
Electrical & Computer Engineering
S E M I N A R
Louisiana State University

**Biomedical Instrumentation: Innovation
from Requirement to Product**

Jungyoup (Jay) Han

Siloam Biosciences, Inc., Cincinnati

Abstract—During the last decade of the century, there has been a tremendous increase in the use of electrical and electronic system in the biomedical field for clinical study and research purpose. A biomedical instrumentation system is to measure the presence of some biophysical quantity and aid in making decision for better diagnostic and treatment outside of a centralized testing facility, including hospitals, physicians' office, emergency settings, at-home use or remote settings. Using enormous emerging technologies from nano to macro scale, a large part of the excitement behind biomedical instrumentation is in its practical for producing innovation. It seems that one of the most promising opportunities for recent rapid diagnostics is found in point-of-care applications because a number of unmet needs can be fulfilled by cutting-edge technology due to their portability, rapid processing time, and flexibility in various settings. Development of a biomedical instrumentation system encompasses capturing user requirement or market demand, putting into specification with appropriate functional definition, implementing indispensable modules toward integration. Additionally, there is a set of common regulatory requirements for approval of developed biomedical instrumentation system. I will also reflect on lessons based on personal experiences during development of biomedical instruments.

Bio—Jungyoup (Jay) Han earned his Ph.D. degree from the Department of Electrical and Computer Engineering and Computer Science at University of Cincinnati. Prior to joining to the Ph.D program at University of Cincinnati, he worked as a research engineer in satellite control and system interface at Korea Aerospace Research Institute (KARI), South Korea for five years. He is currently at Siloam Biosciences, working as a Sr. Vice President of Product Development. His specialty is biomedical instrumentation and healthcare system development & integration towards clinical diagnostics. He has been leading development of biomedical instruments on a Point-of-Care Testing (POCT) system for beta-hCG and cardiac biomarker and interfacing between research and manufacturing. He is also building up Quality Management System (QMS) pursuing ISO certificate and FDA qualified facility under QSR (Quality System Regulation) for medical instruments. He earned his official certificate of PMP (Project Management Professional) showing his fully demonstrated experience and in-depth knowledge & skills to lead/direct project teams.

When: Tuesday, 17 March 2015, 9:30 - 10:30

Where: Room 117 EE Building

Info: <http://www.ece.lsu.edu/seminar>

