

## Formula SAE<sup>®</sup> Workshop Saturday, February 15, 2020



Start time	Duration	Morning Session Presentations	Speaker	
7:30 <sup>AM</sup>	45 min	Registration and continental breakfast		
8:15	15 min	Welcome Workshop Overview, Sponsor Introductions	Alba Colon, Hendrick Motorsports	
8:30	30 min	Getting to and at the Competition	Kriistina Vujic, General Motors	
9:00	30 min	Team Organization	Adam Niner, General Motors	
9:30	45 min	Change Management	Maura Chmielowiec & Missy Chmielowiec General Motors	
10:15	15 min	Networking Break		
10:30	30 min	Dynamic Event Planning	Laura Wontrop Klauser, General Motors	
11:00	30 min	The Presentation Event	Adam Zenke, Launch Michigan	
11:30	30 min	The Cost Event & Cost Report	Kristina Vujic, General Motors & Richard LePage, Ford Motior Company	
12.00 pm	15 min	General Q & A	All morning presenters	
12.15 pm	45 mins	Select Breakout Session, Lunch and Network with Sponsors and Teams		

2:15-3:15 p.m. Darrell Hancock, Fiat Chrysler Automobiles Inspection Frank Whiton, GM Retired FSAE Electric and Formula Hybrid,   The who, what, where, when, why and how of developing a vehicle. An overview of the developing a vehicle focusing on testing, tuning and development of suspension and steering systems. Will give the team members some tips on how to make getting through Mechanical Tech Inspection at both Formula SAE and Formula Hybrid a little less painful. It will cover some of the items that teams frequently overlook and trip them up. A review of the application of data acquisition to vehicle testing, its validation, instrumentation including sensors, and data analysis The focus of the session will be battery pack sizing, cell selectric, and powertrain/energy management strategies for the different events. While much the measured data comes from FSAE Electric competitions	2020 Spring FSAE Workshop - Afternoon Breakout Sessions								
1:00 PM Sponsor #1 Sponsor #2 Sponsor #3 Sponsor #3   2:00-2:15 pm Image: Constraint of the second sec		Main Auditorium	1						
2:15-3:15 p.m. 2:30-3.30 pm 2:30-3.30 pm. 2:30-3.30 pm. 2:30-3.30 pm. 2:30-3.30 pm. Data Acquisition Frank Whiten, GM Retired Anodeling and Validation of Electric Powertrains is provide which cousing on the development of the physical which cousing on testing, using and development of suspension and steering systems. 2:30-3.30 pm. 2:30-3.30 pm. Cather and Formula Hybrid, June and Gevelopment of the physical cousing on testing, using and development of suspension and steering systems. 2:30-3.30 pm. Data Acquisition Frank Whiten, GM Retired   3:15 - 3:30 p.m. 2:30-3.30 pm. Cather and Formula Hybrid, June and development of suspension and steering systems. 2:30-3.30 pm. Data Acquisition of data acquisition to while testing, its validation, instrumentation including sensors, and data analysis 2:30-3.30 pm. Cather acquisition of the session will be battery pack sizing, cell masce measure data comes from FSAE Electric competition are well.   3:15 - 3:30 p.m. Cather and Formula Hybrid and the physical cousing on testing systems. S:45 - 4:45 pm. The focus of the session will be sufficiently general to make everything applicable to the hybrid competition as well.   3:15 - 3:30 p.m. S:45 - 4:45 pm. Three View Drawings S:45 - 4:45 pm. Three View Drawings S:45 - 4:45 pm.   3:30 - 4:30 p.m. Darrell Hancock, Fiat Chrysler Automobiles S:45 - 4:45 pm. Three View Drawings S:45 - 4:45 pm. <t< th=""><th>1:00 PM</th><th>-</th><th></th><th></th><th>-</th></t<>	1:00 PM	-			-				
2:15-3:15 p.m. Suspension Development Darrell Hancock, Fiat Chrysler Automobiles Getting Through Mechanical Technical Inspection Inspection Data Acquisition Frank Whiton, GM Retired Modeling and Validation of Electric Powertrains is FSAE Electric and Formula Hybrid, Joseph Saginaw, University of Michael Royce, Albion Associates LLC Data Acquisition Frank Whiton, GM Retired   Image: The who, what, where, when, why and how of development of the physical vehicle focusing on testing, tuning and development of suspension and steering systems. Getting Through Mechanical Technical Inspection Data Acquisition Frank Whiton, GM Retired Frank Whiton, GM Retired   3:15 - 3:30 p.m. The who, what, where, when, why and how of development of suspension and steering systems. Stat - 4:45 p.m. The focus of the session will be battery pack sizing, cell selection, powertrain architecture, and powertrain/energy management strategies for the different events. While muc the measured data comestion on FSAE Electric competition including sensors, and data analysis   3:15 - 3:30 p.m. 3:45 - 4:45 p.m. Three View Drawings Brandon Horsch, Pratt & Miller Engineering Darrell Hancock, Fiat Chrysler Automobiles 3:45 - 4:45 p.m. 3:45 - 4:45 p.m.   3:30 - 4:30 p.m. 3:45 - 4:45 p.m. Three View Drawings Brandon Horsch, Pratt & Miller Engineering Vehicle drawings and standing out from the competition. Terms are encouraged to bring samples of past drawings to discuss in person. 3:45 - 4:45 p.m.	2:00-2:15 pm	15 MINUTE BREAK							
developing a vehicle. An overview of the development of the physical vehicle focusing on testing, tuning and development of suspension and steering systems. make getting through Mechanical Tech Inspection at both Formula SAE and Formula SAE and Formula Hybrid a little test paint(1). It will cover some of the items that teams frequently overlook and trip them up. vehicle testing, its validation, instrumentation including sensors, and data analysis The focus of the session will be battery pack sizing, cell selection, powertrain architecture, and powertrain/energy including sensors, and data analysis   3:15 - 3:30 p.m. 15 MINUTE BREAK   3:30 - 4:30 p.m. 3:45 - 4:45 p.m. Damper Tuning Darrell Hancock, Fiat Chrysler Automobiles 3:45 - 4:45 p.m. Three View Drawings Brandon Horsch, Pratt & Miller Engineering Automobiles 3:45 - 4:45 p.m. Damper Tuning Darrell Hancock, Fiat Chrysler Automobiles 3:45 - 4:45 p.m. Three View Drawings Brandon Horsch, Pratt & Miller Engineering Automobiles Marcus Merideth, Detroit Region, SCCA   A look at best practices for creating successful vehicle drawings to discuss in person. A look at best practices for creating successful vehicle drawings to discuss in person. Marcus Merideth, Detroit Region, SCCA	2:15-3:15 p.m.	Suspension Development	Getting Through Mechanical Technical Inspection	Data Acquisition	Modeling and Validation of Electric Powertrains for				
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4.30 pm Workshop Adjourned	3:30 - 4:30 p.m.	Damper Tuning	Three View Drawings Brandon Horsch, Pratt & Miller Engineering A look at best practices for creating successful vehicle drawings and standing out from the competition. Teams are encouraged to bring samples of past	Driving Techniques,					
	4.30 pm								

For additional information go to: www.sae.org/attend/student-events, and www.sae-detroit.org

Space for Notes:

Speakers and times subject to change