Medical/Health-Related Research Areas

• Anti-Inflammatories
• Drug Resistant Microbes - MRSA
• Anti-Fungals
• Pulmonary Immunology
• CRISPR
• Wound Healing - Biofilms
Biofilm in Chronic Wounds

2005, MSU Center for Biofilm Engineering
imaged by undergraduate Ellen Swogger
Research in Microbiology and Immunology

Intestinal Pathogens

Anthrax Bacilli

Plague Bacteria
Medical Technologies Currently Available

• Metabolite Extraction Chip – real-time monitoring of metabolites
• Inhibitor of Cancer Cell Aggregation – Dendrimers that block binding sites on cancer cells – minimizes tumor metastasis
• Hand-held spectroscopy probe to detect skin cancer – confocal microscopy.
• CRISPR – gene editing tool that can edit out foreign materials.
Teamwork in Developing Inventions

• Multidisciplinary research
• InterInstitutional collaborations
• Collaboration with the TTO
• Working with patent counsel
• Responsiveness to potential licensees
• Working with licensee to enable the invention
Successes in the TTO Process

• See products move forward toward the market
• The licensed technology is not always the success – Takeda
• Start-up/Spin-out companies
Challenges and Gaps For TTO

• Early-stage research/inventions
• Fewer companies in Montana
• Fewer entrepreneurs in Montana
• Less capital available in Montana
• Patient Process
How Can Physicians Interact?

• With WWAMI move to Bozeman Deaconess, this will help.
• If you have interests in particular technological areas, let me know.
• Watch MSU Homepage – developments highlighted.