

## Objective

The education of PhD and MD students is an important objective of the Universitätstumorzentrum (UTZ) / Comprehensive Cancer Center (CCC) of Düsseldorf. For this purpose the UTZ Postgraduate Training Program in Oncology has been implemented in order to guarantee the adequate research oriented training of the doctoral students (in medicine, natural sciences and members of the MD/PhD program). The scientific environment in Düsseldorf is excellent concerning equipment, resources and scientific supervision. The combined training in biochemistry, cell biology, molecular biology, physiology, bioinformatics, molecular and experimental medicine allows the students to gain an outstanding qualification for research in the field of molecular tumor biology. Moreover, the training provides the students with the ability to pursue their future career on an interdisciplinary and international level.

## Background motivation

Cancer is one of the leading causes of death worldwide. Although success in diagnosis and treatment in the last decades has been achieved, the major therapy of most common cancers still consists of surgery, chemo- and radiotherapy. However, a major drawback of conventional therapies is resistance to anticancer drugs and irradiation. Inactivation of the endogenous cell death programs, senescence, autophagy, activation of survival signaling, establishment of tumor stem cells, invasion, metastasis, genetic/epigenetic alterations, genomic instability and angiogenesis are major mechanisms of tumorigenesis and therapy resistance. Therefore, the future challenge will be to identify and decipher the molecular and cellular mechanisms, including signal transduction pathways that induce tumorigenesis and resistance to therapy and to translate this knowledge into novel therapy approaches.

### Düsseldorf School of Oncology Steering Board

Speaker: Prof. Wesselborg

Members: Profs. Borkhardt, Gattermann, Haas, Homey, Reifenberger & Schulz

Scientific Coordinator: Dr. C. Höner

## Current Courses (May 2014)

### Lectures

Tuesday at 16:30 building 23.01, HS 3B

### Work-in-Progress Seminars

Tuesday at 17:30 building 23.01, HS 3B

## Current announcements (May 2014)

### Projects for PhD scholarships

([www.hhu.de/dso](http://www.hhu.de/dso) > PhD-Stipendien)

### MD applications are always welcome

([www.hhu.de/dso](http://www.hhu.de/dso) > MD-Stipendien)



## Contact

Düsseldorf School of Oncology (DSO)

Heinrich-Heine-University Düsseldorf

Geb. 23.12.02

Email: [dso@uni-duesseldorf.de](mailto:dso@uni-duesseldorf.de)

<http://www.hhu.de/dso>

# Düsseldorf School of Oncology (DSO)



## DSO Postgraduate Training Program for PhDs and MDs in Oncology

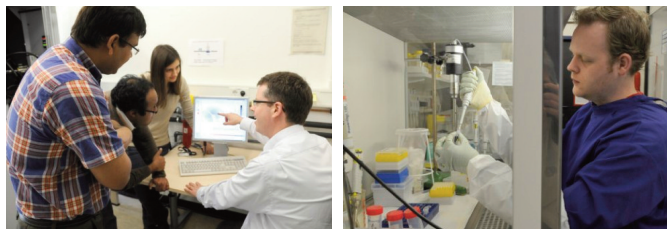
Implemented in the University Tumor Center  
(Universitätstumorzentrum, UTZ/Comprehensive Cancer Center, CCC)  
supported by the Deutsche Krebshilfe e.V  
Heinrich-Heine-University Düsseldorf

## Structured UTZ/CCC-Graduate Program

The Düsseldorf School of Oncology (DSO) offers specific programs for early stage researchers from both medicine and the natural sciences who are pursuing basic or clinical research projects in oncology. MD students can be supported by grants allowing them to take one semester and the flanking semester breaks off to perform a high-quality experimental MD thesis in one of the UTZ/CCC research groups. PhD doctoral researchers can be supported by doctoral grants for up to three years, equivalent to doctoral grants provided by DFG research training groups. Research-dedicated clinical residents who have finished a high-quality experimental MD thesis may join the University's MD/PhD (Harald-zur-Hausen-Program) to obtain an additional PhD degree. Promising candidates may be supported by rotational positions (so-called "Gerok"-positions) allowing them to fully concentrate on their research projects for up to two years without any clinical duties.

The Düsseldorf School of Oncology offers its fellows a comprehensive educational program in cancer research. This is complemented by a state-of-the-art transferable skills program organized together with the interdisciplinary graduate academies of the Faculty of Medicine (MedRSD; [www.medrsd.hhu.de/](http://www.medrsd.hhu.de/)) and the Faculty of Mathematics and Natural Sciences (iGRAD; [www.uni-duesseldorf.de/igrad](http://www.uni-duesseldorf.de/igrad)).

Moreover, doctoral researchers are offered an individual mentorship as well as opportunities for gaining research experiences in complementary laboratories at the HHU or at outside research institutions in Germany and abroad ('Scientific Exchange Program').



## Qualification concept

In lectures, work-in-progress seminars and method-workshops the students are trained in diverse topics of biochemistry, molecular and cell biology, cell physiology, experimental medicine and tumor biology. The UTZ/CCC Postgraduate Training Program in Oncology introduces the students to the general aspects of cell biology, molecular biology and signal transduction that represent the basics for the understanding of the molecular aspects of tumorigenesis and therapy resistance. Subsequently, the students are introduced to the clinical aspects of tumor development and therapy resistance. The theoretical knowledge is transferred in form of lectures, journal-clubs and the practical expertise in special workshops on different laboratory techniques, test systems and animal models. The target audience for the lectures are postgraduate PhD- and MD- students. However, undergraduate students in medicine, biology, biochemistry or pharmacy are also welcome to attend the lectures on oncology.



## Lectures

All lectures are held by group leaders and other experienced oncological researchers in Düsseldorf. Official language is English as a courtesy to foreign students and to familiarize the students with the international scientific language. The curriculum consists of a circle of 4 semesters with 12 - 13 lectures per semester, comprising 1 hour per lecture. At the start of each semester, students receive an orientation about the upcoming topics at a get-together meeting which additionally allows social interactions between the graduate students among themselves and with the lecturers allowing feedback among others ([www.hhu.de/dso](http://www.hhu.de/dso)).

## Work-in-progress seminars

The work-in-progress seminars are supervised and attended by all principle investigators and group leaders within the UTZ/CCC Postgraduate Training Program in Oncology. It takes place on a weekly basis with 2 student presenting their data and chairing the discussions in turn.

## Transferable skills training

A broad range of transferable-skills courses are offered and subsidized by the Medical Faculty ('Medical Research School for MD-students') and the Faculty for Mathematics & Natural Sciences (iGRAD for PhD-students). They include courses such as 'How to write a successful research proposal', 'How to write an effective journal paper', 'Making an effective seminar or conference presentation', 'Time management', 'Written job applications', 'Job interviews' or 'Survey on national, European and international funding programs', 'Good scientific practice'.

## Mentorship program and supervisory concept

In general, each postgraduate student of the UTZ/CCC Postgraduate Training Program in Oncology is assigned to the principal investigator. In addition, each postgraduate student can choose one or two mentors as advisors in scientific and personal matters during the course of the thesis. The mentors help to design a plan for the career, aid in selecting courses and lectures for the continuing education and counsel the students in their choice of postdoctoral research or

