A multidisciplinary and international setting can only be as good as the people involved. BERTI is very proud to be associated with highly motivated ESRs, who are pursuing a cross-cultural approach. Members of BERTI will be well equipped to gain active roles in national and international research projects.

Technische Universität München (TUM) is one of Europe’s top universities. It is committed to excellence in research and teaching, interdisciplinary education and the active promotion of promising young scientists. The university also forges strong links with companies and scientific institutions across the world. TUM was one of the first universities in Germany to be named a University of Excellence. Moreover, TUM regularly ranks among the best European universities in international rankings.

Excellence in Europe

14 Researchers from 10 Countries

For further information regarding the BERTI Program visit our website at www.berti.tum.de or follow us on facebook, twitter, YouTube #TUMDoctoralEducationinHealthcare
**Vision & Mission**

Technology in healthcare is all about working across distinct disciplines. Cultural gaps have to be overcome. BERTI reaches across these traditional borders between different disciplines and embraces multidisciplinary collaboration in every dimension.

BERTI Early Stage Researchers (ESRs) will be able to navigate and understand the different aspects of disciplines and of stakeholders and be systematic in their approach towards the challenges in research and industry.

**Training for Excellence**

Between industry and university, between medicine, informatics, physics and engineering, BERTI ESRs get the whole picture and lead research into the future. BERTI aims to train a new generation of creative, entrepreneurial and innovative ESRs, able to face current and future challenges and to convert knowledge and ideas into products and services for economic and social benefit.

BERTI will structure research in a way that cultivates excellence by extending the traditional academic research training setting, and equipping researchers with the right combination of research-related and transferable competences.

It will enhance career prospects in both the academic and non-academic sectors through international, interdisciplinary and intersectoral mobility combined with an innovation-oriented mind-set.

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**Work Packages**

- **MR Neuro**
  MR Neuro employs advanced MR imaging methods, accelerated by compressed sensing, to study degenerative changes in the brain.

- **MR Cardiac**
  MR Cardiac develops methods for motion modeling and compensation in cardiac MRI to identify motion patterns and reduce patient discomfort during procedures.

- **MR Thermometry**
  MR Thermometry enables realtime intervention monitoring of image-guided high intensity focused ultrasound and radiofrequency hyperthermia.

- **X-Ray Phase-Contrast Tensor Tomography**
  X-Ray Phase-Contrast Tensor Tomography constitutes a novel X-Ray CT imaging modality suitable to obtain multimodal and tensorial scattering information.

- **Optoacoustic Imaging**
  Optoacoustic Imaging employs multispectral acquisition techniques in combination with ultrasound imaging for preclinical and clinical applications.

- **Health Care Robotics**
  Health Care Robotics utilizes miniaturized snake robots and image fusion for tracking of catheters.

**Research Training**

Building upon TUM’s Graduate School of Information Science in Health (GSISH), each ESR (Early Stage Researcher) within the BERTI training programme is assigned two scientific supervisors as well as a mentor from the research center of the industry partner GE Global Research located at the TUM-Campus Garching. This ensures perfect training for both an academic and an industry career. A comprehensive training package has been created to guide the ESRs through their research and support them throughout their careers.

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**Academia plus Industry**

Naturally, all BERTI ESRs are placed with at least one international partner. The Training network is supported by the European Union (EU) with over 3 million Euros.

**Our Partners:**
- Bayerische Patentallianz GmbH
- Cardiff University
- Columbia University
- Erasmus MC
- GE Global Research
- Helmholtz Zentrum München
- Johns Hopkins University
- Kinderspital Zürich
- Klinikum rechts der Isar, TUM
- McKinsey & Company
- Max-Planck-Gesellschaft
- Scholz & Friends GmbH
- TUM-GSISH
- Université de Lorraine
- UnternehmerTUM
- Vossius & Partner

BERTI is funded by the European Commission under Grant Agreement Number 605162.