



Stem cell therapy - from basics to ATMPs

Faculty of Science, University of Leiden, 2– 5 July 2023

PRELIMINARY PROGRAM

The scientific program revolves on the 3rd drug revolution, namely the application of living cell drugs in medicine. Living cells as drugs is an emerging therapy and treatment whereby cells are placed in the body of patients to replace dysfunctional cells, or treat specific symptoms. For example, pancreatic islets can be replaced to cure diabetes, and tumors can be targeted by T cells to cure cancer. The development of these novel areas relies heavily on cell and molecular biology and pharmaceutical manufacturing.

Learning goals and set up of the program

In the workshop participants will learn the fundamentals of stem cell biology and cell therapy through lectures, and perform an experiment to recapitulate development using human induced pluripotent stem cells (iPSCs). They will receive a lecture about CRISPR-CAS9 genetic editing in preclinical muscle disorder model in the Leiden University Medical Centre, and visit a start-up biotech company in the Leiden Bioscience Park specializing in stem cell manufacturing for stem cell therapies.

Basic knowledge

No prior stem cell or CRISPR-CAS experience is required. This course is mainly intended for scientists who want to broaden their knowledge and to get insights in possibilities of these technics. For this reason we focus on basic principles and application of tools.

Accommodation

Hotel accommodation for PhD candidates is arranged at Ibis Leiden Centre, arrival on Sunday July 2st and departure on Wednesday July 5th. Hotel rooms will be shared. The scientific program will take place at the Faculty of Science, Leiden Academic Centre for Drug Research, Einsteinweg 55, 2333 CC Leiden from July 2nd to 5th. It takes approx. 20 min to get from the hotel to the faculty using public transportation.

Registration

We are happy to invite 4 PhD candidates from each ULLA partner institute. We would like to ask each institute to provide us the names and e-mail addresses of 4 PhD candidates before 31st of January 2023.

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Sunday, July 2nd

12:00 Arrival and accommodation to Hotel Ibis Leiden Centre

15.00 Opening by Hubertus Irth

15.30 Poster session

17:30 Social program - dinner

Monday, July 3rd

8:30 Arrival to the Leiden Academic Centre for Drug Research

9:00 Opening words (*Micha Drukker*)
Practical arrangements, program overview (*Willem Jaspers*)

9:30 Workshop – fundamentals of stem cell biology

10:30 Coffee and refreshments

11:00 Stem cell laboratory practical

13:00 Lunch

14:00 Stem cell laboratory practical continues

16:00 Transfer to the LUMC

16:30 LUMC lecture CRISPR-CAS9

17:00 Free time

Tuesday, July 4th

- 8:30 Arrival to the Leiden Academic Centre for Drug Research
- 9:00 Workshop – stem cell signaling pathways
- 10:00 Coffee and refreshments
- 10:30 Stem cell laboratory
- 13:00 Lunch
- 14:00 Visit NecstGen (click [here](#) for more information)
- 16:00 Workshop – reprogramming and iPSCs
- 16:30 External speaker - commercialization
- 18:30 Social activity

Wednesday, July 5th

- 8:30 Hotel checkout and arrival to the Leiden Academic Centre for Drug Research
- 9:00 Lecture – Computational small molecule design
- 10:00 Coffee and refreshments
- 10:30 Workshop – Computational small molecule design
- 11:30 Wrap up by the organizers: putting the pieces together!
- 12:30 Lunch and departure

* ATMP regulation lecture, still to be scheduled