Specific Research Areas
Diabetes (implants)
Biofilms (implants)
Acute and chronic inflammation
Foreign Body Reactions (implants)
Chronic wounds & wound healing defects
Biomarkers for diabetes and chronic ulcers
Environmental toxicity

Implantable Devices
Glucose Sensors (Diabetes)
Insulin Infusion sets (Diabetes)
Surgical Meshes (Hernia)

Bio-Active Coatings for Implants
Bio-Matrices (Basement Membranes)
Matrix Drug and Gene Delivery Matrices
Anti-inflammatory Matrices
Anti-fibrosis Matrices
Pro-wound Healing Matrices
Novel Silicone Coatings (Implants)

Cell and Animal Models, Modeling and Evaluation
Cell models of toxicity and biocompatibility
Mouse models for implantable devices
Swine models for implantable devices
Histopathology, immuno-histopathology

Bio-Compatible formulations
Insulin Formulations (Diabetes)

The Klueh laboratory’s research areas are in inflammation, wound healing, fibrosis and the foreign body reactions (FBR) with the focus to enhance the biocompatibility of implantable devices in an effort to extend device performance and lifespan. Although the main focus is on diabetes management devices, such as glucose sensors and continuous subcutaneous insulin infusion (CSII), other devices include surgical meshes.