

2016 TECHNICAL SESSION SCHEDULE

NIWeek

INFORMATION AND SCHEDULE

Registration Hours

Sunday, July 31	7:30 a.m.–4:00 p.m.
Monday, August 1	7:00 a.m.–6:00 p.m.
Tuesday, August 2	7:30 a.m.–5:00 p.m.
Wednesday, August 3	7:30 a.m.–5:00 p.m.
Thursday, August 4	8:00 a.m.–Noon

Continental Breakfast

7:45–8:30 a.m. (Monday–Thursday)	First Floor Foyer
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Lunch

11:30 a.m.–1:00 p.m. (Tuesday–Thursday)	First Floor NIWeek Cafe
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Lunch is provided for full-conference attendees and Expo Plus Pass holders.

Conference name badge is required for admission.

Concessions

Concessions are available at the coffee cart located on the exhibition floor.

Exhibition Hall Hours and Activities

Monday, August 1	5:30–7:00 p.m. <i>Welcome Reception</i>
Tuesday, August 2	10:00 a.m.–5:00 p.m. <i>Expo</i> 5:00–6:00 p.m. <i>Block Diagram Reception</i> 6:00–7:30 p.m. <i>NIWeek Conference Party</i>
Wednesday, August 3	10:00 a.m.–6:00 p.m. <i>Expo</i>

NIWeek Conference Party

Immediately following the NIWeek Block Diagram Reception on the Exhibit floor Tuesday from 5:00 to 6:00 p.m., join us for the NIWeek Conference Party featuring live music, drinks, and appetizers from 6:00 to 7:30 p.m.

Check Out the NI Store

Visit the NI Store at the back of the Exhibit Hall to purchase NI-branded merchandise and apparel.



NIWEEK 2016 APP
NOW AVAILABLE FOR DOWNLOAD

Internet Services

Free wireless Internet access is available throughout the entire facility.

Business Center

The Austin Convention Center is equipped with a full-service Business Center. Services include scanning, copying, printing, and shipping assistance. It is on the first floor opposite the Trinity Street entrances and near the Exhibition Hall entrance.
Hours: August 1–4, 8:00 a.m.–5:00 p.m.

Flight Arrival/Departure Board

The Austin Convention Center has a digital flight arrival/departure board on display next to the Business Center on the first level and near the Exhibition Hall entrance. It features up-to-the-second flight information streaming directly from Austin-Bergstrom International Airport.

Medical/First Aid

The First Aid Room is on the first level north of the Trinity North elevator and near the Exhibition Hall entrance.

Lost and Found

Lost and found stations are at the main floor registration desk and the fourth floor information desk.

Stay Connected During and After NIWeek

ni.com/niweekcommunity

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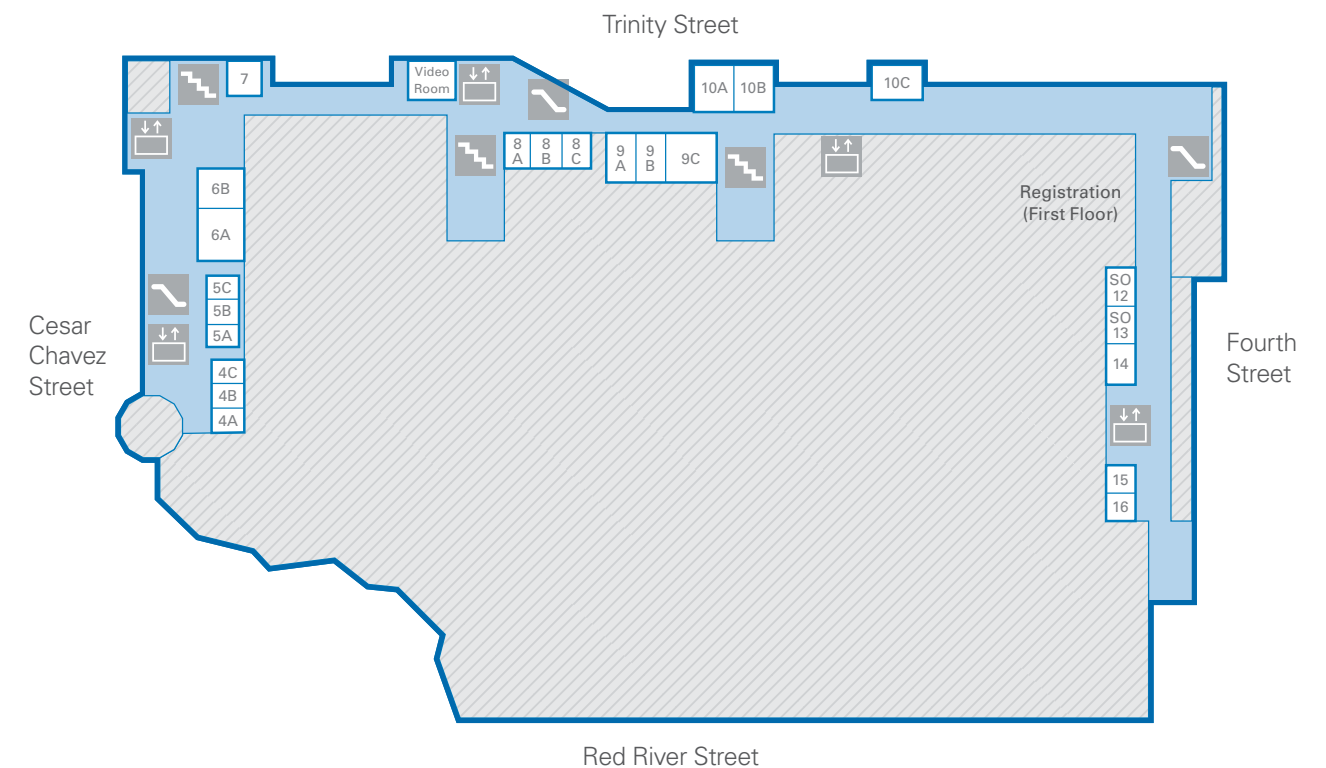
youtube.com/nationalinstruments

[Share your snaps using our NIWeek 2016 geofilter](#)

FIRST FLOOR MAP



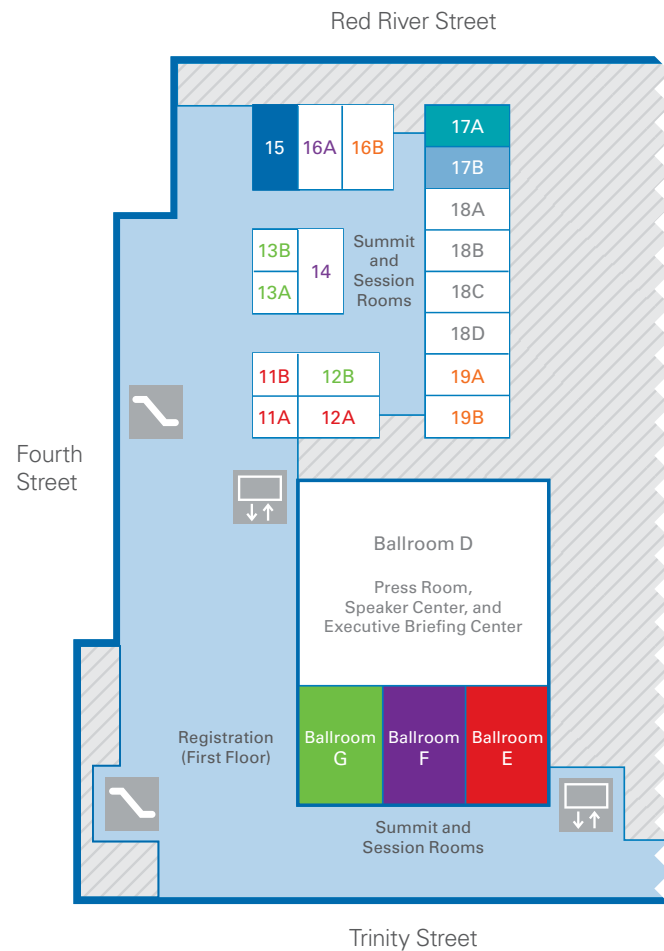
THIRD FLOOR MAP



TUESDAY, AUGUST 2

7:45–8:30 a.m.	Breakfast Foyer (First Floor)
8:30–10:00 a.m.	NIWeek Keynotes Exhibit Hall 4 (First Floor)
10:00 a.m.–7:30 p.m.	Expo Exhibit Halls 2 and 3 (First Floor)
10:00 a.m.–1:00 p.m.	Dedicated Expo Hours
11:30 a.m.–1:00 p.m.	Lunch NIWeek Cafe (First Floor)
5:00–6:00 p.m.	Block Diagram Reception Exhibit Halls 2 and 3 (First Floor)
6:00–7:30 p.m.	NIWeek Conference Party Exhibit Halls 2 and 3 (First Floor)

FOURTH FLOOR MAP



	Room	1:00–2:00 p.m.	2:15–3:15 p.m.	3:30–4:30 p.m.	4:45–5:45 p.m.
Automated Test Track	11A/B	New Wireless Technologies for Tomorrow's Connected Devices	Efficiency Tips for Programming NI Source Measure Units	High-Efficiency Wireless: Under the Hood of 802.11ax	From the Designers: Optimize Scope Measurements and Advanced Features
	12A	From the Experts: What I Wish I Had Known Before I Started Deploying Test Systems	From the Experts: Improving ATE Test Sequence Adaptability Using HALs and MALs	From the Experts: Thermal and Power Planning of Automated Test Systems	Birth to Earth: A Case Study in Full-Cycle Test Automation
Data Acquisition Track	12B	Practical Advice for Accurate Electrical Measurements	Intermediate NI-DAQmx: Building Code Beyond the DAQ Assistant	DAQ Advanced: PXI Synchronization Under the Hood	How Best-in-Class Companies Save Measurement Data
	13A/B	The BIG, the BAD, and the UGLY: Big Data Best Practices for DAQ	Introduction to DAQ With NI Linux Real-Time	Testing Embedded Software in Real Time With VeriStand	Top 10 Things You Should Know About CompactDAQ and CompactRIO
Embedded Systems Track	14	Using NI InsightCM™ for Condition Monitoring	Extending NI InsightCM™ to Fit Your Every Need With the SDK	Simplify System Design With CompactRIO: The Ultimate Multipurpose Controller	Peek Behind the Curtain of NI Embedded Hardware and Software Development and Validation
	16A	Embedded Code Validation Best Practices	Getting Started With NI Linux Real-Time	NI InsightCM™ Data Explorer: What the Analyst Sees	Integrating C/C++ and LabVIEW on NI Linux Real-Time Embedded Hardware
Software Development Techniques Track	16B	SW: What's New in LabVIEW 2016	The LabVIEW Container: Managing Your Application's Data	NI and Python Overview	Panel: Learn More About the Future of NI Software Licensing
	19A	Designing Attractive and Effective User Interfaces in LabVIEW	How to Architect a Framework: SquareBattle!	Designing Attractive and Effective User Interfaces in LabVIEW (repeat session)	Expand Your LabVIEW Toolbox: Tips and Tricks
	19B	Introduction to LabVIEW for Embedded Systems	Extending Your Skills to LabVIEW for Embedded Systems	Optimizing Performance in LabVIEW Real-Time	Out-of-the-Box Security and Licensing for LabVIEW
Advanced Users	15	Are Global Variables Truly Evil?	Project Templates: Making the Most of Code Reuse	Get Your RegExercise: Text Processing in LabVIEW	
Aerospace and Defense Summit	17A	Panel: Role of NI in Air Force RDT&E Instrumentation	Affordable and Configurable Military GNSS Simulator	Troubleshooting at 200 Gbps With LabVIEW	PHY Layer Tools and Attacks in the Cyber-EW Domain
Vision Summit	17B	Keynote: Laser Force Cytology With NI's Compact Vision System	Take Advantage of FPGA Parallelism With NI Vision: Multitap Acquisition, Multipixel Image Processing, and Code Generation	Using OpenCV With NI Systems Precision Time Protocol (IEEE 1588) Primer	High-Speed, High-Resolution Continuous Motion Inspection With FlexRIO FPGAs Image Processing: A Look Into Edge Detection and Pattern Matching
Transportation Summit	BRE	Keynote: Improving the Safety of Autonomous Driving Systems With the Synchronized Recording and Playback of Advanced Sensor Information	Measuring Adaptive Headlight Effectiveness for the Insurance Institute for Highway Safety	From Automotive Validation to Production: Maximizing Test System Reuse for Next-Generation Infotainment Systems	Improved Platforms for Injector Valve Test in Every Environment Building a Rapid Control Prototyping System for Engine Research and Development
Semiconductor Summit	BRF	High-Efficiency Power Amplifier Issues in the Real World	Automated Validation of PMICs Using TestStand	TI's Continuous Delivery Machine for Accelerated Application Deployment	Introduction to Digital Pattern Instruments for Semiconductor Functional Test Improving Validation With a LabVIEW-Based Interactive Framework
Energy Technology Summit	BRG	Applying IIoT to the Smart Grid	Developing a Fast Mathematical Model Simulation Module for MicroGrids Based on LabVIEW	Advanced Real-World DMS Simulation Using the LabVIEW Actor Framework	More Than You Ever Wanted to Know About Power Inverters High-Level LabVIEW Architectures for Outstanding Power Grid Measurement Systems
Hands-On	18A	Hands-On: Introduction to LabVIEW for Instrumentation		Hands-On: Build an Automated Test System With TestStand and the PXI Platform	
	18B	Hands-On: CompactRIO, Part 1—Programming With LabVIEW Real-Time	Hands-On: CompactRIO, Part 2—Programming With LabVIEW FPGA	Hands-On: Getting Started With Motion Control on CompactRIO	Hands-On: Vision
	18C	Hands-On: Introduction to LabWindows/CVI		Hands-On: Introduction to LabVIEW and Data Acquisition	
	18D	Hands-On: Introduction to HIL Test With VeriStand		Hands-On: Advanced Vibration and Acoustic Analysis	

WEDNESDAY, AUGUST 3

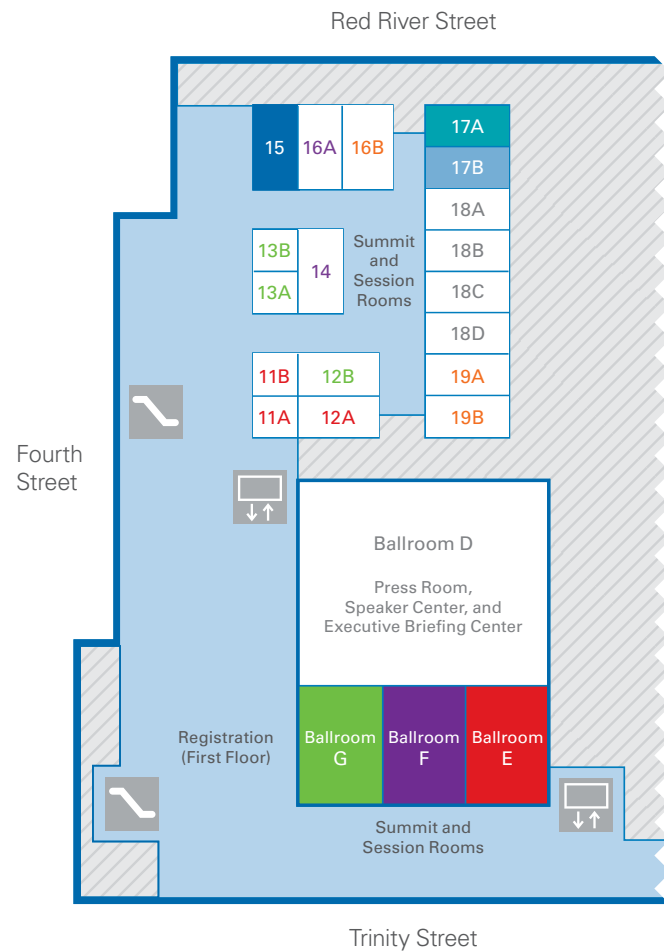
7:45–8:30 a.m. **Breakfast**
Foyer (First Floor)

8:30–10:00 a.m. **NIWeek Keynotes**
Exhibit Hall 4 (First Floor)

10:00 a.m.–6:00 p.m. **Expo**
Exhibit Halls 2 and 3 (First Floor)

11:30 a.m.–1:00 p.m. **Lunch**
NIWeek Cafe (First Floor)

FOURTH FLOOR MAP



	Room	10:30–11:30 a.m.	1:00–2:00 p.m.	2:15–3:15 p.m.	3:30–4:30 p.m.	4:45–5:45 p.m.
Automated Test Track	11A/B	Getting the Most Out of Your RF Instrument's Bandwidth	Acquiring Low-Level Signals With Precision DC Measurements	5 Disruptive Technologies You Need to Know About in Automated Test	The New Revolution of Flying Probe Test: Pilot 4D V8 HF	Object-Oriented Design to Maximize the Speed of Wafer Probing Systems
	12A	Under the Hood of TestStand 2016	Python, .NET, LabVIEW, and TestStand: Achieving Test System Zen	From the Experts: Switching, Mass Interconnect, and Fixturing Considerations	The Revolution in Big Data Analysis for Manufacturing Test	Air Your Automated Test Grievances
Data Acquisition Track	12B	Choosing a Synchronization Technology for Distributed Systems	Communication Bus Synchronization Made Easy	How Advanced DSP Technologies Enable New Applications for Delta-Sigma-Based DAQ	Practical Advice for Accurate Electrical Measurements	Advanced Data-Logging Software Architectures
	13A/B	DAQ Advanced: Digging Deep Into NI-DAQmx Functions and Property Nodes	Minimizing Software Defects With Automated HIL and Resource Management Using VeriStand and RQM	Achieving Complete Test Coverage With a Flexible HIL Platform Using VeriStand	Intermediate NI-DAQmx: Building Code Beyond the DAQ Assistant	DAQ Advanced: PXI Synchronization Under the Hood
Embedded Systems Track	14	The Future of Standard Ethernet: Industrial IoT Convergence With the Control System	Time Synchronization and Deterministic Communication Over Ethernet With CompactRIO	Beyond Inspection: Unlocking Performance for Vision on the CompactRIO Platform	Getting Started With Motion on the CompactRIO Platform	Tips for Selecting the Correct Motion Control Components
	16A	Don't Think You Need an FPGA? Think Again!	Creating Dynamic FPGA Interfaces With LabVIEW FPGA Advanced Session Resources	DCAF: A Framework for Efficiently Developing Robust Control Applications	Getting the Most Out of Your NI Linux Real-Time Target	Securing CompactRIO With NI Linux Real-Time and SELinux
Software Development Techniques Track	16B	Channel Wires: The Next Evolution of Dataflow	SW: What's New in LabVIEW 2016	A Preview of the Future of LabVIEW	Channel Wires: The Next Evolution of Dataflow	DQMH: Decisions Behind the Design
	19A	How to Make Better Decisions From Your Data	TDMS File Format Usage In LabVIEW	LabVIEW + Databases: Use the Power of the SQL	Objects, Objects Everywhere: Managing LabVIEW OO Hierarchies	Effective Management of LabVIEW Projects
	19B	FPGA Optimization and Debugging Beyond the LabVIEW Help	Using VHDL Design Principles to Improve LabVIEW FPGA Development	Creating and Maintaining Scalable LabVIEW Frameworks for Windows and Real-Time OSs	Artificial Intelligence With LabVIEW: Deep Learning-Based Classification and Control	Code Integrity and Software Licensing for Embedded Systems
Advanced Users	15	The Right and Wrong Way to Use Settings in LabVIEW Classes	How Applying Agile Object-Oriented Design Principles Changes Designs and Code	ISO 9000 and LabVIEW	XNodes: Treasures of Reuse in LabVIEW's Attic	Code Optimization and Benchmarking
Aerospace and Defense Summit	17A	Shock Test Using Multiple Synchronized Racks	LabVIEW Architecture for a Custom Test Executive	Embedded Test and Evaluation With Modular NI Platform and RTI DDS for Remote Databasing	Using FPGA-Enabled Instrumentation to Test Cognitive Systems	Simulate More Than 1000 Realistic Targets With the RES in Your Lab
Vision Summit	17B	Introduction to VBAI: Configurable Machine Vision Software	Embedded Controller Quality: Not All Controllers Are Created Equal	Remote Noncontact Optical Measurement of Vibration Displacement	Machine Vision: The Industrial Internet of Things That See	Vision-Guided Motion With Embedded Systems
Transportation Summit	BRE	Evolving Beyond Virtual Instrumentation in Automotive Engine Control Unit Test	Future Proof Your HIL System with an Open Platform for Switches, Loads, and Signal Conditioning	Testing Automotive Radar Sensors With the NI Active Target Simulator and a LabVIEW-Based Scene Editor	V2X Test and Verification With the NI Platform	Meeting the Challenges of ADAS and Autonomous Driving System Development with IPG CarMaker and NI HIL Technology
5G Summit	BRF	Making 5G A Reality	Panel: How Will Record-Setting Spectral Efficiency Impact Real 5G Systems?	Panel: Pushing the Bandwidth Limits With New Spectrum—How Much Is Enough?	Panel: The Path to 5G Standards	Panel: Cellular Technologies in Unlicensed Spectrum: LTE-U, LAA, and Beyond
Energy Technology Summit	BRG	Using Cutting-Edge Tools to Test Firmware for Uninterruptible Power Supplies	Advanced Battery Test Trends and Technologies	Industry Panel: Prognostics and Machine Learning—Adding Knowledge and Intelligence to Data	Hydrogenerator Air Gap and Magnetic Flux Monitoring Using CompactRIO	Challenges and Tools for Automated High-Level Diagnostics in Power Generation Systems
Hands-On	18A	Hands-On: NI-RFmx	Hands-On: Introduction to LabVIEW for Instrumentation		Hands-On: Build an Automated Test System With TestStand and the PXI Platform	
	18B	Hands-On: Explore C/C++ Development Options and Third-Party Packages With NI Linux Real-Time	Hands-On: CompactRIO, Part 1—Programming With LabVIEW Real-Time	Hands-On: CompactRIO, Part 2—Programming With LabVIEW FPGA	Hands-On: CompactRIO, Part 1—Programming With LabVIEW Real-Time	Hands-On: CompactRIO, Part 2—Programming With LabVIEW FPGA
	18C	Panthera Training Workshop	Hands-On: Introduction to LabVIEW and Data Acquisition		Hands-On: Strain Gage Fundamentals	Hands-On: Plug and Play With Load, Pressure, and Torque Measurements
	18D	Hands-On: Sound and Vibration 101			Hands-On: Introduction to HIL Test With VeriStand	

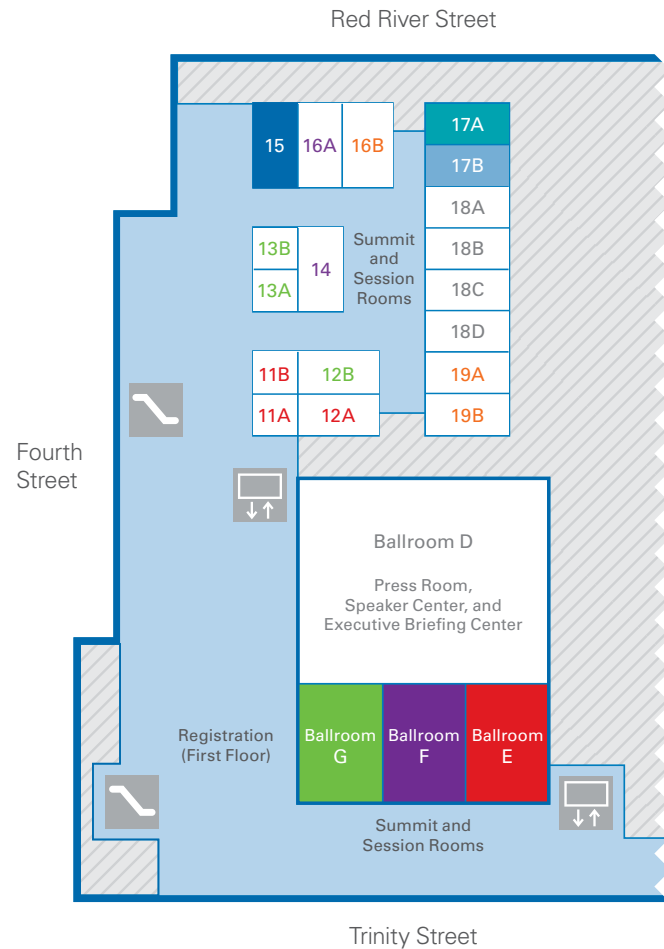
THURSDAY, AUGUST 4

7:45–8:30 a.m. **Breakfast**
Foyer (First Floor)

8:30–10:00 a.m. **NIWeek Keynotes**
Exhibit Hall 4 (First Floor)

11:30 a.m.–12:45 p.m. **Lunch**
NIWeek Cafe (First Floor)

FOURTH FLOOR MAP



	Room	10:30–11:30 a.m.	1:00–1:30 p.m.	1:30–2:00 p.m.	2:15–3:15 p.m.
Automated Test Track	11A/B	Getting Started With Reconfigurable Oscilloscopes	Minimizing Uncertainty in Noise Figure Measurements	GNSS Test Equipment for Satellite Navigation System Validation	3 Technologies That Can Make or Break Your Spectrum Monitoring System
	12A	Understanding Test System Performance	Creating a Custom TestStand Operator Interface: A Quick Start Guide	Capturing ATE Requirements With NI Requirements Gateway	Choosing the Best Digital Instruments for Your Test Application
Data Acquisition Track	12B	Data Management Architectures for Large or Lengthy DAQ Applications	Bridging the Gap to Online Condition Monitoring Systems Using NI DAQ, Signal Analysis, DIAdem, and Condition Monitoring Domain Expertise	Using Structural Health Monitoring to Reduce Risks for Historical Buildings	DAQ Advanced: Digging Deep Into NI-DAQmx Functions and Property Nodes
	13A/B	Combining the Power of LabVIEW and the Arduino Platform on Simple, Low-Cost T&M Applications	NI PXI and LabVIEW in an Advanced Nondestructive Examination Test System for Nuclear Reactor Fuel Channels	6-Degrees-of-Freedom Platform Control With LabVIEW	The BIG, the BAD, and the UGLY: Big Data Best Practices for DAQ
Embedded Systems Track	14	Poles, Kt, Ke, mH, IQ, ID, SVM—Oh My!: Motor Alphabet Soup	Tips and Tricks for Dynamically Configuring Your Embedded System		LabVIEW FPGA: Getting the Most Out of Simulation
Software Development Techniques Track	16A	Creating Effective User Experiences in LabVIEW Applications	Designing Advanced User Interfaces in LabVIEW	Practical Object-Oriented Techniques in LabVIEW	Designing Medical Devices With LabVIEW
	16B	Efficient LabVIEW Projects: A Team-Based Approach	Mob Programming With LabVIEW	Enhancing Large Project Development With Open Source Tools	Caraya: A New Take on LabVIEW Unit Testing
	19A	Tips and Tricks for ANSI C Programmers Using LabWindows™/CVI	Designing a LabVIEW Interface for .NET Applications		Using the Measurement Studio Installer Builder
	19B	No Designer, No Problem	IoT Yourself: Broadcast CompactRIO Data to Multiple Platforms	Advanced FPGA: Architecture for Distributed, Synchronized Control	LabVIEW and the Industrial Internet of Things: Shaping the Future of Product Mass Customization
Embedded Systems	15	Data Communication Methods for Embedded Systems	CompactRIO or CompactDAQ: Which Platform Is Right for Me?		Semantic Interoperability Is the Key for a Digitalized World
Automated Test Systems/ Data Acquisition Systems	17A	Trends in Radar Systems and Their Impact on Test System Architectures	Taking the Noise Out of Vibration Measurements With Optical Sensing Technology	Boosting Your Automated Test System: Switch Executive Secrets Revealed	How Advanced DSP Technologies Enable New Applications for Delta-Sigma-Based DAQ
Software Development Techniques	17B	Getting Started With Continuous Integration in LabVIEW	Separation of Concerns: Architecting Maintainable Software		LabVIEW Configuration Management Tools
Data Acquisition Systems/ Embedded Systems	BRE	Hack Your Car With NI CAN Interfaces and LabVIEW	Tips for Designing Carrier Boards and RMCs for the SOM and Single-Board RIO		Understanding How to Leverage the Power of Kintex-7 FPGA Targets From NI
Embedded Systems	BRF	Wireless Connectivity Options for the IoT: Connect Your LabVIEW RIO Hardware to the Physical World	Automated Software Test Using Commercial Testing Tools		Develop Distributed Systems of the Future Using the Cloud
Embedded Systems	BRG	Get the Most Out of Your Embedded UI	Using PID Control in an FPGA	Explore New Frontiers With CompactRIO: 2500 m Below Sea Level on Canyon Offshore's ROV Drill	Acquired Data Solutions Using the NI Toolchain to Advance AREVA's Cavitation Peening
Hands-On	18A				
	18B	Hands-On: Vision			
	18C	Hands-On: LabVIEW Data Management and Post-Processing			
	18D	Hands-On: Code Review Best Practices			

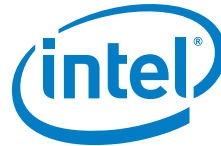
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As of July 15, 2016

