

SCHEDULE

8:00 - 9:00 AM Registration (Main Exhibit Room Open)

9:00 - 10:30 AM Session 1

9:00 - 9:30 AM **Bill Nolan**
Staff Scientist, Washington University School of Medicine
"Challenges of Automation on the Small Scale"

9:30 - 10:00 AM **Tom Lade**
Automation Development Manager, Pioneer Hybrid
"Watch Outs and Wins in Laboratory Automation"

10:00 - 10:30 AM Automation Workshops

10:30 - 11:00 AM Break (Main Exhibit Room Open)

11:00 - 12:30 PM Session 2

11:00 - 11:15 AM **Jayne Marasa**
Manager, High Throughput Screening Core, Washington University School of Medicine
"Can We Automate This?"

11:15 - 11:30 PM **Josiah Gerdts**
MD/PhD Student, Washington University School of Medicine
"An Automated Assay of Neurodegeneration Using Primary Neuronal Cultures"

11:30 - 12:00 PM **Sarah Shultz**
Senior Automation Scientist, Promega Corporation
"Tips To Successfully Miniaturize and Automate Your Assay"

12:00 - 12:30 PM Automation Workshops

12:30 - 2:00 PM Lunch (Main Exhibit Room Open)

2:00 - 3:30 PM Session 3

2:00 - 2:30 PM **Matt Sorge**
Applied Genotyping Labs Innovation Lead, Monsanto
"Process Automation and Integration of Quality Systems in Monsanto's Applied Genotyping (AG) Labs"

2:30 - 3:00 PM **Lynn Rasmussen**
Supervisor, High Throughput Screening Lab, Southern Research Institute
"Successful Automation Depends On Good Assay Design and Proper Equipment Selection"

3:00 - 3:30 PM Automation Workshops

3:30 - 4:30 PM Main Exhibit Room Open

4:30 PM Meeting Closed

CORNING



Titertek



CyBio

An Analytik Jena Company

HAMILTON ROBOTICS



Vendor Automation Workshops

BioMicroLab

Lisa Simmons, Sales and Marketing Director, "Volume Verification with BioMicroLab's VolumeCheck Instrument"

Titertek

Marc DeLuca, "MAP-C2 Processing an ELISA"

CyBio

Ian Hanegraaff, General Manager, "Optimizing Small Volume Liquid Handling Using Automated Platforms"

Hamilton Robotics

Bill May, Director, Midwest Area Sales, "Accurate Sample Transfer through Pipette Monitoring on a Flexible Platform"

Agilent Automation Solutions

Lisa Knapp, Field Applications Specialist, "Automation of Tedious, Boring and Labor Intensive Microplate Handling Functions"

Phenix Research

Brooke Johnson, Account Manager, "The First Step to Automating Your Assays with Apricot I-Pipette and Heat Sealing Solutions"

Corning Life Sciences

Pete Nelson, Central Area Manager, "Consumable Considerations When Automating your Assay"

Beckman Coulter, Inc.

Anne R. Cunanan, Automation & Detection Specialist, Automating Assay Optimization while Reducing Costs with the BioRAPTR Submicroliter Dispense Workstation"

Midwest LRIG

Spring Meeting 2010

Is Your Assay Automatable?

Thursday April 29, 2010
Doubletree Hotel and Conference Center
St. Louis, MO

VENDOR EXHIBITION AREA

VENDOR SPONSORED "AUTOMATION WORKSHOPS"
PRESENTATIONS BY KEY SPEAKERS FROM ACADEMIA AND

BIOTECH/AGRICULTURAL

LUNCH AND REFRESHMENTS PROVIDED



MIDWESTLRIG INC.

The Midwestern USA Chapter of the Global Laboratory Robotics Interest Group

SESSION 1

Bill Nolan, Staff Scientist

Washington University School of Medicine

Challenges of Automation on the Small Scale

Modern methodologies for automation in production and large scale experimental settings have become well established with broad adoption across many fields. However as the tools for laboratory automation become more accessible to small scale and academic operations, the rapidly changing assays and extremely short project life cycles prevalent in smaller settings provide a unique challenge to the application of established methodologies of automation. What lessons have been learned already and what must still be done to enable small scale automation to realize its full potential will be discussed.

Tom Lade, Automation Development Manager

Pioneer Hybrid

Watch Outs and Wins in Laboratory Automation

This presentation will address some of the perks and pitfalls associated with initiating new or expanding lab automation projects. Establishing trust and partnership among lab researchers and lab automation experts is prerequisite in developing an understanding of candidate processes. We will review a logical process for determining issues, parameters and questions that need to be considered and examined in developing the project. It is important to recognize and evaluate the advantages and tradeoffs when determining which processes to automate, and what automation strategy to pursue. Everyone seems to desire a fully automated system that is precise, accurate, efficient, fast, walk-away, has a small footprint and is inexpensive. But, what are the overall objectives of the proposed project: lower costs, increased throughput, smaller volumes, reduced complexity, increased precision and accuracy? What is the current process and where are the existing bottlenecks? What steps in the process can be modified to facilitate automation? What are the timelines? What is the budget? The goal of the automation project is to develop an automation hardware and software system that will accomplish as many of the most important objectives as possible. The goal of this presentation is to explore questions and strategies for undertaking and implementing successful automation projects.

SESSION 2

Jayne Marasa, Manager, High-Throughput Screening Core

Washington University School of Medicine

Can We Automate This?

In our academic core "High-Throughput" screening facility, whether it is possible, or profitable, to automate an assay or process, is a common question. Beside the obvious parameter of scale, there are the advantages of uniformity and speed, which all must be balanced against the development time and total costs. Experience has shown us that almost anything can be automated, sometimes with unexpected benefits and drawbacks.

Josiah Gerdts, MD/PhD Student

Washington University School of Medicine

An Automated Assay of Neurodegeneration Using Primary Neuronal Cultures

Axon degeneration is a feature common to many injuries and diseases of both the central and peripheral nervous systems. Like apoptosis, axon degeneration is a self-destructive program; however, the molecular signals leading to its execution are not understood. Therefore, we have developed an assay to quantify axon fragmentation in the injured axons of primary mouse Dorsal Root Ganglion neurons grown in micro-titer plates, allowing high-content screening of chemical and RNAi libraries. Using a small molecule library consisting of 480 compounds, we identified 9 compounds that delay fragmentation of severed axons. Further studies of these drugs as well as continued screening with larger libraries may inform therapeutic targeting of axon pathology.

Sarah Shultz, Senior Automation Scientist

Promega Corporation

Tips To Successfully Miniaturize and Automate Your Assay

Often we find ourselves needing to miniaturize an assay and subsequently automate. This process can be tricky at times, requiring optimization and patience. In this talk we will hit on 20 tips to consider to help speed up and ease the optimization process.

Free shuttle service is available between the Monsanto/Pfizer shared campus and the Doubletree Hotel, with pickups and drop offs at the "AA Lobby" every 20 minutes throughout the day.

SESSION 3

Matt Sorge, Applied Genotyping Labs Innovation Lead

Monsanto

Process Automation and Integration of Quality Systems in Monsanto's Applied Genotyping (AG) Labs

Monsanto uses molecular breeding technology to deliver the best combinations of seeds and traits to farmers. Identifying crop lines of superior performance year after year is a numbers game where molecular breeding technologies provide an advantage over conventional breeding methods. Investments in automation and new technologies have enabled Monsanto to deliver several new products to market with a virtual tsunami of products moving through the pipeline. In a few years, every product Monsanto releases will have benefited from molecular breeding technology. This presentation will cover how Monsanto's Applied Genotyping Labs have been able to successfully apply automation and robotics to address laboratory workflow demands, integrate new technologies, and keep focused on customer needs in molecular breeding technology. The presentation will also provide information on the integration of quality systems into highly automated processes.

Lynn Rasmussen, Supervisor, High Throughput Screening Labs Southern Research Institute

Successful Automation Depends on Good Assay Design and Proper Equipment Selection

The HTS Center at Southern Research Institute has screened over 14 million compounds in 100+ assays since 2006. In the process of adapting and validating those assays for High Throughput Screening, we have asked "Is this assay automatable?" more than once and have learned a few things in the process of answering that question a hundred times. This presentation will cover what features make a good HTS assay and maybe more importantly, which don't and how equipment selection can help address automation problems or can create them. The validation strategy used in the HTS Center will be reviewed and how some of the technical challenges of automating an assay have been resolved