Remote End-to-End Temperature Tracking for Regulatory Compliance Project

PI: F Sabri, Dept. of Physics and Materials Science

Abstract: The Sabri group proposes to design, build, and test a prototype remote, instantaneous portable temperature reading/ sensing system that can potentially outperform existing temperature reading technologies such as data loggers and temperature labels, used currently by the cold-chain industry partners and companies. The proposed work contributes to the advancement of cold-chain supply-chain strategies for improving operational efficiency, advances in smart systems for end-to-end tracking, and solutions to regulatory compliance/GDP challenges. The cold chain supply industry is facing tighter regulations by the government and a key parameter that needs to be continuously monitored and recorded (during transit and upon delivery) with a high degree of accuracy is the storage temperature of the shipped goods. The Sabri group commits to delivering a complete system that contains (1) a versatile temperature sensing composite sensor (2) a detection wand/ unit and (3) the capability to transfer the temperature information to a personal device such as an iPhone. The proposed technology will be based off the working principles of phosphor thermometry which was studied in an earlier phase of the work and successfully demonstrated the feasibility and potential relevance to the industry.