October 2015

Dear User,

BioCoR is excited to announce a new educational program. This hands-on training program is supported by the National Heart, Lung, and Blood Institute (NHLBI) and expands the training opportunities offered at BioCoR.

BioCoR is a national resource focused on advancing the science, technology and practice of preservation. We are dedicated to developing biopreservation protocols, improving preservation and storage technologies, establishing standards and guidelines and training individuals and institutions in the science and technology of biopreservation.

For more information about BioCoR visit our website at www.biocor.umn.edu or contact us at biocor@umn.edu

BioCoR announces a new educational program

Integrated training in development and clinical practice of cell-based therapies

This NHLBI-funded training program provides hands on training at the University of Minnesota in the development and preservation of cell-based therapies.

Training modules

The training will be customized to reflect the diversity and broad-based growth in blood and marrow-derived cell therapies as well the interests and goals of the individual scholars. Six modules are offered with most modules lasting one month in duration. Each scholar will have the opportunity to select modules for their training experience lasting up to six months, which can also include a short-term research project of the scholar’s interest.

1. **Manufacturing of Clinical Cell Therapies**: Understand cGMP facility design, product development, clinical production, cryopreservation protocols, clinical applications for hematopoietic stem cells (HSC).
2. **Preservation of Cells**: Understand the scientific principles of preservation followed by hands-on training in preservation of cells. Issues unique to the preservation of cellular therapies will also be discussed.
3. **Hematopoietic Stem Cells**: Describe an HSC graft selection algorithm for related vs. unrelated, marrow vs. peripheral blood stem cells vs. umbilical cord blood (UCB) and an algorithm for UCB selection, review the rationale for cell processing (major vs. minor incompatibility, DMSO removal), discuss the organizational complexity of a national donor registry and process of graft acquisition.
4. **Immunotherapy**: Observe the clinical manufacturing of cellular immunotherapies (NK cells, T regulatory cells, MSC’s), learn to operate the fundamental instrumentation in cell processing, discuss the importance of cell therapy product testing and patient immune monitoring.
5. **Transfusion Medicine**: Describe an approach to patient blood management and optimal blood utilization in general and in hematological disease/HSC transplant, describe an approach to optimal mobilization and HSC collection, discuss coagulation studies in the context of patients with hematological disease, observe both standard of care and novel cell processing method.
6. **Blood and Marrow-Derived Stem Cells for Non-Hematological Diseases**: Explore the potential application of cell therapy in non-hematological disease, discuss the complexities of clinical trial design, understand the importance of pre-clinical studies in support of an IND submission, observe manufacturing of marrow-derived MSCs, marrow mononuclear cell preparation, and immunomagnetic selection of various cell types.

Eligibility

Eligible participants must be graduate students, medical students, postdoctoral fellows, or early career faculty. This short-term intensive education experiences program will be ideal for an investigator who must learn new techniques that are not offered at his/her home institution in order to further their research, but who cannot feasibly move to a new institution and begin a new fellowship. Qualified applicants must be U.S. citizens or have been granted permanent U.S. residency.

More information on the program including an application form and information on mentors can be found at the training grant website www.celltherapy.umn.edu.

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