



Wednesday, September 26th

4 PM – 7 PM	Registration <i>Sign ups for Office Hours with Ed Argalas/Hung Nguyen (waivers) and Freescale (center stack)</i>	Lobby, The Verve
6 – 7:30 PM	MathWorks Reception	Apollo Ballroom, The Verve
6:30 – 7:30 PM	Engineering Career Panel	Constellation Ballroom, The Verve
7:30 PM	Sponsor Social Networking & Recruiting Event Strolling Dinner & Trade Show	Apollo Ballroom, The Verve
10:00 PM	Conclude	

Thursday, September 27 – *The MathWorks, 3 Apple Hill Drive, Natick, MA 01760-2098*

6:45 AM	Busses depart from The Verve, Crowne Plaza for The MathWorks
7 AM	Breakfast – Atrium, MathWorks

Waiver Office Hours – Begins at 10:00 AM in Medfield Room

7:45 AM	<p>Opening Remarks – Atlantis Room Master of Ceremonies – Kristen De La Rosa, ANL DOE Remarks – Connie Bezanson, DOE GM Remarks – John Haraf, GM Welcome to MathWorks – Jack Little, MathWorks</p>
8AM	<p>Looking Ahead to Y2 Competition Finals Kristen De La Rosa, ANL</p> <ul style="list-style-type: none"> • Year 2 Organizers • Year 2 Philosophy • Swim Lanes • Multidisciplinary Team Leadership • Year 2 Goals

Time	Track 1: MathWorks Beginner, Tsinghua Room	Track 2: MathWorks Intermediate, Millis Room	Track 3: Technical, Atlantis Room	Track 4: Communications Managers, MIT Room	Track 5: Business Managers, Stanford Room		
8:35 AM	Break – Split into MathWorks training tracks						
8:45 AM	Simulink and Stateflow for Automotive System Design <i>Laura Proctor, MathWorks</i> <ul style="list-style-type: none"> • Creating and modifying Simulink models 	Model Based Verification & Validation <i>Jarrod Rivituso, MathWorks</i> <ul style="list-style-type: none"> • Process overview tooling feature overview 	First Steps in Year 2 <i>Nicole Lambiase & Dana Bubonovich, ANL</i> <ul style="list-style-type: none"> • SharePoint and Listserv Overview • Back to School Checklist • Competition Deliverable Timeline 				
9AM			EcoCAR Vehicle Development Process <i>John Haraf, GM</i> <ul style="list-style-type: none"> • Vehicle Integration Process & Technical Scope of Y2 				
9:20 AM			Scoring Overview <i>Nicole Lambiase, ANL</i> <ul style="list-style-type: none"> • VTS Scoring • Scoring from an organizers perspective 				
9:45 AM	Break – Communications/Business Managers split into separate track						
10:00 AM	Simulink and Stateflow for Automotive System Design (cont.) <i>Laura Proctor, MathWorks</i> <ul style="list-style-type: none"> • Simulating system dynamics 	Model Based Verification and Validation (cont.) <i>Jarrod Rivituso, MathWorks</i> <ul style="list-style-type: none"> • Tooling feature overview 	GM Support <i>Dan Mehr and Steve Gurski, GM</i> <ul style="list-style-type: none"> • Blue Dollars • Subject Matter Experts • Mentor Updates • Donated Component Deliveries 	Introduction to AVTCs <i>Kristen De La Rosa, ANL</i>			
10:15 AM			Year 2 Event Rules <i>Nicole Lambiase, Brian Benoy</i> <ul style="list-style-type: none"> • Pre-Competition Deliverables • WW HIL Event • Competition Events Overview 	Hybrid 101 <i>Jesse Alley, ANL & Patrick Walsh, ANL</i> <ul style="list-style-type: none"> • What is a hybrid • Basics of fuel consumption • Advantages of hybrid vehicles • Useful links and resources 			
10:35 AM			Break – Split into different tracks				
10:45 AM					Communications Program Overview & Year 2 Deliverables <i>Lynda Palombo, NRCan & Kimberly DeClark, ANL</i>	Business Program Overview & Year 2 Deliverables <i>Cindy Svestka, GM & Nicole Lambiase, ANL</i>	
11:00 AM					NYS Rules Updates <i>Jesse Alley and Patrick Walsh, ANL</i> <ul style="list-style-type: none"> • NYS Rules Updates • Waivers, Course Corrections • Penalties 	Budget 101 <i>Cindy Svestka, GM</i>	
11:30 AM					Communications Resources <i>Kimberly DeClark, ANL</i>		

- System Safety Levels
- Vehicle Readiness Requirements

12:00 PM **Lunch** **Atrium, MathWorks**

1:00 – 4:30 PM **Waiver Office Hours Cont. - Medfield Room**
Freescale Office Hours - Atrium

Time	Track 1: MathWorks Beginner, Tsinghua Room	Track 2: MathWorks Intermediate, Millis Room	Track 3: Technical, Atlantis Room	Track 4: Controls, Modeling & Sim., ITT Room	Track 5: Communications Manager, MIT Room	Track 6: Business Manager, Stanford Room
1PM	Simulink and Stateflow for Automotive System Design (cont.) <i>Laura Proctor, MathWorks</i> <ul style="list-style-type: none"> • Modeling continuous-time, discrete-time, and hybrid systems 	Code Generation Fundamentals <i>Hamid Satarboroujeni, MathWorks</i> <ul style="list-style-type: none"> •EDU target overview •Other applications of real-time code generation 	Overview of Emissions & Energy Consumption Events <i>Patrick Walsh, ANL</i> <ul style="list-style-type: none"> • Introduction to event philosophy • Event process at competition • Team requirements for event execution • Scoring 	Controls in Y2 and Presentation at Competition <i>Tom Ender, GM & Brian Benoy, ANL</i> <ul style="list-style-type: none"> • Purpose • Y1 Review • Y2 Expectations • Y2 activities 	Clean Cities Overview <i>Connie Bezanson, DOE</i>	Sponsorship 101 <i>Kristen De La Rosa, ANL</i> <ul style="list-style-type: none"> • What it takes? • Do you need to fundraise? • 10 Steps to Follow Before You Start • Implementing your Sponsorship Campaign • Other Ideas and Tips
1:30 PM					Overview of Modeling and Simulation in Y2 <i>Brian Benoy, ANL</i> <ul style="list-style-type: none"> • Purpose • Y1 Review • Importance • Y2 Expectations • Y2 Activities 	
2PM		MIL, SIL, PIL, HIL <i>Hamid Satarboroujeni, MathWorks and Brian Benoy, ANL</i> <ul style="list-style-type: none"> • Definitions • Process overview • Transitioning from one platform to another • Demo examples 		Intro to CAN and Malibu Serial Data <i>Steve Gurski, GM</i> <ul style="list-style-type: none"> • Review Malibu Serial Data Architecture • CAN messaging • Reference tools • What you need to know about CAN 	Communications Roundtable Discussion	
2:30 PM						
3PM	Break					

3:15 PM	Simulink and Stateflow for Automotive System Design (cont.) <i>Laura Proctor, MathWorks</i> <ul style="list-style-type: none"> • Modifying solver settings for simulation accuracy and speed 	Speeding Up Your Models, <i>Hamid Satarboroujeni, MathWorks</i> <ul style="list-style-type: none"> • For real-time execution • For simulation • Tips and Tricks • Use of accelerator 	Safety/Technical Inspections <i>Jesse Alley, ANL and Steven Boyd, DOE</i> <ul style="list-style-type: none"> • Introduction • March Pre-Inspections • Overview of S/T Procedure at Competition • Tips for success & common issues 	Understanding DFMEA <i>Steve Gurski, GM</i>	<i>*move to Stanford Room</i> PR Career Panel <ul style="list-style-type: none"> • Len Dieterle, MathWorks • Amy McHugh, Greenough • Dan Borgansano, A123 Systems 	
4PM			Technical Open Q&A	Diagnostics 101 Tom Ender, GM		

4:30 PM Sessions End

4:45 PM Busses depart for F1 Racing and The Verve, Crowne Plaza

6:00 PM F1 Racing

6:00 PM GRA Reception & Dinner <i>*Faculty advisors, Technical GRAs, Business/Comm. Managers, and Team Leaders*</i> <ul style="list-style-type: none"> • Opening Remarks • Communications Assistantship Requirements • Business Assistantship Requirements • Engineering GRA Requirements • Engineering Conferences & Papers 	Phoenix Room - The Verve, Crowne Plaza Connie Bezanson, DOE Kimberly DeClark, ANL Kristen De La Rosa, ANL Kristen De La Rosa, ANL Patrick Walsh, ANL
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9:30 PM F1 Teams return to hotel

Friday, September 28

7:00 AM Busses depart from The Verve, Crowne Plaza for MathWorks

7:15 AM Breakfast Buffet – Atrium, MathWorks
Meet your MathWorks Mentor During Breakfast

Ed Argalas Office Hours All Day – Dudley Pond
Freescale Office Hours All Day – Atrium

Time	Track 1: MathWorks Beginner, Tsinghua Room	Track 2: MathWorks Intermediate, Millis Room	Track 3: Technical, Atlantis Room	Track 4: Controls, Electrical, Data Acquisition, ITT Room	Track 5: Intro to Project Management (Team Leaders, Business Managers, Faculty Advisors), Stanford Room	Track 6: Communications Managers, MIT Room
8AM	Simulink and Stateflow for Automotive System Design (cont.) <i>Laura Proctor, MathWorks</i> <ul style="list-style-type: none"> Modeling complex logic flows 	Powertrain System Level Modeling <i>Peter Maloney/Wit Nursilo, MathWorks</i> <ul style="list-style-type: none"> Intro to SimDriveline, SimScape, controls, and model-based calibration components Rapid accelerator simulation Parallel optimization of powertrain system model 	ORSE & Gradeability <i>Dan Mehr, GM</i> <ul style="list-style-type: none"> Purpose Importance General testing metrics 	Data at Competition <i>Patrick Walsh, ANL</i> <ul style="list-style-type: none"> Why we collect data What data will be collected, when, and how Specifics for AVL and E&EC Resources for troubleshooting 	Intro to Project Management <i>Rich Maltzman & Dave Shirley, Earth PM</i> <ul style="list-style-type: none"> Scope Mgmt Cost Mgmt Recruiting/Retention/ Knowledge Transfer Risk Mgmt 	Video Training <i>Phil Swantek, MCCI</i>
8:30 AM			0-60 & 50-70 MPH Acceleration, and Braking <i>Dan Mehr, GM</i> <ul style="list-style-type: none"> Purpose Importance General testing method 	Electrical Integration Best Practices <i>Brian Benoy, ANL</i> <ul style="list-style-type: none"> Building low voltage system Wire sizing & fusing for LV and HV Connectors HVIL Junction boxes Safety procedures and practices 		
9 AM			Autocross <i>Steve Gurski, GM</i> <ul style="list-style-type: none"> Purpose Definition Importance Considerations in vehicle design General event execution overview 			
9:30 AM	BREAK					
9:45 AM	Simulink and Stateflow for Automotive System Design (cont.)	Powertrain System Level Modeling (cont.),	Dynamic & Static Consumer Acceptability	Electrical Overview for Year 2 and Guidelines Review	Continued	Continued

	<i>Laura Proctor, MathWorks</i>	<i>Peter Maloney/Scott Furry, MathWorks</i>	<i>Dan Mehr/Steve Gurski, GM</i> <ul style="list-style-type: none"> • Purpose • Importance • Considerations in vehicle design • General evaluation metrics 	<i>Brian Benoy, ANL</i> <ul style="list-style-type: none"> • Overview • Updates • HVIL and connector examples 		
10:30 AM			Mechanical Presentation <i>Ed Argalas, GM</i> <ul style="list-style-type: none"> • Purpose • Y1 Review • Y2 Expectations • Y2 Activities 	Basics of Building a Soft ECU <i>Brian Benoy, ANL</i> <ul style="list-style-type: none"> • Benefits of having Soft ECUs in plant models • Defining requirements • Developing basic control logic • Testing 		
11:00 AM			Vehicle Design Review <i>Dan Mehr, GM</i> <ul style="list-style-type: none"> • Purpose • Importance • General evaluation method/metric 			
11:30 AM			Vehicle Service Manual <i>Dan Mehr, GM</i> <ul style="list-style-type: none"> • What it is & how to use it • EPC tool overview & demo 	Electrical Presentation <i>Steve Gurski, GM</i> <ul style="list-style-type: none"> • Purpose • Y1 Review • Y2 Expectations • Y2 Activities 		

12:00 PM

Lunch/Team Photos

Atrium, MathWorks

CSULA/Magna Office Hours

Quabin Room

Time	Track 1: MathWorks Beginner, Tsinghua Room	Track 2: MathWorks Intermediate, Millis Room	Track 3: Technical, Atlantis Room	Track 4: Intro to Program Management, Stanford Room	Track 5: Comm. Managers, MIT Room	Track 6: Vector Training, ITT Room	Track 7: Magna Office Hours, Quabin Room
1 PM	Physical Modeling for Multi-domain Systems with Simscape <i>Jarrold Rivituso, MathWorks</i>	Powertrain Calibration and HIL Subsystem Model Development <i>Kerry Grand and Scott Furry, MathWorks</i> <ul style="list-style-type: none"> Hybrid motor/inverter subsystem model development Engine fuel consumption and emissions model development Deployment of developed models 	A123 Deep Dive <i>Brian Chambers, A123</i> <ul style="list-style-type: none"> Safe Handling Procedures Review the battery system's components and assembly process Communicating with the BCM Methods of debugging Do's and Don'ts Pack Commissioning Process and Checklist 	Continued	Continued	Vector CANtech Tools Training <i>Michael Alexander, Vector CANtech</i> <ul style="list-style-type: none"> CANoe software training for CAN bus analysis and simulation GL1000 and CANCaseXL Datalogger training 	NCSU
2:00 PM							PSU
3 PM	Break						
3:15 PM	Physical Modeling for Multi-domain Systems with Simscape (cont.) <i>Jarrold Rivituso, MathWorks</i>	Building Model Architecture for Working in Teams <i>Kerry Grand, MathWorks</i> <ul style="list-style-type: none"> Partitioning techniques, use of libraries & model references Interface control Modeling standards Documentation 	AVL Drive Quality Event <i>Phil Marson, GM</i> Fundamentals of Structural Analysis <i>Jesse Alley, ANL</i> <ul style="list-style-type: none"> Structural analysis process 'Under-the-hood' mechanics of FEA Overview of changes to the waiver process 	Continued	Continued	Continued	Purdue
4:15 PM							UVic

5:15 PM Sessions End

5:30 PM Busses Depart Back to Hotel

5:45 PM Evening on Your Own

Saturday, September 29

7:00 AM Busses depart from The Verve, Crowne Plaza for MathWorks

7:15 AM Breakfast Buffet at Cafeteria, MathWorks

Time	Track 1: dSPACE Beginner, Atlantis Room	Track 2: Freescale Training, Dartmouth Room	Track 3: Siemens Beginner, ITT Room	Track 4: CD-Adapco, Tsinghua Room	Track 5: Media Training (1-2 ppl/team), Quabin Room	Track 6: Faculty Round Table, Stanford Room
8AM	Automation Desk <i>Donald Saldano</i> • Introduction to Automation Desk	Center Stack Project Overview <i>John Cotner and Renato Frias, Freescale</i>	Modeling, Sketching and Assemblies <i>John Irwin, Michigan Tech</i>	External Aerodynamics & Battery Cooling <i>Alistair Field, CD-Adapco</i>	CSULA/CSU	• Each Advisor to present on their team's accomplishments and struggles
9:30 AM	Break					
9:45 AM	Automation Desk Cont. • Signal Evaluation • Build-in Libraries	QNX Device Driver Training <i>David Gibbs, QNX Software Systems</i>	Modeling, Sketching and Assemblies <i>John Irwin, Michigan Tech</i>	Continued	ERAU/MSU	• Changes to the Program • Looking Ahead to Winter Workshop • Y2 Competition • Dean Day
11:15 AM					NCSU/OSU (ends at 12:45PM)	

12:00 PM LUNCH Cafeteria, MathWorks

Time	Track 1: dSPACE Beginner, Atlantis Room	Track 2: Freescale Training, Dartmouth Room	Track 3: Siemens Training, ITT Room	Track 4: CD-Adapco Training, Tsinghua Room	Track 5: Media Training (1-2 ppl/team), Quabin Room	Track 6: Leadership Training (Team Leaders, Business Managers, Faculty Advisors) – EcoCAR Executive Leadership, Stanford Room
1 PM	Automation Desk Cont. <ul style="list-style-type: none"> • Execution of Python Scripts • Stimulus of Real-Time Parameters 	BlackBerry Device Application Training for QNX CAR 2 Apps <i>Chad Tetreault, Research In Motion (RIM)</i>	Computer Aided Manufacturing <i>John Irwin, Michigan Tech</i>	Continued	PSU/Purdue	Defining an Effective Leader <i>Jim Kolhoff</i> <ul style="list-style-type: none"> • Characteristics • Managing Styles • Principles of Leadership
1:30 PM						Communication <i>John Haraf</i> <ul style="list-style-type: none"> • Barriers to Communication • Active Listening • Feedback • Nonverbal Behaviors • Speaking Tips
2 PM					Collaborating Across Organizational Boundaries <i>Connie Bezanson and Lynda Palombo</i> <ul style="list-style-type: none"> • External Communication • Internal Communication • Activity 	
3 PM	Break					
3:15 PM	Automation Desk Cont. <ul style="list-style-type: none"> • Test Framework Libraries 	BlackBerry Device Application Training for QNX CAR 2 Apps (continued) <i>Chad Tetreault, Research In Motion (RIM)</i>	Finite Element Analysis <i>John Irwin, Michigan Tech</i>	Continued	Continued	Conflict Management <i>Kristen De La Rosa</i> <ul style="list-style-type: none"> • Why it's important • Core Values • How to prevent conflict • Different personalities • Handling conflict • Conflict resolution & tips
4:15 PM						Motivating and Inspiring your team <i>Cindy Svestka, GM</i> <ul style="list-style-type: none"> • Why you should care • Tips and techniques

- 5:00 PM Session End**
- 5:15 PM Busses Depart for Evening Event**
- 6:15 PM Fenway Tour**
- 7:30 PM Dinner at Game On!**
- 11 PM Bus Departure to Hotel (*Location Pickup Outside of Game On! & Fenway*)**

Sunday, September 30

- 7:00 AM Busses depart from The Verve, Crowne Plaza for MathWorks**
- 7:15 AM Breakfast Buffet at Cafeteria, MathWorks**

Time	Track 1: MathWorks Advanced, Dartmouth Room	Track 2: dSPACE Training, Atlantis Room	Track 3: NX Open Q&A – Office Hours, Stanford Room	Track 4: Siemens FEA Training, IIT Room	Track 5: Media Training (1-2 ppl/ team), Quabin Room
8 AM	Parameter Estimation and Design Optimization Techniques, <i>Jarrold Rivituso, MathWorks</i> <ul style="list-style-type: none"> • Parameter estimation overview • Model preparation • Estimation process • Estimation tips 	RTI CAN MM, <i>Zhenhua Zhu, dSPACE</i> <ul style="list-style-type: none"> • Setting up a Soft ECU • Hands-on Experiments • Troubleshooting RTI CAN MM 	Open NX question and answer help session <i>Jesse Alley, ANL</i>	Finite Element Analysis <i>John Irwin, Michigan Tech</i>	UVic/Waterloo
9:30 AM					VT/Washington
10:15 AM	Break				
10:30 AM	Battery Modeling, <i>Robyn Jackey, MathWorks</i> <ul style="list-style-type: none"> • Equivalent circuit • Empirical modeling • Parameter estimation 	Continued	Continued	Continued	Continued
11 AM					WSU (ends at 12:30)
11:30 AM					

- 12:15 PM Boxed Lunches**
- 1 PM DEPART FOR AIRPORT**