

Biomedical Applications of Impedance Spectroscopy – In addition to the road construction related applications of TransTech’s multi-frequency, impedance spectroscopy technology, there are some very feasible biomedical applications that TransTech is pursuing as well. Our staff of scientists and engineers has experience with National Institute of Health (NIH) grants as well as expertise in the use of impedance spectroscopy and tomography for applications such as the detection of breast tumors in women. Our background and skills in signature analysis, Artificial Neural Networks and multi-physics modeling give us the necessary tools to successfully enter into this type of application. The fact is, our technology will make it possible in the near future for TransTech to apply impedance spectroscopy to a number of low-conductivity materials, both in the biomedical area as well as such diverse fields as the ceramic and tobacco industries. In the biomedical field specifically, TransTech plans to pursue funding in applications such as the determination of skeletal muscle water, the tracking of changes in intra-cellular versus extra-cellular body water and brain imaging. With connection to major hospitals and medical research universities, TransTech hopes to bring the same type of innovation that its experts have previously brought to the road construction, bridge monitoring, aerospace, power generation, etc., industries.