



© Valerija Schwarz

Cologne Summer Schools

Founded in **1388**, the University of Cologne is one of the oldest universities in Europe and with almost 50,000 students one of the largest in Germany. The **Status of Excellence** was awarded in 2012.

The Cologne Summer Schools Program offers courses in various university disciplines, all designed to broaden basic and advanced knowledge.

Additionally, you are able to gain insight into the general academic program of the University of Cologne.

Regardless of the course of study, you benefit from an intercultural and intereducational experience in the vibrant city of Cologne at one of the oldest and most renowned German universities. The result? Expanding personal horizons and a boost for your career. We exclusively invite students from our partner institutions all over the world to take part in this special experience.

We look forward to seeing you next summer!

Cologne Summer School on Personalized Medicine



Kindly supported by Santander
Universitäten

Cologne 28 June - 13 July, 2019

What is Personalized Medicine?

Personalized medicine, which is also called precision or individualized medicine, is an evolving field in stem cell research and its clinical applications. Physicians use diagnostic tests to determine which medical treatments will work best for each patient suffering from the same disease. This information is important because a therapy that is effective with one patient can be ineffective with another. By combining the data from diagnostic tests with an individual's medical history, circumstances and values, targeted treatment and prevention plans can be developed.

Diagnostic tests

The diagnostic tests used in personalized medicine help identify biomarkers (biological markers), which are characteristics about an individual patient's biology. These markers are often genetic, and knowing what biomarkers an individual has allows doctors to better understand how a health condition affects that patient.

Genetics

The contribution of genetics to the basis of disease, as well as molecular diagnostics, are both important topics for understanding the basics of personalized medicine.

Challenges

The journey of personalized medicine faces ethical and legal challenges of different steps such as research, prevention, diagnosis and treatment by discussing paradigmatic examples including biobanks, genetic tests and gene therapy. Scientific progress in the area of genetics, the completion of the Human Genome Project and the ability to sequence genomes at competitive prices have offered the promise of revolutionizing healthcare and raised important challenges to classical paradigms in the biomedical law and ethics fields. Issues such as informed consent, privacy and confidentiality, and discrimination require particular analysis in this context. In the last years the concept of personalized medicine has been a source of considerable hype and hope. Law and ethics should be important allies to limit the former and potentiate the later. (source: <https://bit.ly/2A4T9hv>)

Enjoy classes with these professors:

- Univ.- Prof. Dr. med. Dr. h.c. J. Hescheler, Director of the Institute for Neuropsychology, University of Cologne Personalized Cell Therapy, Personalized Drug Screening, Personalized Cell Medicine (<https://bit.ly/2QF4yPo>)
- Prof P. Nürnberg, Ph.D., Cologne Center for Genomics Technology Plattform of Personalized Medicine (<http://ukoeln.de/2DTKK>, <http://ukoeln.de/NB5WV>)
- Univ.-Prof. em. Dr. med. Dr. phil. K. Bergdolt Ethical aspects of personalized Medicine (<http://ukoeln.de/J7QQ9>)
- Prof. Dr. K. Nayernia, International Center for Personalized Medicine, Düsseldorf Precision Medicine und Personalized Molecular Medicine, Personalized Cancer Medicine, Personalized Reproductive Medicine (www.icpm.center)
- tba Legal aspects of Personalized Medicine
- tba Technological aspects of Personalized Medicine

Who are we looking for?

Students of the University of Cologne and partner universities abroad: **advanced** students in Medicine, Biological Sciences (especially majoring in Molecular Biology and Genomics), Physics or Life Sciences

During our Cologne Summer School program, participants will have the chance to delve into an ocean of Personalized Medicine taught by scholars of the the University of Cologne and other specialists. The course work will be complemented by social events and activities which give students an insight into German culture.

Apply now via this online form:

<https://form.jotform.com/83514503049958>

by 31 March 2019 and be part of this unique experience!

We look forward to getting to know you next summer!