

Australian Stem Cell Centre

Human Embryonic Stem Cell and Induced Pluripotent Stem Cell Training Workshops



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The Australian Stem Cell Centre (ASCC) has delivered intensive hands-on human Embryonic Stem Cell (hESC) training workshops since 2006. Recently these workshops have also included instructions in induced Pluripotent Stem Cell (iPSC) technology.

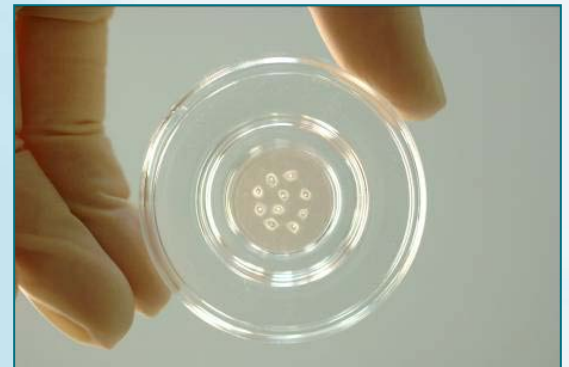
An average of four to six training workshops are delivered annually in ASCC core hESC laboratories in Melbourne and Brisbane.

To date, over 40 registrants have successfully completed the training course. Course participants have included academic and biotechnology company researchers, post-graduate students, technologists and clinicians from Australia and abroad (New Zealand, Turkey, Saudi Arabia, Pakistan, India, Malaysia).

The workshops employ an intensive hands-on, laboratory-based approach to ensure that all participants have the opportunity to master techniques and witness the outcome of their efforts.

A maximum of four trainees are enrolled in each course to ensure efficient and effective information transfer while maximising the opportunity for one-on-one interaction with the faculty.

In addition, following the course, the participants can also contact course tutors for follow-up assistance when needed.



Lectures

The lectures complementing the practical modules cover recent developments, and the theoretical and practical aspects of embryonic stem cell and induced pluripotent stem cell biology.

Lectures are delivered by ASCC associated scientists leading successful hESC and iPSC research projects, and additional external expert speakers. Regular faculty members in Melbourne include Assoc Prof. Ivan Bertonecello and Dr Andrew Laslett from the ASCC and Prof. Andrew Elefanty from the Monash Immunology and Stem Cell Laboratories; and in Brisbane, Dr. Teija Peura from the ASCC and Assoc Prof. Ernst Wolvetang from the Australian Institute of Bioengineering and Nanotechnology, University of Queensland.

Principal Tutor Ms Victoria Turner is in charge of the Brisbane ASCC Core hESC Laboratory. She has recently started delivering the Brisbane courses following the tried and tested practices of the Melbourne workshops.



Practicals

The practical modules cover the most common laboratory techniques associated with the culture, cryopreservation and analysis of hESC and iPSC.

Course practicals are tutored by the ASCC Core hESC Laboratory Staff, who have extensive experience in large scale culture of hESC and iPSC, and are responsible for regularly supplying ASCC scientists and collaborators with hESC cells grown under different culture conditions.

Lectures and Practicals covered in recent courses (the exact titles may vary slightly between the courses)

LECTURES	PRACTICALS
Laboratory Introduction	Preparation of Mitomycin C Treated Mouse Embryonic Fibroblast Feeder Layers
Aseptic Techniques in the Cell Culture	Mouse Embryonic Fibroblast Cryopreservation
Embryonic Stem Cells: From Derivation to Delivery & induced Pluripotent Stem (iPS) cells	Preparation of Matrigel coated tissue culture flasks
Basic Principles of Human Embryonic Stem and iPS Cell Culture	Thawing Mouse Embryonic Fibroblasts
The Cell Culture Microenvironment	Manual Passaging of Human Embryonic Stem Cells
Maintenance of hESC and iPSC in Serum-Free and Xeno-Free Conditions	Freezing and Thawing of Human Embryonic Stem Cells
Human Embryonic Stem Cell Differentiation	Enzymatic Passaging of Human Embryonic Stem Cells
Introduction to Flow Cytometry	Feeder Free Culture of Human Embryonic Stem Cells & iPSC cells
Round Table Discussion	Flow Cytometric Analysis of Human Embryonic Stem Cells

Course Format & Location

The course format is either an intensive four full day workshop (Melbourne), or a seven half-day workshop (Brisbane). The Workshops are run in state-of-the-art dedicated hESC-laboratories at the ASCC facilities at both locations. For further information about dates visit the website or contact us, details below. The cost of the four day or seven day workshops is \$1,650 (including GST) per person.



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