

Dear Colleagues,


Advances in healthcare and medical research are already strongly driven by information technology and engineering. Technologies like individual genome sequencing, high-performance multiparametric imaging or wearable medical devices generate exponentially growing datasets while contemporary data-mining techniques allow to extract large amounts of valuable data from existing archives of unstructured medical data. These offer the opportunity for highly specific clinical decision making and personalized precision medicine.

Further acceleration of medical innovation by upcoming technologies like artificial intelligence and bioprinting can be safely predicted. However, as complex challenges often require complex solutions, these technologies demand an interdisciplinary approach between clinicians, computer scientists, engineers, researchers, healthcare providers, legislators and many other disciplines.

We are poised to bring all stakeholders to the table to define the demands of clinicians and healthcare providers, outline technical solutions and create a common understanding of the opportunities, and also the difficulties that may arise.

With the first ETIM meeting we aim to create new insights, stimulate networking and initiate a sustained flow of communication between individual experts and workgroups.

Sincerely yours,


Michael Forsting


Jochen A. Werner

Conference Schedule

Friday, 10th of February

09:30 - 10:00 *Breakfast & Registration*

10:00 - 10:30 *Welcome*

10:30 - 11:00 Fundamentals of machine learning without the math: A brief overview for non-experts
Asja Fischer

11:00 - 11:30 Computer-assisted medical image analysis: from feature extraction to convolutional neural networks
Xiang Zhou

11:30 - 11:45 *Coffee break*

11:45 - 12:15 Data mining in healthcare using machine learning and natural language processing
Christoph Friedrich

12:15 - 12:45 IBM Watson and the role of machine learning in clinical decision support
Tanveer F. Syeda-Mahmood

12:45 - 13:15 How to revolutionize medical imaging using artificial intelligence and big clinical data
Eyal Toledano

13:15 - 14:00 *Lunch*

14:00 - 14:30 Decoding tumor phenotype by noninvasive imaging using radiomics and machine learning
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14:30 - 15:00 Beyond man and machine: ethical and aspects of artificial intelligence in health
Susanne Beck

15:00 - 15:30 Three-dimensional printing of calcium phosphate bone substitutes
André Butscher

Saturday, 11th of February

08:30 - 09:00 *Breakfast*

09:00 - 09:30 Can we grow organs instead of transplart
Carlos Kengla

09:30 - 10:00 Biomicrofabrication for organ-on-a-chip tissue scaffold
Yan Yan Shery Huang

10:00 - 10:30 Application of 3D visualization and print methods to plan surgical corrections of congenital heart defects
Simon Sonntag

10:30 - 10:45 *Coffee break*

10:45 - 11:15 Novel strategies in biofabrication
Horst Fischer

11:15 - 11:45 Rebuilding the heart by 3D bioprinting extracellular matrix
Adam W. Feinberg



11:45 - 12:15 How to set up a medical 3D printing lab
Martin Herzmann

12:15 - 13:00 Lunch

13:00 - 13:30 Low temperature 3D printing of bioceramic scaffolds and implants
Uwe Gbureck

13:30 - 14:00 Additive manufacturing of cartilage tissue
Marcy Zenobi-Wong

14:00 - 14:15 Coffee break

14:15 - 14:45 3D imaging and 3D printing in head and neck surgery
Thomas Maal

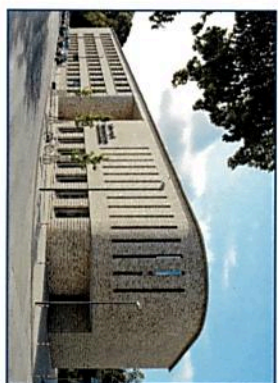
14:45 - 15:15 Reconstruction of craniofacial bone defects with 3D molded bioactive armored ceramic implants
Thomas Engstrand

15:15 - 15:30 Goodbye

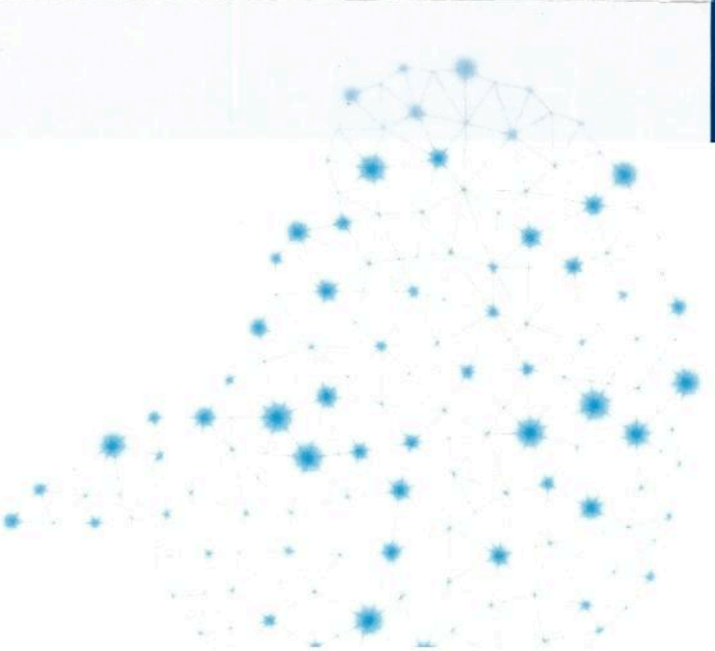
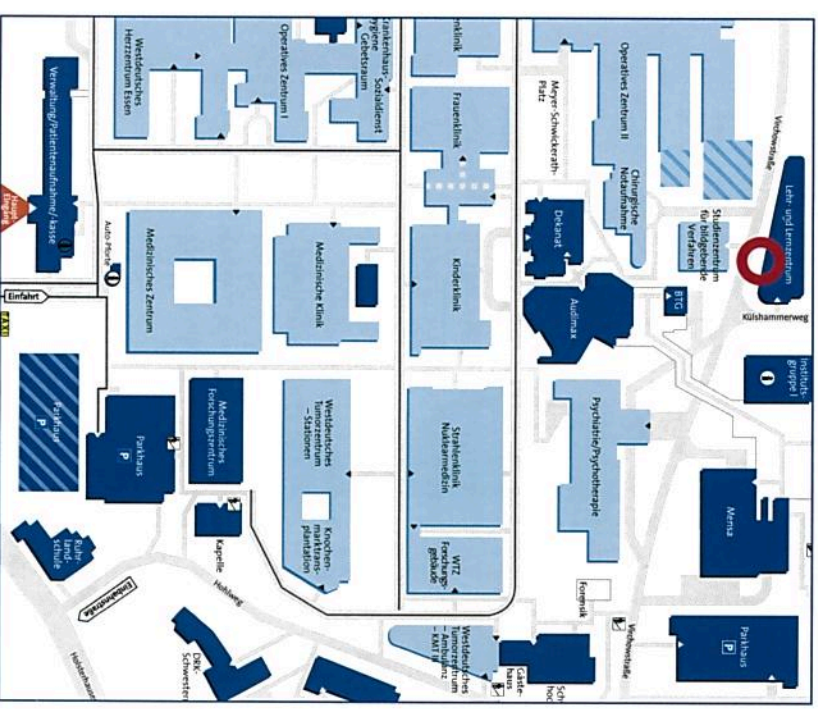
Certification & Registration

We have requested CME points (Continuous Medical Education) for the event.

The event is free of charge, but we kindly ask you to register as the number of attendees is limited. Please register online at: <https://etim.uk-essen.de>



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Emerging Technologies in Medicine ETIM 2017

Artificial intelligence and bioprinting

Friday/Saturday • 10th/11th of February 2017
Deichmann-Auditorium
<https://etim.uk-essen.de/>

