

## National HVACR Educators and Trainers Conference

### Teaching PLC Classes



Presented by Russell Burris

**Session:** Programmable logic controllers are now part of the lives of everyone in the HVAC industry. PLCs are found in furnaces, boilers, chillers, and in every HVAC control system and building automation system in a building or facility. Teaching PLCs can be a challenge, but by presenting application-based material using various methods, such as video, animations, interactive animations, and smart boards, a great amount of information can be absorbed by learners in an enjoyable environment.

All this information can be brought together for the learner through hands-on activities. Hands-on activities provide practical real-world experiences that reinforce PLC understanding and embed it for future use. If a picture is worth a thousand words, practical hands-on activities are worth a million of them.

**Bio:** Russell G. Burris is an Associate Technical Editor at American Technical Publishers, where he is responsible for creating textbooks, workbooks, application manuals, and training programs used by apprenticeship programs, training organizations, community colleges, and universities. During his 10 years at ATP, he has worked with these various organizations to develop materials for the HVAC industry,

electrical industry, and industrial maintenance fields.

He has over 35 years of experience in industrial and facility maintenance that includes working on large HVAC systems and small units. He is trained as a maintenance machinist after completing a federally backed apprenticeship program at CPC International later as a lead machinist and cross-trained as a pipefitter, giving him two first-class certifications. Russ is also trained and certified as a welder and a heavy-equipment operator.

In the mid 1980s, Russ went back to school full-time to complete a robotics program. After graduating from the program, Russ worked full-time in industrial and facility maintenance as a maintenance superintendent while teaching part-time at community colleges. During these times he gained more experience with HVAC systems and building automation systems. He then accepted an offer to become an associate professor of industrial technologies at Northern Illinois University. During his years at community colleges and at NIU, he taught hydraulics and pneumatics courses, mechanical systems courses, machine shop, various electrical and electrical systems courses, electrostatic discharge courses, industrial maintenance courses, math classes, and heating, ventilating, and air conditioning courses.

He has consulted for: Ford Motor Company, General Motors, U.S. Robotics, Clearing Press, and Verson Press. He also consulted in the baking, paper, aluminum injection, plastic injection, railroad and fluid power industries. His hands-on and consulting experiences have provided him with a wide view of how people learn and how he can help them learn.