PURDUE CENTER FOR GLOBAL FOOD SECURITY

PCGFS-I²D LAB SEED GRANT SEMINAR

Dr. Klein Ileleji

A Low-Cost Grain Moisture Meter Networked to Smart-Phones

Tuesday, April 18, 2017
1:30 - 2:30 PM, MRGN 121

ABSTRACT: Currently, the portable hand-held meters in the market manufactured by well-known companies are too expensive (about $300) and above the reach of small and medium holder farmers in developing countries. Additionally, none of these moisture meters have the means to capture data in order to share between trading partners remotely for transaction purposes. On these devices, data is still captured via an LCD display and hand-written down on paper, making it easy to manipulate and hard to track, which is a major problem for long-distance trade transactions between the seller and buyer. We have developed a grain moisture device prototype with data capture and logging using a smart cell phone. We would present our novel idea of how networking the moisture meter with cell phones that encompasses data sharing between the seller, buyer and financial institutions enable smallholder farmers to participate in more lucrative markets of the value chain. This process empowers small- and medium-holder farmers with the means to directly market their crops to higher value markets in order to capture favorable prices rather than leave the margins of trade to the middleman.

Dr. Klein E. Ileleji is an Associate Professor and Extension Engineer in Agricultural and Biological Engineering. Prior to joining the faculty at Purdue in August 2004, he was a post-doc at the University of Minnesota and at Purdue from 1999-2001 and 2001-2004, respectively. He has a B.Eng. (1992) in Agricultural Engineering from the University of Ilorin, Nigeria, a MPS (1996) from the Institute of Economic Studies in Nitra (joint program between Slovak Agricultural University in Nitra and Cornell University in Ithaca, N.Y) and a PhD (1998) in Agricultural Engineering from the Slovak Agricultural University in Nitra. Dr. Ileleji's research focus and interest at Purdue University are in the areas of biomass feedstock systems engineering, powder technology and grain post-harvest technology. He teaches Biomass Feedstock Systems Engineering (ABE591K) and previously taught Electric Power and Controls (ASM420) for 6 years. Dr. Ileleji also leads both the renewable energy and grain post-harvest extension efforts at Purdue. He is a 21-year member of the American Society of Agricultural and Biological Engineers (ASABE) and a 9-year member of the Grain Elevators and Processing Society (GEAPS). He has extensive international experience in Africa, Central and Eastern Europe, Latin America and China. His activities can be found at https://engineering.purdue.edu/~biomass/index.html and www.grainquality.org. He is leading postharvest activities of the Feed the Future for Food Processing and Post-Harvest Handling Innovation Lab in Kenya and Senegal (https://ag.purdue.edu/ipia/fpl) and a USAID/USDA-FAS funded capacity building effort in stored commodity management in Nigeria.

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