundy, Errol Norwitz, Kyle Orwig, Gianpiero Palermo, Joy Pate, Christopher Payne, Peggy Petroff, Joao Ramalho-Santos, Larry Reynolds, Joanne Richards, Jaime Rivera, Mark Roberson, Karen Schindler, Kip Sluder, Paula Stein, Dick Stouffer, Ann Sutherland, Jacques Tremblay, Miles Wilkinson, Carmen Williams.

For more information about
FIR, admissions, and financial
aid assistance, visit

fir.mbl.edu

or contact the course
coordinator: **fir@mbledu**

FIR is supported by major grants
from the NICHD and
the Burroughs Wellcome Fund.

The MBL is an Affirmative
Action/Equal Opportunity/
Disabled/Veterans Employer.