CELL THERAPY AND TISSUE ENGINEERING

A variety of diseases and injuries to tissues require restorative therapies. Since groups of cells form discrete and highly specialized tissues, it follows that cell-based therapies have the potential to be engineered to regenerate tissues not able to repair themselves. Initially empirically based, tissue engineering strategies are now being developed on the basis of new scientific principles that employ components of cell, molecular and developmental biology and embryology with aspects of biochemistry, materials science and mechanical and biomedical engineering. Currently, adult stem cells are being used in new therapies based on their capacity to secrete immunomodulatory and trophic drugs that form the new field of Regenerative Medicine. These new scientific areas including Tissue Engineering and Cell-based Therapies bring together physicians, engineers and basic scientists with the goal of designing and developing new delivery modalities for a broad spectrum of clinical uses. This course focuses on Cell-based Therapies and Tissue Engineering and the protocols for accomplishing these therapies. The afternoon laboratory session will center on the “How-to-do-it” of cell-based therapies as provided by visual insight into the complex, multistep technologies of today and tomorrow and provide the basis for standardizing cell-based technologies between various laboratories throughout the world.

FACULTY

Ann Burgess, Ph.D. - Wright Medical Technology, Inc.
Arnold I. Caplan, Ph.D. - Case Western Reserve University
Jeffrey A. Cohen, M.D. - Cleveland Clinic
Loren Field, Ph.D. - Indiana University
Stanton Gerson, M.D. - Case Western Reserve University
Raymond J. Linovitz, M.D. - Orthofix International
Donald Lennon, D.D.S. - Case Western Reserve University
Keith L. March, M.D., Ph.D. - Indiana University
Antonios Mikos, Ph.D. - Rice University
David Mooney, Ph.D. - Harvard School of Engineering
Bruno Peault, Ph.D. - University of California
Marc S. Penn, M.D., Ph.D. - Summa Cardiovascular Institute
Camillo Ricordi, M.D. - University of Miami
Paul Tesar, Ph.D. - Case Western Reserve University
Catherine Verfaillie, M.D. - Stamcel Institute, Leuven

SPONSORS CONT.

The Skeletal Research Center and the Department of Biology of Case Western Reserve University will offer the 11th Annual short course entitled “Cell-Based Therapies and Tissue Engineering” on May 20 to May 22, 2013 in Cleveland, Ohio. This course, organized by Arnold I. Caplan, will involve morning lectures by eminent scholars and afternoon laboratories and lectures on the “HOW TO” of adult stem cell cultures and cell-scaffold interactions. The course is intended for graduate students, postgraduate students and health science professionals who are interested in Tissue Engineering with emphasis on the principles and detailed protocols used or being modeled for direct clinical use. A syllabus from lectures and labs will be available to all registered participants.
MONDAY, MAY 20, 2013
9:00-10:00 a.m. - Course Check-In
SESSION I: Stem Cells
10:00-11:00 a.m. Introduction to Course: Adult Mesenchymal Stem Cells Cell-Based Therapies and Tissue Engineering, Arnold J. Caplan, Ph.D. - Case Western Reserve University
11:00-12:00 p.m. Cellular Alchemy: Switching Cell Fate or Reprogramming Cell Fate, Paul Tour, Ph.D. - Case Western Reserve University
12:00-1:24 p.m. - Lunch Provided
12:45-1:45 p.m. TBA - SPONSOR LECTURE
1:45-2:45 p.m. Making Liver from Stem Cells, Donald Lennon, D.D.S. - Case Western Reserve University
2:45-3:30 p.m. - Break
3:00-4:00 p.m. Mesenchymal Stem Cells to Treat Multiple Sclerosis, Jeffrey A. Cohen, M.D. - Cleveland Clinic
4:00-5:00 p.m. TBA - SPONSOR LECTURE

KEYNOTE LECTURE
5:05-6:00 p.m. - Keynote Lecture: To Be Determined. Camilla Ricordi, M.D. - University of Miami
6:00 p.m. - Dinner Reception, Hovorka Atrium

TUESDAY, MAY 21, 2013
SESSION II: Scaffolds, Cells, and Technology
8:00-9:00 a.m. - Cardiac Therapies: ESCs or ELSE, David Mooney, Ph.D., Indiana University
9:00-10:00 a.m. Engineering Scaffolds to Maximize Biological Response, Ana Burgos, Ph.D., Wright Medical Technology, Inc.
10:00-10:15 a.m. - Break
10:15-11:15 a.m. TBA - SPONSOR LECTURE
11:15-12:15 p.m. Perivascular Origin of Multipotent Adult Stem Cells, Bruno Paulet, Ph.D. - University of California
12:15-1:00 p.m. - Lunch Provided
1:00-2:00 p.m. Adipose Stem Cells in Angiogenesis, Vasculogenesis, and Mult-Organ Tissue Rescue, Keith L. March, M.D., Ph.D. - Indiana University
2:00-3:00 p.m. TBA. Robert E. Guthrie, Ph.D. - Georgia Institute of Technology
3:00-4:15 p.m. - Break
4:15-5:15 p.m. TBA - SPONSOR LECTURE
5:15-6:15 p.m. Polymers for Controlled Factor and Cell Release, David Mooney, Ph.D., Harvard School of Engineering & Applied Science

MEETING CONCLUDING -

WEDNESDAY, MAY 22, 2013
SESSION III: Complex Tissues and Stem Cells
8:00-9:00 a.m. The Engineering Interface: Cells and Scaffolds, Antonia Milani, Ph.D. - Rice University
9:00-10:00 a.m. Engineering Scaffolds to Maximize Biological Response, Ana Burgos, Ph.D., Wright Medical Technology, Inc.
10:00-10:15 a.m. - Break
10:15-11:15 a.m. TBA - SPONSOR LECTURE
11:15-12:15 p.m. Pharmacological and Genetic Modulation of Stem Cells, Bruno Paulet, Ph.D. - University of California
12:15-1:00 p.m. - Lunch Provided
1:00-2:00 p.m. Adipose Stem Cells in Angiogenesis, Vasculogenesis, and Mult-Organ Tissue Rescue, Keith L. March, M.D., Ph.D., Indiana University
2:00-3:00 p.m. TBA. Robert E. Guthrie, Ph.D. - Georgia Institute of Technology
3:00-4:15 p.m. - Break
4:15-5:15 p.m. TBA - SPONSOR LECTURE
5:15-6:15 p.m. Polymers for Controlled Factor and Cell Release, David Mooney, Ph.D., Harvard School of Engineering & Applied Science

ACCOMMODATIONS
A block of rooms at a special rate ($319 single, $319 double) has been reserved at Glidden House Inn
1901 Ford Drive, Cleveland, OH 44106
216-231-8900
www.gliddenhouse.com
Participants should make their own arrangements. To receive the special rate, contact the hotel directly ask for: (1) in-house reservations; (2) a room under the CWRU CTTE block of rooms; (3) Group Code: TISSUE
After student housing is also available on campus.

FEES
All fees include: access to all lectures and labs, all coffee breaks, dinner/reception, lab/lecture notebook.
Standard Fee: $1300.
Early Registration Fee (by April 13th): $1100.
For members of the Endorsing Societies: $1150.
For graduate students $495.

WHO SHOULD ATTEND
Cell-Based Therapies and Tissue Engineering is designed for graduate students, postgraduate students and health science professionals who are interested in Tissue Engineering and Stem Cells.

REGISTRATION
You may register by completing the attached registration form and returning it by regular mail, fax, e-mail or if you prefer register by phone:
Fax: 216-368-4077 Phone: 216-368-3562
E-mail: tammie.lee@case.edu
All checks should be made payable to Case Western Reserve University/CTTE13 and must be mailed to:
Tammie Lee
Skeletal Research Center
Biology Department
Case Western Reserve University
10900 Euclid Avenue
Cleveland, OH 44106-7080

Skeletal Research Center
Course Website: http://cwru.edu/cttecourse
SRC Website: http://www.case.edu/artsci/biol/skeletal/

REGISTRATION FORM
Name/Degree____________________________________
Title__________________________________________
Company/University_____________________________
Address________________________________________
City____________________________________________
State___________________________________________
Zip_____________________
Phone________________________________________
Fax___________________________________________
Email__________________________________________
Check appropriate box:
☐ Select a t-shirt size: Sm ☐ Med ☐ Lrg ☐ XLrg ☐ XXLrg
☐ I am a member of an endorsing society: _______________
☐ I am a graduate student.
☐ Special Registration Code ________________________
☐ Check enclosed: Amount____________________
☐ Select Your Credit Card: ☐ Discover ☐ Master Card ☐ Visa
Card Number____________________________________
Expiration Date __________________________________
Digit CVV2 Code ______________________
Card Holder’s Name________________________________
Billing Address____________________________________
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City____________________________________________
State___________________________________________
Zip_____________________
*Amount________________________________________
Card Holder’s Name________________________________
Signature________________________________________

REFUND POLICY: All refund requests must be made in writing. Full refunds will be given for cancellations received by April 26, 2013. Cancellations received April 27, 2013 through May 10, 2013 will be subject to a $200 cancellation fee. No refunds will be given after May 10, 2013.